BUKHARA STATE MEDICAL INSTITUTE
NAMED AFTER ABU ALI IBN SINO
Department of Orthopedic Dentistry and Orthodontics

" Approving "
N rorektor of Studies
G.Zh. Zharilkasinova
" ____ " _____2019 year

Training and metodology complex

for 5 - course

on Hospital About dental prosthetics

Bukhara -2019 year

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The educational-methodical complex on the subject "Hospital course of orthopedic dentistry" was approved at the cathedral meeting, at the department of orthopedic dentistry and orthodontics.
Minutes of the meeting: No. _____ 2019

Compiled the protocol: Zhumaev Sh.B

Content

Calendar of thematic lecture plan for hospital orthopedic dentistry for students of the 5th year 9-10 semesters

No.	Subject	clock	Intersubject and intrasubject relationship.	Teaching methods	Subjects of study	Used literature
1	Periodontal disease and abnormal abrasion. Etiology, pathogenesis and examination methods. Methods of orthopedic treatment.	2 h	biology, biophysics (physicist a), biological chemistry human anatomy , histology, normal physiology, pathological anatomy, clinical pharmacology, therapeutic dentistry, surgical dentistry dentistry, orthodontics, propaedeutics, optional orthopedic dentistry also marketing and management in dentistry	Poll	Computer, multimedia, handout materials, test questions , poster s.	A - 1,2,3,7,12,16 K - 1, 2,3,4,5,6,7
2	Secondary deformation of dentition and bite with partial adentia. Change in Methods of orthopedic and orthodontic treatment. TMJ disease. Methods of orthopedic treatment.	2 h	biology, biophysics (physicist a), human anatomy , histology, normal physiology, pathological anatomy, clinical pharmacology, therapeutic dentistry, surgical dentistry dentistry, orthodontics, propaedeutics, faculty orthopedic dentistry also marketing and management in dentistry	Poll	Computer, multimedia, handout materials, test questions , poster s.	A - 1 , 3,4,7,11,17,19 K - 1,2,6,13,14,21
3	Defects of the maxillofacial region. Defects of the soft and hard palate, methods of treatment of microstomy. Methods of orthopedic treatment with implants. OCD. Features of orthopedic treatment.	2 h	biology, biophysics (physicist a), human anatomy , histology, normal physiology, pathological anatomy, clinical pharmacology, therapeutic dentistry, surgical dentistry dentistry, orthodontics, propaedeutics, faculty orthopedic dentistry also marketing and management in dentistry	Brainstorm	Computer, multimedia, handout materials, test questions , poster s.	A - 1,3,4,7 K - 5,6,8,12,25
	total :	**6 c**				

1 lecture

Topic: Periodontal disease and abnormal abrasion. Etiology, pathogenesis and examination methods. Methods of orthopedic treatment.

Technological map of a lecture lesson.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (10 minutes)	1. Prepare lecture material 2. Preparation of slides for the introduction of the lecture 3. Using literature to prepare a lecture: 1.Kurlyandsky V.Yu. "Orthopedic Dentistry" Textbook. M.Meditsina. 1977, 2.Kopeikin V.N. Orthopedic Dentistry 2001	Listen and record
Lecture introduction (1 0 minutes)	**Explanation of goals and objectives of the topic** **Purpose:** To prepare assistants for the faith who can help with orthopedic treatment for periodontal diseases **Tasks:** To provide information and teach students about periodontal diseases, the course of the disease and prevalence. **Questions about the lecture:** 1. Method s examination of patients. 2. Occlusiogram method 3. Odontoperiodontogram and its significance. 4. Indications. 5. Methods of providence and therapeutic actions of selective grinding. 6. Orthodontic treatment methods and temporary splinting 7. Methods of objective research, 8. Otoneurological syndrome of Kosten 9. The method of compactostomy. 10. Research of diagnostic models. 11. Orthopedic methods of treating localized and generalized forms of abrasion.	Listen and answer the questions asked.
The main part of the lecture (55 minutes)	1. Explain the topic, show slides 2. Show orthopedic prosthesis s	Listen and record
The final part of the lecture (5 minutes)	1. Summarizing 2. Ask for independent work 3. Set homework	Listen Write down

Lecture Plan:

1. Method s examination of patients, method okklyuziogrammy, odontoparodontogramma and its value, readings
2. Providence methods and therapeutic actions of selective grinding
3. Orthodontic treatment methods and temporary splinting
4. Increased tooth erasure
5. Methods of examination and diagnosis of increased tooth erasure.
6. A generalized form of increased tooth abrasion with and without a decrease in the height of the lower part of the face with intact dentitions or with a partial absence of teeth.

Lecture text:

Diseases periodontal - collective term uniting conductive large group of different etiology and pathogenesis of periodontal lesions mainly on the principle Lok process and similarity tion of Meaning of periodontal diseases as a general medical about explained Bloem, firstly, their considerable parted wounds, secondly, the loss of a large number of teeth and, thirdly, the appearance of chronic infection foci in connection with the formation of gingival and periodontal chi new and role of a decrease in body reactivity.

In our country we have adopted the terminology and classification tion of periodontal diseases, adopted at the XVI Plenum of the All-Union Society of dentists (November 1983). Clas sification recommended for use in scientific, ne pedagogically and medical work. The following classes fication principle used nosological system diseases tizatsii

I of . Gingivitis - an inflammation of the gums caused by nebla gopriyatnym influence of local and general factors and occurs without compromising the integrity of the periodontal attachment.

Form: catarrhal, hypertrophic, ulcerative. Current: acute, chronic, aggravated, remission. The severity of the process: mild, moderate, severe. The prevalence of the process: localized, generates a ripple.

II . Periodontitis - inflammation of the periodontal tissues, the Features rizuyuscheesya progressive destruction of periodontal and bone (in English transcription WHO classification term "periodontitis" is synonymous with periodontitis, and "periodontosis" - synonymous with periodontal disease).

Current: acute, chronic, aggravated (including abscessed), remission.
The severity of the process: mild, moderate, severe.
The prevalence of the process: localized, generates a ripple.

III . Periodontal disease - dystrophic defeat parodon that .

Current: chronic, remission.
The severity of the process: mild, moderate, severe.
The prevalence of the process: generalized.

IV. Idiopathic with periodontal disease progression ruyuschim lysis tissues.

V.Parodontomy - tumors and tumor protses sy in the periodontium.

All periodontal disease are divided into system and hearth stems. Systemic include periodontal disease and generalized ny periodontitis. Focal (local) parodon disease that - it periodontitis individual teeth and so-called primary traumatic syndrome that develops when the primary traumatic occlusion.

Gingivitis is inflammation of the gingival mucosa. Aude Noah of the causes of catarrhal gingivitis are anomalies of dental system, as well as the side the action Vie prostheses. The poor hygiene of the oral cavity, especially in the presence of dentures, is considered one of the leading etiological factors. The local causes include sub- and supragingival tartar artific edge -

governmental crowns (wide or long, Fig. 448, 449) for Visayas edges of fillings, inlays, absence of interdental con cycles.

Some clinicians believe that for an artificial crown tooth can dissect to the gums (Fig. 449) and luchit satisfactory fit to the neck of the tooth.

Fig. 448. Moments of examination of the position of the edge of the crown with gingivitis: a - the elongated edge of the crown; b - the extended edge of the crown.

Fig. 449. Scheme ratios artificial crown edge when co- grinding teeth to the gingival margin: a - crown region not immersed ny under the gum adjacent the tooth; b - immersed under the gum, not adjacent to the tooth and causing injury to the gum.

Lack interproximal contacts causes permanent yannuyu injury of the gingival papilla, and as a consequence - the inflammatory tion process. Mechanical injury of the gingival margin WHO as possible and in the absence of anatomical equator crowns due anomaliynogo development or tooth position. Knowing the functional purpose of the equator - allocating pi schevogo lump from the gingival margin, it becomes clear on what change in the slope of the tooth crown is due Vaeth gingivitis (Figure 450.). Gingivitis occurs with poor modeling of artificial crowns on which the equator is not created, and therefore the contact point.

Loosely covering the neck of the tooth clinical IS artificially crowns, as well as extended its territory, squeezing marginal periodontium, which eventually devel INDICATES inflammation. The resulting edema during inflammation TCA it aggravates the traumatic effects to poor Ronchi. The edge crowns of plastic, inserted in the gingival sulcus can cause gingivitis, since oral strips minute in gingival fluid plastic swells and its edge Uwe lichivaetsya and exerts pressure on the mucosa. If in the first two cases acute serous gingivitis most often develops , then in the latter case it is chronic.

Gingivitis can occur under the influence of inaccurate edge of a building denture and is characterized by a serous or hypertrophic inflammation. Side effects of the prosthesis in the marginal periodontium associated with principled hydrochloric circuit design of the plate removable prosthesis. To understand the mechanism of occurrence of traumatic periodontal disease, it should be borne in mind that any prosthesis, even having good klammernoy fixing

during the Bani and swallowing makes mikroekskursii in the transverse and vertical directions. In fig. 451 a, b shows a diagram of the side excursions of a removable laminar denture. When the prosthesis is shifted to the right, the gingival margin on the lingual side of the right front teeth is infringed ; when moving the prosthesis left lesion is transferred to the left Storo well. In any case, the gingival margin is impaired between two solids: a prosthesis and a tooth. In fig. 451 b is also presented the defeat circuit marga tional periodontal prosthesis during vertical movements.

Marginal periodontitis as a manifestation of side action of the prosthesis can not be completely eliminated, but the doctor mo Jette limit the scope of their distribution and prevent the development of severe ulcerative forms.

For preventive measures, warning conductive gingivitis traumatic origin, should include: 1) timely treatment of anomalies position Dhu CWA and development of the jaws; 2) the creation of contact points for filling cavities; treatment pref sim ilar hold tabs; 3) the use of cast tabs in the treatment of cervical caries, at least - the components operating actions materials (plastic fillings contraindicated us); 4) strict quality artificial crowns: restoring the anatomical shape of the tooth (particularly eq Vator), the length and width of the cervical portion of the crown. The tooth groove may enter only the metal frame of the crown, the lining material is brought to the gum Vågå edge without canopy over them. In the long term prophylaxis cal importance is the renunciation of the use of crowns made of acrylic plastic, stamped crowns, including the crowns lined by Belkin. For the prevention of gingivitis development during their use SRI dentures receive impressions roofing allowed to after the complete elimination of inflammation in the marginal periodontium. Equally important preventive CELEBRATION yatiem is the application of clasp prostheses instead laminar naturally in accordance with medically E readings. If laminar dentures are indicated, then exact adherence to the boundaries of the prosthesis, the degree and level of its fit to hard tissues is also a measure of the prevention of gingivitis.

Tasks of orthopedic treatment. To reduce the function tional congestion and facilitate periodontal performing its functions, you must: 1) return to the dentist Rada lost Noah unity and turn it into an indivisible whole; 2) correct but distribute chewing pressure, unloading teeth on expressions periodontium due to less affected; 3) before storing the teeth from a traumatic action horizontal overload; 4) a partial loss of teeth, in addition, no necessity prosthetics, including direct.

For planning and conducting treatment requires careful consideration of the clinical and radiographic given GOVERNMENTAL, on which is established the state of the gums, bone changes, location and depth of the pockets of pathological Skye tooth mobility. Research results can be recorded in the medical history using a periodontogram or other graphic recording (Fig. 456).

However, the use parodontogrammy allows uchi TYVA endurance periodontal only in relation to the ver tikalnoy load, insufficient to assess its function functional state. It is incorrect and put of that drop endurance periodontal directly about proportional to the degree of bone atrophy of the hole wall so as the ability to perceive periodontal chewing giving Lenia at different levels unequal root (EI fishing Havre et al., 1968). According to the point of view of the latter, Crete Receiving the lack of reserve forces in periodontal The appearance is Lenie first signs of pathological tooth mobility. Tooth mobility - an important factor in determining consisting Niya his support system, but not decisive. The mobility of the tooth cannot be the full basis for its removal, since the stability of the tooth is not always an indication for its preservation. It should be noted that the clinical given nye often do not correspond to the results of X-ray studies, that is, the degree of resorption walls mo wells can fail to coincide with the degree of mobility of the tooth. Very you expressions tooth mobility may be observed with respect Tel'nykh preserved alveolar bone when the tooth is subjected to an overload of articulation, on the other hand, the teeth can be stable for atrophy of the alveolar process at 3/4 the wells in the absence of antagonists.

For the treatment of periodontal disease in orthopedic hundred specific methods matologii developed: 1) choosing tion prishlifovyvanie; 2) temporary splinting; and 3) orthodontic treatment; 4) the use of permanent splinting devices and prostheses; 5) direct prosthetics.

The method of selective grinding. Indication for use is the detection of premature contacts on individual teeth when closing the jaws in the central, lateral and anterior occlusions. Applying etsya both primary and which developed in the process. This method was first proposed by Caroli in 1901 and, according to T.V. Nikitina (1982), in need of 95.8% pa cients with periodontal diseases.

Premature contacts (suprakontakty) originated by abrasion as a result of uneven or absence of it at certain teeth or in the group change their rely Nia due to lesions of periodontal at anomalies teeth, dental rad and occlusion.

The therapeutic effect of prishlifovyvanie conclude chaetsya in elimination or significant reduction of harmful th horizontal component masticatory pressure reducing tooth displacement and vascular compression periodon one and consequently removing factors deteriorating blood circulation and tissue trophism. Creating a uniform con cycles throughout the dentition during movement of the mandible (it is creating a so-called sliding approx fairleads) reduces the specific pressure on the periodontal tissues and promotes the normalization of the blood circulation.

In the case of vertical displacement of the teeth which WHO arises when a defect dentition (phenomenon Popov-Godo-on) to ensure free articulation motion Nij and uniform distribution of the chewing pressure on periodontal prosthesis is very important to cut away nyat occlusal surface. Eliminate the vertical movement of the hinge teeth orthodontic appliances Steam, as they lead to an overload of unhealthy pas rodonta that can result in tooth loss. Minor deformity eliminated by grinding Oak klyuzionnoy surface, while a pronounced displacements SRI teeth do after preliminary depulpiro- Bani.

One of the symptoms of periodontal disease is the lack of tooth erasure. Well-defined bumps with zdayut additional functional overload steam Dont during horizontal movement of the lower jaw, which aggravates the disease. Sanding mounds ensures free smooth sliding dentition and contributing to an improvement of periodontal status.

Classification of premature contacts (supra-measures) of teeth by Jankelson (explanation in the text).

It is practically important to determine the place of selective grinding in the complex of therapeutic measures for periodontal diseases. Thus, when pronounced PLAYBACK - inflammatory reaction it is first necessary to eliminate its therapeutic treatments (to remove dental plaque, hold medicamentous treatment of periodontal ct manes, impose medical bandage) and only then wor cator to selective prishlifovyvanie teeth. If Su- prakontakty individual teeth cause exacerbations Nia or maintain an inflammatory tissue reaction pas rodonta may parallel treatment. In all cases, the preparation for surgical treatment of periodontitis or shea niruyuschim activities previously mouth must wound suprakontakty teeth that lead to travmatiches Coy occlusion. Eliminating deformations dentition, pre hampering proper evaluation

articulatory motion Nij mandible and identification suprakontaktov must precede selective prishlifovyvanie teeth.

Suprakontakty teeth can be localized at various GOVERNMENTAL portions complex configuration of the chewing surface of the teeth. The most convenient and practical is the classification of supracontacts according to Jankelson (1955). Consent but this classification surface skates hillocks about significant figures I , II , III , and the corresponding poverhnos minute antagonists - la , Ila , Ilia (457 Fig.).

Class I - vestibular slopes of the buccal puffs of the lower molars, premolars, and the vestibular surface of the lower anterior teeth. Class 1a - rays oral buccal cusps of the maxillary molars, premolars and oral surface ne Independent user upper teeth. Class II - oral slopes of the palatine hillocks of the upper molars and premolars. Class Pa - vestibu polar rays lingual cusp of the lower molars and premolya moat. Class III of - vestibular ramps palatal tubercles top of their molars and premolars. Class Ilia - oral slopes of the buccal puffs of the lower molars and premolars.

Sometimes it is necessary to selectively prishlifovyvanie of domain only 1 or 2 teeth. Obviously, when this is not optionally go to prishlifovyvanie complex and sufficient to hold the local defining suprakontakty I , II , III class owls on "interested" teeth. In this volume prishlifo vyvanie can be carried out a medical periodontist. Com plex selective prishlifovyvanie teeth require present knowledge bases occlusion and articulation theory, performing etsya dentist orthopedic operating in Parodontol cal compartment. Complex technique selectively prishlifovyvanie teeth should be used considering yn dividual patient characteristics masticatory function.

Before grinding, it is useful to find out the patient's attitude to dental interventions. If for some of them it is enough awareness gazebo pardavimas.Kainos dy about the safety and usefulness of the procedure, while others nuzh given in psihomedikamentoznoy correction. The range of psychotropic drugs prescribed to patients is wide enough. At one extreme are prepa Rata valerian, Leonurus, and on the other - strong trunk vilizatory benzodiazepine, sometimes potentiating mye small doses of neuroleptics or antidepressants. To quickly reduce psycho-emotional stress, preference should be given to phenazepam (0.0005-0.001 g) and diazepam (0.005-0.01 g), which have a pronounced anti-anxiety effect. To enhance the anti - anxiety effect of these drugs, you can combine the use of tranquilizers with small doses of haloperidol (0.00075-0.0015 g) or amitriptyline (0.006-0.0125 g). On so these drugs should be borne in mind that amitripti- ling still affect the pain threshold, and haloperidol has distinct antiemetic properties (VN Trezubov).

It should be noted that the presence of movable teeth D mended by grinding them temporarily before shini Rowan plaster blocks of self-hardening rails plastic or support fingers. Unacceptably about keeping gingivotomy and gingivectomy without prior Nogo time of manufacture tires, as is often done.

Sequence selective techniques prishlifo teeth vyvaniya. In the first visit, the patient held his clinical examination, X-ray analysis of Th Lust, taped testimony to the election came fovyvaniyu teeth, provide clarification on the nature of the intervention. In severe cases, can be obtained Diagne statistical model jaws and review okklyudogrammy. This trick usually lasts 30 minutes.

Marking of supracontacts. Overview occludograms. Used carbon paper (different colors), folded into four layers of approximately 3x4 cm in size. It is possible to use a plate clasp wax Vyra zannuyu correspondingly to the size and shape of the dentition (currently available under standard wax preform kovoobraznoy form). Such a plate is applied to the lower dentition and asking the patient to close tightly zu least in centric occlusion position, whereupon plas Tink carefully withdrawn from the mouth, washed ho lodnoy running water, and analyzed with good coverage, it is possible on the negatoscope. Suprakontakty revealed are both areas thinned or perforated Sun ka. Then the occludogram can be superimposed on the dentition of diagnostic models and “painted”. The inconvenience of occludofamma is that supracontacts can be detected mainly in the position of central occlusion. Req Dimo save the first and last okklyudofammy.

Relatively accurate way of determining suprakon cycles may be the lack of occlusal facets STI Rania after 25-30 years of life. "Symptom-shake" - Decree tion finger imposed on the vestibular over Nosta "suspect" tooth and neighboring, at the closing of Dhu felt it shake CWA.

Furthermore waxy plate and the carbon paper is convenient to use blocks made of silicone impression wt sy. And the following method is proposed for obtaining Zorn okklyudogramm: 2 wax clasp plate pa bot, and between them - aluminum foil of thickness 0.01 mm. All in the shape of the dentition. This method, in contrast to from Vestnik allows you to record occlusal interaction for both dental arches at the same time, is bo Lee exact facilitates work of the doctor and saves time.

After examining the diagnostic models and okklyudo preliminary prishlifovka teeth made grams.

1. The preliminary grinding is eliminated considerable Tel'nykh roughness of teeth. It should be done so on time, to preserve the original shape zhevatel Noi surface, its contour. In the pre-grindin Vania need to pay attention to the state of the dental pulp and aesthetic effect.

2. Grinding with a central occlusion terminating etsya early contact of individual teeth. Copies the rampart paper set prematurely Sopra related points that finely grind up until the teeth are not in contact at the same time. In the presence suprakontaktov front teeth in the central hydrochloric occlusion ground off only the lower teeth as shown in Fig. 458. On molars, to stop the early contact, a tubercle is polished or deepened

hand of the opposing tooth. The question of how to grind bu hot or deepen the furrow at centric occlusion (CO), decides the position of the contacting points with the lateral wail - occlusion - are possible three options: a) if and when the CO and at the side there is a premature contact at one hill, then it is polished (Fig. 458 a); b) ec out at a CO tuberosity contacts before, and at the two lateral tuberosity contact simultaneously, it deepens bo Rozdil antagonist, since otherwise with the side occlusion in general will not contact (458 fig. b); c) if one of the CO bu mountains in contact before, and at the side, he did not with , because otherwise the gap at the side approx touches with an antagonist, then also need to deepen the furrow Clusaz will be even more (Fig. 458).

3. The purpose of grinding is at the front occlusion achieve a situation in which it is possible secu chit contact a large number of upper and lower front teeth. When the front occlusion usually Wetted sayutsya only 1 or 2 of the cutter, and the side and rear teeth from touching, especially at deep occlusion. It would be also desirable to that all the front teeth are touching. For before stizheniya of repeatedly copying paper from the sword when they front occlusion adjoining points and cutting edges of the upper front teeth grind up until all the front teeth are not in contact.

When the front occlusion ground off only rezhu conductive region of the upper front teeth, because, we do not violate the central occlusion. If the lower teeth are polished, then with central occlusion, the contact of the teeth is turned off and their increased forward shift can be observed. When prishlifovyvanie front zu CWA provide no horizontal flat surface, not much oblique plane, thereby creating a cutting edge (Fig. 459, 3).

4. Grinding conducted while moving forward, you need to ensure the free displacement, and even with a touch of the upper and lower front teeth. Grinding is carried out as follows. Copier Valnju set paper contacting or colliding points when moving forward, and palatine on surface of the upper front teeth to ground off to stizheniya uniform contact.

When moving forward, you usually need to grind only the upper front teeth, but in this case, you need to pay attention to the back teeth, because when moving forward, knobs of one of the back teeth can come up. The motion of the right front when the jaw deviates to the side. It happens that in the process of moving forward encounter bumps back teeth and jaw shift in bo kovuyu side.

Fig. 460. With a sharp diamond stone in the direction of the arrow, grind slowly until a uniform contact is achieved.

buccalis

Fig. 461. Grinding of molars during lateral occlusion. In SLE tea early contact: 1) polished upper buccal protuberance of the tooth and the lingual protuberance of the lower teeth; 2) tapers on the crown surface; 3) the shape of the crown after grinding.

5. Grinding conducted when the occlusion side, on both sides of the stopped early contact fittings teeth and as far as possible equal to provide dimensional simultaneous contact of both the working, so on the other side. When the lateral occlusion of copy paper set prematurely colliding point for early termination contact (if facing teeth) ground off the lower tubercle kly ka. In case of a collision of molars, the buccal tubercles of the upper and lingual tubercles of the lower teeth are ground until uniform contact occurs (Fig. 460). One of the basic rules for grinding molars during lateral occlusion is the Bolu rule : " buccal ober - ligual unten " - on the working side, grind the upper buccal and lower lingual tubercles (Fig. 461).

To finish of grinding again made mo del, and comparing it with the original model, it is possible to ascertain whether prishlifovka reached its goal, oud moose whether to create a balanced articulation and Terminated tit premature contact. The patient who searches Vaeth relief and comfort. After the necessary measures are polished teeth paper and rubber disks, and if polished steel surface sensitivity -inflammatory, then the sensitivity is eliminated lubricating the Niemi 10% solution of zinc chloride, 2% sodium fluoride Risto sodium or other means.

Grinding is usually carried out after other local medical procedures, when the tartar is removed, gingivitis is already cured and the pockets are eliminated. Came fovyvanie should be carried out not once, but not how many procedures, at intervals of a few days. Ta kim, the selective complex prishlifovyva- of teeth is carried out usually at Visit 3, which knitting mayutsya 2 hr. 15 min medical time intervals not less her 3-5 days for patient adaptation. However, in complex form occlusive disorders or pathology occlusion (progenichesky, cross and t. P.) As well as at Napier wearable patients dental procedures Included Quantity counter GUSTs Up of patients who underwent selective prishlifovy- vanie teeth, conducted in the order of multiplicity dispensaries tion groups of patients with periodontal disease, but not in D is 1 time per year.

Additional control is carried out after 10-14 days, and subsequently - every 6 months, since for correcting inaccurate occlusal surfaces individual teeth stey can change its position, and the edges Eve periodontium detect signs of aggravation PLAYBACK - inflammatory process.

Various causes of impaired function may be the causes of disturbances in the harmony of occlusion : hyperfunction, spasm symptoms , fatigue of the masticatory muscles, and bruxism (para- functions). Many people have bad habits: sticking their tongue between their front teeth, putting forward pressure on them , or opening clips with their teeth, men sometimes open bottles with their teeth. This includes when quotation marks gnawing various items (pencils, mouthpieces). From such bad habits can be unlearned, pointing to the WHO ble complications. It is

necessary to pay attention to the possibility Nosta loosening of individual teeth or groups of erasing them. Loosening may not be accompanied by the beginning of gingivitis that, but in the future may increase and cause gingivitis. Bad habits are harmful also because in the case through the destruction of periodontal begins dimensional

Pathological abrasion of teeth - of polyetiological origin; pathological condition of the dentofacial system. It is characterized by excessive loss of enamel or enamel and
dentin of all or only individual teeth. Pathological tooth abrasion occurs in middle-aged people, reaching the highest frequency of C5%) in 40-50-year-olds, and more often in men than in women. Against the background of a congenital pathology of development, pathological tooth abrasion is observed in people and adolescents.

Etiology and pathogenesis

The occurrence of pathological tooth abrasion is associated with the action of various etiological factors, as well as their various combinations. Conventionally, there are 3 groups of causes of pathological abrasion of teeth:

1) functional insufficiency of hard tissues of teeth;
2) excessive abrasive effects on hard tissues of teeth;
3) functional overload of teeth.

Functional insufficiency of hard tissues of teeth. This deficiency may be due to endogenous and exogenous factors. Endogenous factors include "congenital or acquired pathological processes in the human body that violate the process of formation, mineralization and vital activity of tooth tissues.

Congenital functional insufficiency of hard tissues of teeth can be a result of pathological changes in ectoderm cell formations (inferiority of enamel) or pathological changes in mesoderm cell formations (inferiority of dentin) or a combination thereof. At the same time, a similar developmental disorder can be observed in some general somatic inherited diseases: marble disease (congenital diffuse osteosclerosis or osteoporosis of almost the entire skeleton); Porak – Durant syndromes, Frolik (congenital imperfect osteogenesis) and Lobstein syndrome (late imperfect osteogenesis). This group of hereditary lesions includes Capdepon dysplasia.

In marble disease, delayed tooth development, their later eruption and structural change with severe functional insufficiency of hard tissues are noted.

The roots of the teeth are underdeveloped, the root canals are usually obliterated. Odontogenic inflammatory processes are characterized by the severity of the course and often turn into osteomyelitis. With Frolik and Lobstein syndromes, the teeth have a normal size and a regular shape. The color of tooth crowns is characteristic - from gray to brown with a high degree of transparency. The degree of staining of different teeth in the same patient is different. Erasure is more pronounced in incisors and first molars. Dentin of teeth with this pathology is insufficiently mineralized, the enamel-dentin compound looks like a straight line, which indicates its insufficient strength.

The same picture can be observed with Capdepon's syndrome. Teeth of normal size and shape, but with a changed color, different in different teeth of one patient. Most often
color is watery-gray, sometimes with a pearly sheen. Soon after teething, the enamel is chipped off, and exposed dentin, due to its low hardness, is quickly worn away. The disturbed mineralization of dentin leads to a decrease in its microhardness by almost 1.5 times in comparison with the norm. The tooth cavity and root canals are obliterated. The electrical excitability of the pulp of the erased teeth is sharply reduced. Affected teeth react poorly to chemical, mechanical, and thermal stimuli. Obliteration of the tooth cavity and root canals with this dysplasia begins even in the process of tooth formation, and is not a compensatory reaction to pathological abrasion. In the region of the apices of the roots, rarefaction of bone tissue is often noted.

In contrast to functional tooth failure in Frolik and Lobstein syndromes, Capdepon dysplasia is inherited as a constant dominant trait. Acquired etiological endogenous factors of pathological tooth abrasion include a large group of endocrinopathies, in which mineral, mainly phosphorus-calcium, and protein metabolism are impaired. Hypofunction of the pituitary gland of the anterior lobe, accompanied by a deficiency of growth hormone, inhibits the formation of a protein matrix in the elements of the mesenchyme (dentin, pulp). The deficiency of the pituitary gonadotropin hormone has the same effect. Impaired secretion of the adrenocorticotropic pituitary hormone leads to the activation of protein catabolism and demineralization. Pathological changes in the hard tissues of the teeth in case of thyroid gland dysfunction are mainly associated with hypocalcification of thyrocalcitonin. In this case, the transition of calcium from the blood to the tooth tissue is impaired, i.e., the plastic mineralizing function of the tooth pulp changes.

The most pronounced disorders in the hard tissues of the teeth are observed with a change in the function of the parathyroid glands. Parathyroid hormone stimulates osteoclasts that contain proteolytic enzymes (acid phosphatase) that contribute to the destruction of the protein matrix of tooth hard tissues. In this case, calcium and phosphorus are removed in the form of soluble salts - citrate and lactic acid calcium. Due to the lack of activity in the osteoblasts of the enzymes lactate dehydrogenase and isocitrate dehydrogenase, carbohydrate metabolism is delayed in the stage of formation of lactic and citric acids. As a result, highly soluble calcium salts are formed, the washing out of which leads to a significant decrease in the functional value of hard tooth tissues.

Another mechanism of demineralization of hard tooth tissues in the pathology of the parathyroid glands is hormonal inhibition of phosphorus reabsorption in the tubules of the kidneys. Dysfunction of the adrenal cortex and gonads also lead to demineralization of the hard tissues of the teeth, increased protein catabolism.

Of particular importance in the occurrence of functional insufficiency of hard tooth tissues, leading to pathological abrasion of them, are neurodystrophic disorders.

Irritation of various parts of the central nervous system (CNS) in the experiment led to increased abrasion of enamel and dentin in experimental animals. Exogenous factors of functional insufficiency of hard tissues of teeth should be attributed primarily to nutritional failure. Inadequate nutrition (lack of minerals, protein deficiency of foods, unbalanced diet) disrupt metabolic processes in the human body and, in particular, the mineralization of hard tissues of teeth. Functional insufficiency of the hard tissues of the teeth due to insufficient mineralization can be caused by a delay in the absorption of calcium in the intestine with vitamin D deficiency, deficiency or excess fat in food, colitis, and profuse diarrhea. These factors acquire the greatest importance during the period of formation and teething. The lack of vitamins D and E in the patient's body, as well as hypersecretion of the parathyroid hormone, inhibits the reabsorption of phosphorus in the renal tubules and contributes to its excessive excretion from the body, disruption of the mineralization of hard tissues. Such demineralization is also observed in kidney diseases. Chemical damage to hard tissues of teeth occurs in chemical industries and is an occupational disease. Acid necrosis of the hard tissues of the teeth is also observed in patients with achilic gastritis who are taking hydrochloric acid orally. It is necessary to emphasize the great sensitivity of tooth enamel to acid exposure.

Already in the initial stages of acid necrosis, patients have a feeling of numbness and sore teeth. Pain can occur when exposed to temperature and chemical irritants, as well as spontaneous pain. Sometimes patients complain of a feeling of sticking teeth when they close. With the deposition of replacement dentin, dystrophic and necrotic changes in the pulp of the affected teeth, these sensations become dull or disappear. Typically, acidic necrosis affects the front teeth. Enamel disappears in the region of the cutting edges, and the underlying dentin is involved in the destruction process. Gradually, the crowns of the affected teeth, erasing and collapsing, shorten and become wedge-shaped. A significant violation of the functional state of the hard tissues of the teeth occurs in phosphorus production. Necrotic changes in the structure of dentin were noted, in some cases the absence of replacement dentin, an unusual cement structure similar to the structure of bone tissue. Among the physical factors that reduce the functional value of hard

tooth tissues and lead to the development of pathological erasable teeth ™, radiation necrosis occupies a special place. This is due to an increase in the number of patients subjected to radiation therapy in the complex treatment of oncological diseases of the head and neck. In this case, radiation damage to the pulp is considered primary, which manifests itself in a violation of microcirculation with the phenomena of pronounced plethora in precapillaries, capillaries and venules, perivascular hemorrhages in the subodontoblastic layer. In odontoblasts, vacuole dystrophy, necrosis of individual odontoblasts are noted. In addition to diffuse sclerosis and petrification, the formation of denticles of different sizes and localizations, of varying degrees of organization is observed. In all areas of dentin and cement, demineralization phenomena and destruction sites are detected. These changes in hard tissues occur at different times after irradiation and depend on the total dose. The greatest changes in the tissues of the teeth are observed from the 12th to the 24th month after radiation therapy for tumors in the head and neck. As a result of significant destructive lesions of the pulp, changes in hard tissues are irreversible. For the prevention of tooth injuries during radiation therapy of diseases of the maxillofacial region, it is necessary to cover the teeth for the period of the irradiation session with a plastic mouthguard such as a boxing tire, conduct thorough sanitation, and proper hygienic care.
The second group of etiological factors of pathological tooth abrasion are factors of various nature, the common point of which is an excessively abrasive effect on the hard tissues of the teeth. A survey of residents of the Yamal-Nenets district [I. Lyubomirova, 1961] revealed a large number of severe cases of pathological tooth burnability down to the gum level as a result of eating very hard foods - frozen meat and fish - by residents.
Long-term observations of S. M. Remizov over the abrasive effect of toothbrushes, tooth powder and toothpastes of various designs convincingly showed that the improper, irrational use of hygiene and dental care products can turn from a therapeutic and prophylactic agent into a formidable destructive factor, leading to pathological flammability of teeth. Normally, there is a significant difference in the microhardness of the enamel (C90 kgf / mm2) and dentin (80 kgf / mm2). Therefore, the loss of the enamel layer leads to irreversible wear of the teeth due to the significantly lower hardness of the dentin.

Clinical picture

The clinical picture of pathological tooth abrasion is extremely diverse and depends on the degree of damage, topography, prevalence and duration of the process, its etiology, the presence of a concomitant general pathology and lesions of the maxillofacial system. With pathological abrasion of teeth, aesthetic norms are primarily violated due to changes in the anatomical shape of the teeth. In the future, with the progression of the pathological process and significant shortening of the teeth, they change
chewing and phonetic function. In addition, in some patients, even in the initial stages of pathological abrasion, hyperesthesia of affected teeth is observed, which disrupts the intake of hot, cold, sweet or acidic foods. To classify the entire diversity of the clinical manifestations of pathological tooth abrasion,
forms, types and degree of damage. Forms of pathological tooth abrasion characterize the length of the pathological process. Distinguish between generalized and localized forms. A generalized form of pathological tooth abrasion, in turn, may be accompanied by a decrease in occlusal height. Types of pathological tooth abrasion reflect the predominant plane of tooth damage: vertical, horizontal or mixed lesion. The degree of pathological abrasion of the teeth characterizes the depth of the lesion: I degree - lesion no more than '/ 3 crown height; II degree - defeat '/ 3 ~ 73 crown height; III degree - damage to more than 2/3 of the tooth crown. The pathological process can affect the teeth of one or both jaws, on one or both sides. In practice, there are cases of varying degrees of damage to the teeth of one or both jaws. The nature and plane of the lesion may be identical, but may vary. All this determines the diversity of the clinical picture of pathological tooth decay, which is significantly more complicated with partial adentia of one or both jaws.

For the correct diagnosis and optimal a treatment plan for such a diverse clinical artin of pathological abrasion, it is necessary to examine patients very carefully to identify etiological factors of pathological abrasion and associated pathology. The examination must be carried out in full in accordance with the traditional scheme: 1) questioning the patient, studying complaints, life histories and medical history; 2) external inspection; 3) examination of the organs of the oral cavity; palpation of the masticatory muscles, temporomandibular joint, etc .; 4) auscultation of the temporomandibular joint; 5) auxiliary methods: the study of diagnostic models, targeted radiography of teeth, panoramic radiography of teeth and jaws, EDI, tomography, electromyography and electromyotometry of the masticatory muscles. Complaints of patients can be different and depend on the degree of pathological abrasion of the teeth, topography and extent of the lesion, prescription of the disease, concomitant pathology. In the absence of concomitant lesions of the maxillofacial region, patients with abnormal tooth abrasion usually complain of a cosmetic defect due to a progressive decrease in the hard tissues of the teeth, sometimes hyperesthesia of enamel and dentin, with acid necrosis - a feeling of soreness and roughness of enamel.

Studying the patient’s life history, they pay attention to the presence of a similar pathology in other family members, which may indicate a genetic predisposition, congenital functional insufficiency of hard tooth tissues. It should be borne in mind that pathological abrasion of teeth can be observed in several members of the same family and not only as a result of hereditary pathology, but also due to the commonality of nutrition, life, and sometimes occupational hazards. All this can contribute to a decrease in the functional value of hard tissues of teeth and their increased abrasive wear. When collecting an anamnesis, it is necessary to identify concomitant somatic pathology, congenital dysplasias, endocrinopathies, neurodystrophic disorders, diseases of the kidneys, gastrointestinal tract, etc. It is necessary to very carefully identify the root cause of abrasion. If from the anamnesis and as a result of a clinical examination it turns out that pathological abrasion of the teeth occurred against the background of functional insufficiency of hard tissues of teeth of endogenous origin, then when choosing a prosthesis design, one should prefer those that would minimally overload the supporting teeth. Otherwise, due to congenital (especially) or acquired insufficiency in osteogenesis, root resorption, severe atrophy of bone tissue from dental alveoli can occur. Often with hereditary diseases (marble disease, Frolik syndrome, etc.), the roots of the teeth that have been erased are underdeveloped, the root canals are bent and obliterated. Therefore, in such cases, indications for pin structures are narrowed. In addition, a clarification in the history of hereditary pathology such as Frolik and Lobstein syndromes, Kapdepon syndrome allows predicting with a sufficient degree of probability the prognosis of the state of the dentofacial system and the musculoskeletal system as a whole in subsequent generations, since tooth changes in Frolik and Lobstein syndromes are inherited as an unstable dominant a sign, and with Kapdepon's syndrome - as a constant dominant sign. Figuring out the history of this disease, pay attention to the limitation of the occurrence of abnormal tooth abrasion, the nature of its progression, the relationship with prosthetics of the teeth and jaws, the nature and working conditions of the patient. During an external examination of the patient's face, face configuration, proportionality and symmetry are noted. Determine the height of the lower part of the face in a state of physiological rest and in central

occlusion. Carefully study the condition of the hard tissues of the teeth, establishing the nature, extent, degree of wear. Pay due attention to the condition of the mucous membrane of the mouth and periodontium of the teeth to identify sopat
existing pathology and complications.
Palpation of the masticatory muscles reveals soreness, asymmetry of sensations, swelling of the muscles, their hypertonicity and suggests the presence of parafunctions in the patient. In the future, to clarify the diagnosis, it is necessary to conduct additional studies: electromyography and electromyotometry of the masticatory muscles, consult with a neurologist about possible bruxism, carefully question the patient and
his relatives about the possible grinding of teeth in a dream. This is necessary for the prevention of complications and the selection of the optimal comprehensive treatment of such a contingent of patients. Palpation of the temporomandibular joint, also
like auscultation of this area, it reveals a pathology that often occurs with pathological abrasion of teeth, especially with a generalized or localized form complicated by partial adentia. In these cases, a thorough analysis of diagnostic models and an X-ray examination are necessary; frontal and lateral tomograms with closed jaws and with physiological rest. Electroodontodiagnosis (EDI) is a mandatory diagnostic test for pathological abrasion of teeth, especially II and III degrees, as well as when choosing the design of fixed prostheses. Often, pathological abrasion is accompanied by asymptomatic pulp death. As a result of deposition of replacement dentin, partial or complete obliteration of the pulp chamber, the electrical excitability of the pulp is reduced. With pathological abrasion of teeth of the first degree, accompanied by hyperesthesia of hard tissues, EDI usually does not allow to identify deviations from the norm. Like EDI, x-ray (aiming and panoramic) is a mandatory diagnostic method that allows you to establish the size and topography of the pulp chamber, topography, direction and degree of obliteration of the root canals, the severity of hypercementosis, the presence of cysts often encountered during functional overload of teeth, granulomas in the erased teeth . All this without a doubt is of great importance for choosing the right treatment plan.
The proper diagnosis and treatment planning of patients with pathological tooth abrasion, as well as monitoring the progress and results of treatment, is facilitated by a thorough study
diagnostic models. On diagnostic models, the type, form and degree of pathological abrasion of the teeth, the state of the dentition are specified, and when they are analyzed in the articulator, the nature of the occlusal relationship of the teeth and dentition in
different phases of all types of occlusion, which is especially important when diagnosing a concomitant pathology of the temporomandibular joint and choosing a treatment plan.

Synonyms **of Kosten syndrome [K07.60]:**
muscular-articular dysfunction; occlusal articular syndrome; craniomandibular dysfunction syndrome; pain syndrome dis function TMJ et al.
Symptoms of the disease: pain in the TMJ from one or two sides of varying intensity day and night, radiating to the neck, occiput, temple and crown, less often to the infraorbital region. Sometimes pain spreads along the third branch of the trigeminal nerve.
Pain with movements of the lower jaw, fatigue during chewing, crunch in the joint.
Changing the sensitivity of the skin to Oblas tee joint. These phenomena are associated with attached neuritis of the ear-temporal nerve.
Pain, tinnitus, feeling of pressure, lowering
hearing.
Pain, burning, soreness, tingling in the re dnih 7 $_3$ language.
Foreign body sensation on the tongue, dry mouth or an abundance of saliva. The pathological process vovle cheny parasympathetic sensory fibers triple -border nerve innervating mucosa ne Independent user ^{2}/ s tongue and oral vestibule.
Limiting the opening of the mouth due to painful NOSTA in the TMJ.
Common symptoms: lethargy, weakness, sleep disturbance, depression.

In the treatment of Syndrome Costa preobla should give a comprehensive method. Thus consider ethyol Gia, pathogenesis, disease stage, background Patolo Gia. Pay attention to the need for patient exclusion stressful situations parafunction at EMA solid food. It is recommended to massage spastic sections of chewing muscles, Execu Call of physiotherapy treatments zabole vany TMJ.

Undoubtedly, an important role in the complex of therapeutic measures is assigned to orthopedic methods. Meto rows and individual shinoterapii prishlifovyvanie teeth require correction by occlusion Ustra neniya identified superkontaktov on natural and sometimes on artificial teeth.

Carrying out the treatment should be preceded by a careful analysis of the static and dynamic occlusion sion in the mouth and in the articulator.

Sanding the cusp tip and the bottom of the fissure is unacceptable, ie. A. Will reduce the height of the base of the department faces. By selective prishlifovyvanie can begin only after the diagnosis and composition Lenia plan correction of the occlusion. Show but a diagnostic prishlifovyvanie on jaw models.

To restore the height of the lower portion of the face, normalize the situation of the lower jaw and rearrange ki miotaticheskogo reflex masticatory muscles can be, as noted earlier, use *a plastic* mouthguard. When this disease, treatment should Provo ditsya in two stages: first - the restructuring miotatiches-one reflex; the second is the manufacture of orthopedic structures.

The duration of orthodontic treatment is carried out but. Regular visits to patients are necessary for *its* conduct and willingness to overcome difficulties **in** the treatment process.

Treatment

The restoration of the anatomical shape of the erased teeth depends on the degree, type and form of the lesion. To restore the anatomical shape of the teeth with pathological tooth wear I degree can be used tabs, fillings (mainly on the front teeth), artificial crowns; II degree - inlays, artificial crowns, clasp dentures with occlusal overlays; III degree - stump crowns, stamped caps with occlusive soldering. With abnormal tooth decay of the II and III degrees, conventional stamped crowns cannot be used, since complications associated with a marginal periodontal injury with the edge of the crown deeply advanced into the gingival pocket are possible.

Deep advancement of the stamped crown can occur when the crown is fixed with cement on a strongly shortened tooth. In addition, a marginal periodontal injury is also possible during the use of the crown, when a thick layer of cement between the chewing surface of the erased tooth and the occlusal surface of the crown and the crown are deeply immersed in the gum pocket under the action of chewing pressure. Therefore, if there are indications for the treatment of pathological tooth wear with artificial crowns, several options for their manufacture are possible: 1) solid cast crowns; 2) stamped caps with occlusive solders; 3) stump crowns (stamped or cast crowns) with preliminary restoration of the height of the tooth crown with a stump tab with a pin.

When choosing a material for crowns, its wear resistance should be taken into account. If the teeth are antagonists with unaffected enamel, metal, ceramic-metal, porcelain crowns can be used. For antagonists with a degree of pathological attrition, plastic crowns, metal crowns made of stainless steel, and alloys of precious metals are preferred; ceramic and solid cast prostheses from KHS.

Counter prosthetics with tabs and (or) crowns using structural materials of the same wear resistance are indicated for antagonists with a II - III degree of pathological wear. In case of pathological tooth wear resulting from bruxism and parafunctions, preference should be given to solid cast metal and metal-plastic (with a metal chewing surface) dentures made of base metal alloys as more abrasion resistant. Ceramic-metal prostheses in such patients should be used limitedly due to possible spalling of the coating during involuntary non-functional excessive occlusal overload: night grinding of teeth, spastic compression of the jaws, etc.
Choosing a treatment plan for pathological tooth wear complicated by partial adentia (Fig. 92), they are necessarily based on data from EDI and X-ray control of supporting teeth. In the event of pathological abrasion of the teeth against the background of congenital disorders of amelo- and dentinogenesis, imperfections of the roots of the teeth are often observed,
functional inferiority, which can lead to resorption of the roots of such teeth when used as supports for bridges. Such patients are shown restoration of erased teeth with artificial crowns or inlays with the subsequent manufacture of removable (clasp or plate) dentures.

Treatment of pathological tooth wear complicated by a decrease in occlusal height.
Treatment is carried out in several stages: 1) restoration of the occlusal height with temporary medical diagnostic devices; 2) the period of adaptation; 3) permanent prosthetics. At the first stage, the occlusal height is restored with the help of plastic tooth mouth guards, dental gingival mouth guards, removable plate or clasp dentures with overlapping of the chewing surface of the erased teeth. Such restoration can be simultaneous with a decrease in the occlusal height to 10 mm from the height of the physiological rest and phased - 5 mm every 1-1 * / 2 months with a decrease in the occlusal height by more than 10 mm from the physiological rest.
To establish the height of the future prosthesis, wax or plastic bases with bite rollers are made, the required “new” position of the lower jaw is determined and fixed in a conventional manner in the clinic, radiological monitoring is mandatory. On radiographs of the temporomandibular joints with closed dentition in a position fixed by wax ridges, there should be a “correct” position of the articular head (on the slope of the articular tubercle) uniform on both sides. Only after this, this position is fixed with temporary medical and diagnostic devices-prostheses. The second stage — an adaptation period of at least 3 weeks — is required for the patient to fully get used to the “new” occlusal height that arises due to the restructuring of the myotatic reflex in the masticatory muscles and temporomandibular joint. During this period, the patient should be under the dynamic supervision of the attending dentist orthopedist (at least 1 time per week, and if necessary: subjective discomfort, pain, discomfort, inconvenience when using diagnostic and treatment devices - and more often). When using non-removable medical diagnostic devices - plastic mouth guards - the adaptation process proceeds faster than when restoring the occlusal height with removable structures, especially plate ones. This is explained not only by the design

features of the prostheses, but also by the fact that fixed mouthguards are fixed with cement and patients use them constantly. On the contrary, patients often use removable devices only for a short time of day, removing them
while working, eating, sleeping. Such use of prosthetic devices should be regarded not only as useless, but as harmful, since it can lead to pathological changes in the temporomandibular joint, to muscular-articular dysfunctions. Therefore, it is necessary to conduct preliminary explanatory conversations with patients with a warning about possible complications in case of intermittent use of medical
apparatus and the need for mandatory treatment to the attending dentist orthopedist in case of discomfort in the temporomandibular joint, chewing muscles, mucous membrane of the prosthetic bed. At the time of fitting the diagnostic and treatment apparatus and at control examinations, the occlusal contacts are carefully checked in all phases of all types of occlusion, the quality of polishing is checked
prosthesis, the absence of sharp protrusions and edges that can injure soft tissues.
If, with a simultaneous increase in the occlusal height by 8-10 mm, the patient develops severe pains that increase during the first week in the temporomandibular joint and / or chewing muscles, it is necessary to reduce the height by 2-3 mm until the pain disappears, and then, after 2-3 weeks, re-increase the occlusal height to the required value. Technically, this is easily accomplished by grinding a layer of plastic on the chewing surface of a diagnostic and treatment unit or by applying an additional layer of quick-hardening plastic.
It must be emphasized that the adaptation period of 2-3 weeks is considered from the moment the last unpleasant sensations in the patient disappeared in the temporomandibular joint or chewing muscles. Sometimes, due to unpleasant subjective sensations, repeated attempts to increase the occlusal height to the desired optimal level (2 mm below the physiological rest level) remain unsuccessful. Permanent prostheses are made for such patients at the maximum occlusal height to which he was able to adapt. Usually this is observed in patients whose decrease in the occlusal height occurred more than 10 years ago and irreversible changes managed to occur in the temporomandibular joint. The same picture is observed in patients with pathological abrasion of the teeth, complicated by disorders of the psychoemotional sphere, who focus excessively on the nature and degree of their subjective sensations. Orthopedic treatment
pathological deterioration of teeth, complicated by a decrease in occlusal height, is extremely difficult in this category of patients, the prognosis is uncertain, and treatment must be carried out in parallel with treatment by a neuropsychiatrist.
The third stage of treatment - permanent prosthetics - does not fundamentally differ in the type of dental prosthesis designs used in the treatment of pathological tooth wear. It is important to note only the need to use structural materials that guarantee the stability of the established occlusal height. Do not use plastic on the chewing surface of bridges. In removable dentures, it is preferable to use porcelain teeth, cast occlusal lining. To stabilize the occlusal height, counter tabs and crowns are used.
An important condition for achieving good results of permanent prosthetics is the manufacture of prostheses under the control of temporary medical diagnostic kappa. Possible phased production of permanent prostheses. First, prostheses are made on one half of the upper and lower jaws in the area of chewing teeth, while temporary mouth guards remain fixed in the frontal section and on the opposite half of both jaws. When fitting permanent prostheses, temporary mouthguards can accurately establish the occlusal height and optimal occlusal contacts in the various phases of all types of occlusion to which the patient is adapted. After fixing permanent dentures on one half of the jaw, temporary mouthguards are removed and the manufacturing of permanent dentures on the rest of the dentition is started. For the period of manufacture of prostheses, diagnostic and diagnostic mouthguards are temporarily fixed.

Treatment of pathological tooth wear without reduction occlusal height.

Treatment is also carried out in stages. At the first stage, a section of the dentition with abnormal dentition and vaccine hypertrophy of the alveolar process is reconstructed by the method of gradual ezocclusion, achieving sufficient
occlusal space to restore the anatomical shape of the erased teeth. To do this, a plastic mouthguard is made on the teeth antagonizing with the teeth to be "rearranged". The following rule is observed: the sum of the periodontal endurance coefficients of the teeth included in the mouthguard should be 1.2-1.5 times the sum of the periodontal endurance coefficients of the teeth to be reconstructed. " The mouthguard is made in such a way that in the area of the reconstructed teeth there is tight planar contact with the mouthguard, and in the group of divided chewing teeth the gap does not exceed 1 mm (a sheet of double-fold writing paper should pass freely). To control and eliminate possible complications after fixing the mouthguard, the patient is asked to come the next day, and then they are invited to come in as soon as the patient determines the occurrence of close contact in the group of divided chewing teeth. Previously, the patient must be trained to control the presence of occlusal contact of teeth by biting a thin strip of writing paper. After contact is reached, the mouthguard is corrected with quick-hardening plastic, achieving deocclusion in the group of chewing teeth up to 1 mm, for which layers of clasp wax are laid between the molars. Once again, appoint an appointment to achieve close contact of disconnected teeth. Thus, by the method of gradual deocclusion, the necessary restructuring of the site of vaccine hypertrophy of the alveolar process is achieved. The method of gradual disocclusion is applicable in the treatment of a localized form of pathological tooth grinding without reducing the occlusal height. With a generalized form of such a pathology, the method of sequential disocclusion and is used. It consists in a gradual disocclusion sequentially first in the frontal area, then on the one hand in the area of chewing teeth, then on the other. Given the long duration of such a restructuring, the treatment of a generalized form of pathological tooth grinding without reducing the occlusal height should be considered the most difficult and time-consuming with a dubious prognosis, since the deocclusion method is not always possible to achieve the desired result. In addition, it is contraindicated in the pathology of the periapical tissues, atrophy of the bone tissue and in the area of teeth subject to "restructuring", diseases of the temporomandibular joint. The second stage is the restoration of the anatomical shape of the erased teeth with one of the types of prostheses considered earlier. The prognosis for the treatment of pathological tooth wear is generally favorable. The treatment results are better in young and middle-aged people with an initial degree of erasable ™. However, it is necessary to note the

possibility of relapse in patients with abnormal tooth decay against the background of bruxism and parafunctions, which confirms the idea of the insufficiency of only orthopedic interventions without appropriate psychoneurological corrections. All patients with abnormal tooth abrasion should be on follow-up.

2 lecture

Subject: Secondary deformation of dentition and occlusion with partial adentia. Change in Methods of orthopedic and orthodontic treatment. TMJ disease. Methods of orthopedic treatment .

Technological map of a lecture lesson.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (10 minutes)	1. Prepare lecture material 2. Preparation of slides for the introduction of the lecture 3. Using literature to prepare a lecture: 1.Kurlyandsky V.Yu. "Orthopedic Dentistry" Textbook. M.Meditsina. 1977, 2.Kopeikin V.N. Orthopedic Dentistry 2001	Listen and record
Lecture introduction (1 0 minutes)	**Explanation of goals and objectives of the topic** **Purpose:** To prepare assistants for the faith who can help with orthopedic treatment for periodontal diseases **Tasks:** To provide information and teach students about periodontal diseases, the course of the disease and prevalence. **Questions about the lecture:** 1. Deformation of dentitions and bites with partial absence of teeth 2. Methods of orthopedic and orthodontic treatment 3. Hardware and combined complex treatment 4 . Etiology, pathogenesis of arthrosis and arthritis 5 . Dislocations and subluxations. 6. Methods of objective examination 7. The role of orthodontic appliances in complex therapy. 8. The impact of dental prosthesis designs on the development of disorders in the dentoalveolar system.	Listen and answer the questions asked.
The main part of the lecture (55 minutes)	3. Explain the topic, show slides 4. Show orthopedic prosthesis s	Listen and record
The final part	4. Summarizing	Listen

of the lecture (5 minutes)	5. 6.	Ask for independent work Set homework	Write down

Lecture Plan:

1. Deformation of the dentition with a partial absence of teeth. Inspection Methods.
2. Deformation of the dentition and occlusion associated with the pathology of the hard tissues of the teeth, functional periodontal insufficiency, with a partial absence of teeth.
3. Deformation of the dentition as a result of a partial absence of teeth. The phenomenon of Popov-Godon. Clinic, diagnosis, treatment.
4. Bite deformity with partial absence of teeth. Clinical options. Facial symptoms. Kosten's syndrome.
5. Diseases of the TMJ. Classification of TMJ diseases.
6. Neuromuscular occlusal-articulatory dysfunctional TMJ syndromes.
7. Habitual dislocations and subluxations of the lower jaw and dislocations of the TMJ disc.

Lecture text:

Pathogenesis of dentition deformity

Loss of tooth-antagonist or a loss of Sedna tooth - an imbalance occlusion system (violation of occlusal equilibrium) - tooth-alveo- polar shift (vakatnaya hypertrophy of alveolar bone) - atrophy periodontal tooth displaces = tooth Noah elongation = elongation of the clinical crown of the tooth -> complications.

Pathogenesis deformation complications pn tooth rows

The deformation of the occlusal over Nosta - "

- changes in the nature of the movement of the lower jaw;
- a change in the position of the lower jaw; - "
- violation of multiple occlusal conta comrade; dysfunction of the temporomandibular joint (TMJ);
- TMJ arthritis;
- TMJ arthrosis. **Clinic**

Complaints:

a. difficult chewing of food;
b. violation of aesthetics;
c . violation of appearance;
d . trauma to the soft tissues of the oral cavity; E. Pain in the muscles and in the TMJ.

External inspection:

1. No change.
2. Restriction of the movements of the lower jaw.
3. Reducing the height of the lower face:

- seizures (angular cheilitis);
- deepening of the nasolabial and genial skla dock.

The clinical picture:

1. Tooth alveolar or dental lengthening.
1. The inclination of the teeth.
2. Restriction mandibular movements (in the sagittal hydrochloric and transversal planes).
3. Incorrect position of the lower jaw.
4. Trauma oral mucosa bumped tooth mi.
5. The clinical picture of a decrease in VNOL.
6. Education three, diastema, fanlike to popular denie front teeth in periodontitis.

Classifications

A. Vertical, horizontal, mixed

B. **Tooth alveolar elongation** (deformation along with the alveolar crest, crown length unchanged).

Tooth "elongation" (deformation with exposing Niemi tooth neck and atrophy of the alveolar ridge, the clinical crown is greater anatomic crowns tooth ki).

C. Degrees of vertical deformation of the dentition :

1 degree - Elongation at 1/3 bits length;

2 degree - elongation by '/2 crown lengths;

Grade 3 - lengthening by 2/g of crown length or more.

D. Degrees of horizontal dentition

1 degree - tilt up to 15 °;

2 degree - a slope of 16-30 °;

3 degree - a slope of more than 30 °.

Diagnostics

1. The survey.
2. Inspection.
3. Sounding.
4. Palpation (muscle, TMJ).
5. Determination of the central ratio of the jaws.
6. Definition of VNOL.

Paraclinical methods

1. The study of diagnostic models.
2. Radiodiagnosis.

Treatment of patients with dentition deformity

ZTAP 1 ~~ preparatory

Objectives:

- oral sanitation;
- elimination of deformation;
- restoration of VNOL;
- restoration of the correct position of the lower jaw.

STEP 2 - Main Objectives:

- permanent prosthetics;
- restoration of the anatomical shape and size of damaged teeth;
- restoration of continuity of dentition.

STEP 3 - rehabilitation and prophylactic

STEP 1 - Preparatory

With a decrease in VNOL

Depending on the degree of reduction LO height a person under

- Simultaneous recovery of height (up to *2* ~ 4 mm).
- Phased recovery with a decrease (more than 4 mm).

Deformation Elimination

1st degree:

■ Orthodontic treatment;
■ Grinding.

2nd degree:

■ Orthodontic treatment;

■ root canal tooth + + shortening surgeons cal lengthening of the clinical crown.

3rd degree:

■ Orthognathic surgery;
■ Tooth extraction or tooth extraction + alveolotomy.

STEP 2 - permanent prosthetics

1.Restoration of the anatomical shape and just measure decayed teeth.

2. Restoring the continuity of the dentition.

■ For short clinical crowns, special pin designs are used .

■ When choosing a prosthesis design, it is necessary to take into account the remaining length of the root of the abutment after grinding (shortening) the crown.
■ When restoring a tooth with a slope of the axis of the crowns ki to 30 shows the use of pin-stump O structures.

STEP 3 - rehabilitation and prophylactic

Regular, at least 1 time in half a year, control

■ oral hygiene;

■ for the proper use and care of Prote Zami;

■ dynamic occlusion of the dentition.

! Dental arch as part dentition before stavlyaet integrally thanks to contacts and interproximal alveolar bone (bottom Th Lust - alveolar part) which are fixed tooth roots. The loss of one or more teeth destroys this unity, and creates new conditions for Fun tional activities of the masticatory apparatus. The cause of tooth loss often are ka Ries, periodontal disease, trauma, surgery, beriberi and others. The resulting This clinical picture depends on the number of lost teeth, Lok tion of and the defect length, type of occlusion, with standing support apparatus remaining teeth, the time that It has passed since the loss of teeth and the general state of the patient ence.

Leading clinical symptoms in partial sweat ri teeth is:

■ discontinuity dentition (the appearance of defects);

the appearance of groups of teeth - antagonis retained comrade (functional group) and loss of (dysfunctional group);

■ functional overload of individual groups zu CWA;
■ secondary malformation of the bite;
■ reduction of VNOL;
■ violation of the function of chewing, speech, aesthetics;
■ violation of the temporomandibular joint.

II . In the formation of deformations in tooth rows and Kusa in dentition occurs functional onal dissociation. It is characterized in that different groups of teeth are different condition Via operation that affects the metabolic processes. The dissociated tooth system follows blowing distinguish three main link: functional center, traumatic and non-functional link node - atrophic unit (VU on Courland). **Functional center** is formed in nai larger group antagoniruyuschih pairs of teeth with well preserved periodontium. The emergence of his vyzy INDICATES appearance of the conditioned reflex (adaptation), which is based on the

presence of irritation, inflamed Niya or even the possible loss of teeth in other areas of the dentition.

Traumatic node arises because any disturbance in a particular portion Toothbrush series (inflammation, periodontal atrophy, tooth loss and m. P.). In the event of traumatic node in the results Tate reflex spares the patient the damaged portion and arranged in use ceases traumatic node teeth. This term is defined lyayut education in a particular area of the dentition of traumatic overload.

Direct traumatic node - etodekom-compensate the state of the affected area of the tooth jaw system. With partial defects in the teeth
the ranks of the state of decompensation characterized Naklo Mr teeth towards dentition defect, destruction of the jaw, a violation of the contact points of the teeth (addressing mations three and diastema).

The reflected traumatic node is
dentition pathological condition in which changes in the location of the front teeth, hard tissue destruction and periodontal this group zu CWA due to recent changes in either their side groups of teeth. The reflected traumatic node is formed both in the intact dentition and in violation of their integrity.

A non-functioning link - atrophic block consists of teeth devoid of antagonists. In periodontal and tooth pulp deprived antagonists about originate pathological processes.

For traumatic articulation characterized by the fact that one of periodontal dentition has functions tional failure. Traumatic articulation determined in those cases where there is functional onal failure periodontal all antagoniruyuschih teeth or one of antagoniruyuschih teeth in each pair.

Treatment of patients with strains dental pn rows and occlusion associated with insufficiency of steam Dont must be conducted sequentially. Ba howling complex treatment are the regulation and restoration of mastication function, eliminating the influence of harmful components is horizontally acting Schnega stimulus, as well as steps larger spatial offset teeth and beacause of them trophic tissue disorders. Comprehensive treatment method involves the detection of the disease etiological factors and more precise definition of axes novnyh units pathogenetic mechanism. This need go to:

■ selection of etiotropic and pathogenetically based therapy;

■ development of a specific patient management plan

When functional insufficiency parodon the extent of pathologic tooth mobility Rate INDICATES the direction and magnitude of the deflection of teeth. The degree of tooth mobility is necessary to determine how to treat, and during its holding obja optionally comparing the mobility of teeth mo ment examination and after elimination of inflammatory phenomena that t. K. A degree of tooth mobility is the basis for choosing the design of therapeutic splinting present apparatus.

Estimating ratio dentition and defined Laa degree pathologic tooth mobility, one temporary estimate the position of each tooth in the dental arch. When periodontal diseases are possible displacement of teeth in the vestibular, oral hand turns zu CWA about a vertical axis. As a rule, this leads to the appearance of gaps between the teeth, the imposition of one tooth on another. By moving the group of front teeth forward lip vary the location and relation shenie level cutting surfaces of the teeth and the red portion of the upper lip. This tooth displacement is called secondary deformation of the dentition.

The appearance defects dentition not only leads to disruption of morphological unity pn tooth rows, but also to a complex rearrangement occurring VNA Chal near the defect, and then propagates throughout the dentition. Externally, this restructuring is manifested by the movement of teeth, which often leads to a violation of the occlusal surface of the dentition, i.e.,

to secondary deformations of the bite, complicating the clinic of partial tooth loss, making it difficult to select and conduct orthopedic treatment.

As part of the dental arch dentition is integrally owing to the presence between the tooth and the alveolar bone contact, wherein the fixed tooth roots. The loss of one or several (FIR teeth breaks this unity, and creates a new condition Wii for the functional activity of the masticatory apparatus.

The causes of tooth loss often are ka Ries, periodontitis, traumas, surgery, beriberi and others. The resulting This clinical picture depends on the number of lost teeth, Lok tion of and the defect length, type of occlusion, with standing support apparatus remaining teeth, the time that It has passed since the loss of teeth and the general state of the patient ence.

Two clinical forms are distinguished vertically th tooth movement with the loss of antagonist (VA By nomareva).

In the first form , tooth movement is accompanied by an increase in the alveolar ridge (dentoalveolar elongation, without a visible change in the height of the clinical crown of the tooth). This form of the character on to tooth loss in young age.

In the second clinical form, tooth extension occurs with exposure of a portion of the root, which indicates a later stage of reconstruction.

In the second clinical form is isolated by two groups:

Subgroup 1 - a visible increase in the alveolar otter
sprout with significant periodontal resorption;

2 subgroup - increase in the alveolar process is not
It is noted that periodontal tissue resorption is detected at the level of half or more.

A complication that develops after a part of the teeth is removed can occur at any age.

When the defect caused by the loss os the basic and lateral en tagonistov most often observed change of the position of teeth in the vertical direction lenii. Tooth deprived antagonists, as if part of the tooth defect in a power series; the distance between its occlusion-onnoy surface and alveolar ridge toothless portion protivopo false jaw decreases or teeth relate fusion Zist shell (Fig. 21).

Studies I form deformation (without obna root zheniya) showed that despite an increase in alveolar process, adding cost visible Nogo substance not, rearrangement braid tnyh balochek.

II . The deformations observed in the clinic are based on the process of reconstruction of tooth and jaw tissues due to the loss of their usual functional load. This is an expression of the adaptation of the dentition to new functional conditions. Partial loss of teeth, complicated phenomenon Popova-Godon, should be differentiated Vat:

- with partial loss of teeth complicated by reducing Niemi VNOL and lower distal offset Th Lust;
- with partial loss, complicated by increased abrasion of the hard tissues of the teeth (localized form, decreased VNOL);
- with partial loss of teeth on both jaws, coh and is not preserved audio pairs antagoniruyu- boiling teeth.

To distinguish the phenomenon of Popova-Godon from these forms of partial loss and complications must be about to follow the ratio of dentition at the position of the lower jaw in a state of physiological rest. For this determination, after the central relation Nia diagnostic jaw model is fixed in ar- tikulyatore and examined severity okklyuzionnoi curve in the anterior region and a posterior region, the amount of space between the teeth, deprivation E antagonists and toothless alveolar ridge portion.

In order differential diagnosis and le cheniya recommended therapeutic and diagnostic use iCal caps designed to occlusion recovery Onno height ratios of the elements and normalization of the temporomandibular joint.

Study of diagnostic models of jaws YaV wish to set up one of the main methods of inspection, the objective of which is to identify the nature okklyuzi- onnyh relationships.

Analysis of diagnostic models should Provo dit before treatment, during and at the end.

True phenomenon Popov-Godon should Otley chat the false. For an arbitrary closing of the jaws without considering the height of the bottom of the face creates a false idea that the teeth lacking antagonists sweep were to defect dentition opposite jaw.

In the process of differential dia fore cast to be aware of the possible combination of pheno mena Popova-Godon with other diseases zuboche- lyustnoy system. Thus, as a result of loss of lateral teeth *on* the lower jaw can simultaneously develop following complications Xia: okklyuzionnoi deformation curve, decrease VNOL and distal displacement of the lower jaw.

III . Rational prosthetics is **impossible** without the elimination of occlusal disorders, which, in turn, can cause dysfunction of the temporomandibular joint, chewing muscles, disrupt the movements of the lower jaw, etc.

Eliminating occlusive disorders to prosecution a prophylactic and therapeutic purposes. Prevention is to prevent:

- functional overload of periodontal teeth;
- functional overload of TMJ and chewing muscles;
- impaired function of the masticatory muscles. Therapeutic measures are:
- in the normalization of occlusal abnormalities;
- removing blocking movements of the lower Th Lust;
- elimination of functional overload parodon that the teeth;
- normalize the function of the temporomandibular first joint;
- creating conditions for rational manufacture hydrochloric prosthesis design.

Normalization of occlusal relationships of the dentition is achieved:

- fleshing mounds move zu CWA;
- shortening of the teeth, preventing reconstruction approx klyuzionnoi plane, possibly with their depulpatsiey;
- restoration of the height of the lower part of the face;
- imposition of special prostheses, causing the restructuring of hypertrophic areas al veolyarnogo process (hardware or ortodonti- cal method);
- superposition special prostheses causing restructuring the alveolar ridge with prepainted ritelnoy kompaktosteotomiey (corticotomy) (hardware-surgical method);
- extraction of teeth, if necessary with resection (alveolotomy) of a part of the alveolar bone (surgical method);
- prosthetics.

IV . The choice of method is determined by the nature of the clinical picture, the shape and degree of deformation, age and general condition of the body.

Method of grinding hard tissues. This method is used in the treatment of persons old Shae 35 - 40 years with shifting teeth of the occlusal plane is not more than a half times the vertical tooth measure

Indications for Sanding are WTO paradise shape phenomenon Popov-Godon and unsuccessful application of the method dezokklyuzii.

To determine the degree by grinding study model or diagnostic vneroto- side stems x-rays, determine how mixtures tilsya tooth, on which depends the amount of grinding with the occlusal surface of the fabrics. If necessary , teeth are repulped.

After grinding the non-depressed teeth, it is necessary to conduct a course of rheotherapy. If at Sanding is necessary to remove part of the Dent on, then at the same time it is recommended to make Ronchi.

The method of deocclusion. The method is shown in the first form of the Popov-Godon phenomenon in people no older than 35 - 40 years old. It is based on establishing a discontinuous dis tviya increased pressure on the teeth involved in the process via a fixed bridge or removable prosthesis with therapeutic support-retaining clasps. Deformations that developed in the intact dentition are removed with the help of temporary mouth guards. When simulating the occlusal surface important but create such portions which would act on a board necessary to move the pulling shihsya teeth.

By moving the tooth in the vertical and hori tal planes may also be used orthodontist cal devices. Therapeutic apparatus is an Plate-or clasp prosthesis with bite block PLO schadkoy antagoniruyuschey with offset teeth and razo bschayuschey bite in the remaining areas of dentition. With interdigitation deprived antagonists with bite block area of the lower face height card is installed in each case individually, based on the fact that the gap between the natural teeth antagoniruyuschimi Dolj to be not more than 2 mm. Action therapeutic appa rata (uncoupling of the plate) continues until, until the natural dentition will not come into contact.

Dezokklyuziya natural dentition 2mm after dentition adjustment does not always provide complete occlusion of alignment in the surface region of the teeth, lacking antagonists of this treatment is carried out in several stages. The second and subsequent stages pass after the device ceases to operate due to the establishment contac that between all teeth. The shape of the occlusal surface is not sufficient and does not fully aligned Stu eliminated tooth displacement. The second and subsequent stages of treatment are that a new layer of quick-hardening plastic with a thickness of 1 - 2 mm is built up on the bite pad . Layer plastic fraction wives ensure uncoupling of natural teeth and not more than 2 mm. Occlusal ratio zu CWA adjusted so long until it is completely eliminated teeth offset. Once you're leveling the occlusal surface of the dental defects of a number of the opposite jaw replaced with a prosthesis, which determine the structure indicated.

Alignment of the occlusal surface prois goes due bone restructuring, rather than by dipping or "Welding of" has shifted teeth. This is evidenced by the fact that the size of the clinical crown does not change, and the volume of the alveolar process is significantly reduced. The adjustment based on the bone tissue is bone rearrangement process balochek spongy substance in accordance with the direction of forces vocative pressure and their zonal thinned set and a decrease in their number. Atrophy occurs against the background of active renewal of bone structures, i.e. the process of bone formation is not inhibited.

The duration of treatment depends not only on the degree fines deformation, but also has shifted number of teeth of periodontal antagonistic teeth and especially on the patient's age.

Appa inversely hee rurgichesky method. In cases of inflammation in the group of teeth has shifted and no phenomena adjustment in alveolar bone within 3-4 weeks from the beginning le cheniya shown the use of other therapies. These include, first of all, hardware-surgical. It can only be used at the first odds IU phenomenon Popova-Godon and in the absence of counter indications for surgical interventions. Treatment **with** this method consists in carrying h cal kompaktosteotomii and therapeutic application an Paratov for dezokklyuzii. Partial compactosteotomy (corticotomy) is performed under local anesthesia.

Surgical method. Tooth extraction as a method to eliminate the strain used in the WTO Swarm form phenomenon and a significant change in occlusion-Zion plane, as well as in severe mobility Nosta tooth or the presence of chronic periapical process, not amenable to conservative treatment.

In case of a sharp hypertrophy of alveolar germ, when the above-described methods do not lead to the desired results or can not be applied, shown extractions, and partial resection of the alveolar ridge or protuberance of the upper jaw. Resection level depends on the location verhneche lyustnoy (maxillary) sinuses, however before surgery must receive lateral sinus ray images to determine the possible volume opera tive intervention.

Diseases of the temporomandibular joint (TMJ) are not uncommon and diverse. The most common are arthritis, arthrosis and dislocation. In addition, there are pathological conditions of the joint, which are symptoms of various neuromuscular disorders of the maxillofacial region. The complex treatment for these diseases includes orthopedic.

Arthrosis

Arthrosis of the temporomandibular joint is a chronic disease characterized by dystrophic changes in its cartilage, bone and connective tissue.

Clinical picture

Complaints of patients can be different. Some note a constant aching, dull pain, aggravated by a load on the joint; others complain only of the appearance of pathological noises, crunching, crepitus, clicking. Some patients complain of stiffness of the joint, especially in the mornings, note a restriction in opening the mouth, a shift of the lower jaw to the side. There may be complaints about chewing food on only one side, as chewing on the opposite side causes pain and discomfort. The disease begins gradually, in the anamnesis there can be: transferred inflammatory processes in the joint, trauma, prolonged absence of teeth, pathological abrasion of teeth, prolonged use of dentures with an incorrectly restored occlusal surface of the dentition, interalveolar height. Some patients are associated with the onset of joint disease with the transferred flu and its complications, with rheumatism. On examination, signs noted by patients and symptoms that are not reflected in the survey are revealed. It should be remembered that not all signs of nosology occur simultaneously in each patient.

As a result of examination of the face, the following can be revealed: a decrease in the height of its lower section, as indicated by pronounced nasolabial folds, lip retraction, maceration in the corners of the mouth; asymmetry of the face due to the displacement of the lower jaw towards the affected joint. Palpation and auscultation revealed crunching, crepitus in the joint. Palpation of the lateral pterygoid muscle is usually painless.

Clinical assessment of the movements of the lower jaw allows you to establish a limited opening of the mouth, which is determined by the distance between the central incisors. In some cases, it can be no more than 0.5 cm. A characteristic violation of the movement of the lower jaw with arthrosis is its displacement to the side when opening the mouth, which is revealed when observing the movement of the incisal point when opening and closing the mouth. There may be various options: the lower incisor point when opening the mouth forms a curve, but at the end it is set in line with the upper incisor point; the lower incisive point when opening the mouth moves without deviations, only at the end of opening the mouth is shifted to the side.

The doctor receives the necessary information when examining teeth, dentitions and evaluating occlusal contacts. In patients with TMJ arthrosis, the following can be detected: lack of teeth, pathological abrasion of teeth, poor-quality dentures, increased or decreased interalveolar height, deformed occlusal surfaces of individual teeth and dentitions, creating premature occlusal contacts, obstructions or incorrect directions of movement of the lower jaw.

A detailed visual examination of occlusion is performed on jaw models installed in the articulator. Additional information for the diagnosis of TMJ arthrosis is obtained during laboratory and instrumental research methods: radiography, recording the movements of the lower jaw, electromyography.

Changes characteristic of arthrosis are detected by x-ray examination of the joint. Survey radiography reveals gross changes: a flattening of the head and a decrease in its height, exophytic growths, and a change in its shape (hook shape, club-shaped, spiky). The earliest changes are found only on tomograms: narrowing of the x-ray joint gap; the appearance of erosion in the cortical layer of the articular surface of the head and articular tubercle, bone sclerosis. The results of recording the movements of the lower jaw objectively demonstrate its displacement towards the affected joint.

Etiology and pathogenesis

TMJ arthrosis can cause causes of a general and local nature. Common include metabolic, neurodystrophic, endocrine disorders, infectious diseases; local ones include: a long-term ongoing inflammatory process in the joint; excessive load on the articular surface of the head of the lower jaw, which may be associated with neuromuscular disorder of the maxillofacial region, for example, bruxism; with the absence of teeth, especially the posterior teeth, deformation of the occlusal surface of the dentition and pathological abrasion. These factors can be combined with each other. So, bruxism, manifested by gnashing of teeth during sleep, is combined with pathological abrasion, which, reducing the interalveolar height and deforming the occlusal surface of the dentition creates adverse conditions for the functioning of the joint. Dystrophic processes in the joint can develop as a result of the influence of general and local factors - a violation of both cellular and extracellular mechanisms that provide trophism. The general mechanism for the development of TMJ arthrosis is that gradually the cartilage covering the articular surface of the head of the condylar process undergoes dystrophy and disappears in places; dystrophic processes can lead to perforation of the disc. In the bone there are phenomena of restructuring, sometimes with an excess of bone formation; the head is deformed - it becomes hooked or club-shaped. Cartilage regeneration is mild.

Of particular note is the importance of occlusal articulation factors in the development of joint pathology. Their pathogenetic role is reduced to the acceleration or exacerbation of dystrophic changes in the joint that arose as a result of causes of a general or local nature. The described mechanism can take place both in conditions of a normal bite and in its pathology. In the latter case, a decrease in the interalveolar height, deformation of the occlusal surface of the dentition, and a change in the nature of the movements of the lower jaw lead to a violation of the patterns of load distribution on the elements of the joint. Compensatory-adaptive processes develop in the joint. In the formation phase, all are switched on.

structural reserves and metabolic changes in the cells and tissues of the joint. In the next phase, there is a restructuring of the structure and metabolism in the cells and tissues of the joint, ensuring its functioning under conditions of altered load. Over time, the compensatory-adaptive capabilities of the joint are depleted, pathology develops: a change in the structure in the elements of the joint as a result of its overload occurs, dystrophic processes occur, thinning of the disk, deformation of the head of the lower jaw, asynchronous

movements of the lower jaw.

Treatment

The treatment of arthrosis is complex. According to indications, medical, physical, orthopedic and surgical methods of treatment are used. An orthopedic doctor needs to correctly determine the purpose, content, volume and sequence of orthopedic dental interventions in this complex of medical and preventive measures. The goal of orthopedic interventions for TMJ arthrosis is to eliminate factors that cause overloading of joint elements. Removing the traumatic overload of TMJ elements is achieved by normalizing the shape and function of teeth, dentitions, and their relationships. Orthopedic treatment methods used for these purposes can be divided into the following groups: 1) normalizing occlusal contacts; 2) the normalizing ratio of the dentition; 3) restoring the anatomical integrity of the teeth and dentitions; 4) normalizing movements of the lower jaw. The object of intervention in the application of the first group of treatment methods is teeth, their occlusal surface; the second group - dentition; the third - teeth, dentitions, prosthetic bed, prosthesis and their relationship; the fourth - muscles, joint, lower jaw. Orthopedic methods should be used against the background of drug exposure. In the treatment of patients with arthrosis who have impaired occlusal contact, selective grinding of the teeth is indicated. The therapeutic effect is achieved by eliminating the contacts of the teeth that violate the coordinated function of the joints and neuromuscular system. Selective grinding of teeth eliminates

the obstacles that limit the smooth sliding of the teeth and the impaired guiding function of the teeth, as well as create occlusal contacts that ensure the harmonious interaction of all elements of the dentofacial system, including the joint.

Before conducting selective grinding of teeth, the patient must explain the need and harmlessness of this intervention. Selective grinding of teeth involves the elimination of premature contacts identified with a central ratio of jaws, central, anterior and lateral occlusions (Fig. 181). With a central jaw ratio in patients with intact dentition, it is most often necessary to eliminate premature contact between the palatine tubercle of the first upper molar and the buccal tubercle of the first lower premolar. In the position of central occlusion, it may be necessary to eliminate a much larger number of premature tooth contact: between the vestibular slopes of the palatine tubercles of the upper molars, premolars and oral slopes of the buccal tubercles of the lower teeth of the same name; between the vestibular slopes of the buccal tubercles of the lower molars, premolars and the oral slopes of the buccal tubercles of the upper teeth of the same name; between the vestibular surface of the anterior lower teeth and the palatine surface of the upper; between the slopes of the palatine tubercles of the upper molars, premolars and the vestibular slopes of the lingual tubercles of the lower teeth of the same name. By eliminating these premature contacts, a simultaneous bilateral multiple contact between the teeth in the position of central occlusion is achieved, which is important for the normal functioning of the TMJ.

Selective grinding during anterior occlusion eliminates premature contacts between the front teeth and the contacts of the posterior teeth, which prevent the smooth and symmetrical sliding of the lower dentition along the upper when moving from central to anterior occlusion.

Elimination of premature contacts on the working and balancing sides arising from lateral occlusion also provides for the creation of smooth, unobstructed glides. As a result of the procedure, on the working side there is a contact of the same named tubercles of the antagonist teeth, and on the balancing side - separation or contact of the opposite tubercles of the teeth. With this type of contact, overload of the joint during lateral movements of the lower jaw is excluded, which is very important to reduce the intensity of degenerative processes in the joint observed with arthrosis. The next orthopedic measure aimed at creating favorable conditions for the functioning of the joint is the normalization of the shape of the dentition. It is achieved by

eliminating the anomalies and deformations of the dentition by orthodontic methods, as well as by restoring the occlusal relationships with artificial crowns, bridges, arch prostheses. It is very important to correctly restore the interalveolar height, shape and size of the tubercles and grooves of the occlusal surface of the teeth. The restored form of the occlusal surface of the teeth should not create premature contacts with all types of occlusion and cause overloading of joint tissues.

When planning orthopedic measures, it is necessary to provide for the normalization of the position of the articular heads in the articular fossa. This is achieved by the use of removable and non-removable devices: plastic mouthguard on the dentition of the lower or upper jaw; a bite plate for the entire dentition or on the posterior teeth; palatine plate with an inclined plane; crown or kappa devices with an inclined plane; mouth openers. Prosthetic measures for TMJ arthrosis are also carried out according to indications, design features of dentures and staged treatment depend on the clinical features of the disease. With a declining bite, a pathological abrasion of teeth ™ is preceded by a normalization of the interalveolar height and position of the lower jaw using a plastic mouthguard on the dentition. The correct determination of the interalveolar height, and therefore, the position of the heads of the lower jaw in the articular fossa should be monitored radiologically during the manufacture of the plastic mouthguard. Usually, after 2–4 months of using the apparatus, pain and inconvenience disappear, which indicates the final adaptation of the neuromuscular apparatus, the newly formed interalveolar height. After this, prosthetics are performed.

Events that normalize the movements of the lower jaw, in addition to the above orthopedic interventions (selective grinding of teeth, restoration of the shape of the occlusal surface of the dentition, prosthetics), include a set of exercises aimed at restoring coordination of the function of the masticatory muscles. Various exercises are shown depending on the nature of the violation of the movements of the lower jaw.

In the complex treatment of arthrosis, an important role is played by physical, surgical methods of treatment. Of the physiotherapeutic methods, electrophoresis, galvanization, fluctuation, massage, exercise therapy are used. When conducting electrophoresis using a 10% solution of potassium iodide, 10% solution of novocaine.

DISPLACEMENT OF THE LOWER JAW

Dislocation of the lower jaw is a pathological condition characterized by a displacement of the head of the lower jaw beyond its physiological movements - the head of the lower jaw is shifted to the top of the articular tubercle or located on its front surface.

Clinical picture

With acute dislocations, the mouth remains open, the patient cannot close it, speech is difficult, saliva flows from the mouth. Attempts to move the lower jaw and close the mouth cause pain. The lower jaw, which is lowered downward, can be located symmetrically with bilateral dislocation and asymmetrically with unilateral dislocation. On palpation of the joints, the fingers fall into the empty articular fossa, which indicates the exit of the heads of the lower jaw from the articular fossa. The protrusion of the skin under the zygomatic arch is visually determined, where the heads of the lower jaw are located in front of the articular tubercle. On the survey roentgenogram or lateral tomogram of the TMJ, the position of the dislocated head of the lower jaw is clearly visible. Clinical manifestations of habitual dislocations differ from those in acute dislocations. Habitual dislocations can occur repeatedly even during the day. As a rule, patients themselves easily correct dislocations, however, all this very painfully affects the mental state of the patient.

Etiology and pathogenesis

The causes and conditions for the occurrence of dislocation of the lower jaw are diverse: injuries, consequences

inflammatory, dystrophic processes in the joint, neuromuscular disorders of the maxillofacial region, congenital malformations of the TMJ. With injuries, acute dislocations of the lower jaw occur, and under the influence of other listed factors, chronic dislocations develop, which are called habitual dislocations. The main pathogenetic links of habitual dislocations are excessive stretching of the musculo-ligamentous apparatus and joint capsule, changes in the shape, size and structure of the intra-articular disc, and deformation of the bone elements of the joint. As a result of these changes, anterior dislocations occur most frequently. They arise with yawning, screaming, biting off a food lump; with dental or other medical interventions associated with wide opening of the mouth: tooth extraction, impression taking, tracheal intubation, etc.

Treatment

Treatment of patients with acute dislocation consists in reposition of dislocation and immobilization of the lower jaw for 10-15 days by splinting or sling-like bandage. Methods for the reduction of acute dislocations are described in the literature on surgical dentistry. For the treatment of habitual dislocations, removable and non-removable mouth openers are used. There are two types of mouth openers.

The first is based on obstructing the movement of the lower jaw by focusing on the front edge of its branch. This is achieved using removable or non-removable devices equipped with processes with pelots, abutting in the branch of the lower jaw (Fig. 186). The second type of mouth opening restraints is based on the principle of intermaxillary articulation with the help of dental devices and appliances (Fig. 187). The duration of treatment with these devices is 2-3 months. The effectiveness of treatment increases with the appointment of medication and physiotherapy. In the treatment of dislocations according to indications, other orthopedic measures are carried out: selective grinding of teeth in the presence of premature occlusal contacts; normalization of the interalveolar height in case of its violations, restoration by prosthetics of missing teeth. In the complex treatment of habitual dislocations, orthopedic interventions, medical, physical and surgical methods, relaxation therapy to relieve spasm of the masticatory muscles, blockage of the masticatory muscles with anesthetics, massage, exercises are used. A high therapeutic effect is achieved by using operational methods, reposition and fixation of the disk, strengthening the ligamentous apparatus of the joint (F.T. Temerkhanov).

3- lecture

Subject: Defects of the maxillofacial region. Defects of the soft and hard palate, methods of treatment of microstomy. Methods of orthopedic treatment with implants. OCD. Features of orthopedic treatment.

Technological map of a lecture lesson.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (10 minutes)	1. Prepare lecture material 2. Preparation of slides for the introduction of the lecture 3. Using literature to prepare a lecture: 1.Kurlyandsky V.Yu. "Orthopedic Dentistry" Textbook. M.Meditsina. 1977, 2.Kopeikin V.N. Orthopedic Dentistry 2001	Listen and record

Lecture introduction (1 0 minutes)	**Explanation of goals and objectives of the topic** **Purpose:** To prepare assistants for the faith who can help with orthopedic treatment for periodontal diseases **Tasks:** To provide information and teach students about periodontal diseases, the course of the disease and prevalence. **Questions about the lecture:** 1. Orthopedic treatment, defects of the hard and soft palate. 2. Orthopedic treatment. 3.Mikrostomy. Orthopedic treatment 4. Theoretical and physiological implantation and dental prosthetics. 5. Diagnosis. 6. Clinical indications. 7. Design features of implants and dentures 8 . Features of orthopedic treatment 9 . New structural materials in orthopedic dentistry. 10 .Oopredelenie terms of treatment, the design features of dentures.	Listen and answer the questions asked.
The main part of the lecture (55 minutes)	5. Explain the topic, show slides 6. Show orthopedic prosthesis s	Listen and record
The final part of the lecture (5 minutes)	7. Summarizing 8. Ask for independent work 9. Set homework	Listen Write down

Lecture Plan:

1. Orthopedic treatment of maxillofacial patients. Orthopedic treatment for improperly healed fractures of the jaw, false joints, contracture, microstomy.
2. Orthopedic methods of treating patients with defects of hard and soft palate.
3. Orthopedic methods of treating patients with defects in the dentition of dentures with support on the implant. The technique of implantation in orthopedic dentistry.
4. Features of the treatment of patients with chronic diseases of SOPR.
5. Pathological changes in the state of the body, tissues and organs of the oral cavity associated with the presence of dentures.

Lecture text:

Dentofacial Orthopedics is one of the times Delov prosthetic dentistry and includes cus nick, diagnosis and treatment of injuries and defects in the maxillofacial region, resulting from trauma, injury, surgical interventions on water, inflammatory processes, tumors, radiation injuries, and congenital defects of the maxillofacial region (cleft soft and hard palate, upper lip, cleft in the lower jaw). Orthopedic treatment can be independent or used in combination with surgical methods.

Maxillofacial orthopedics consists of two parts: maxillofacial traumatology and maxillofacial prosthetics. The first is becom Twain surgical discipline because operational

methods fastening jaws fragments: osteosynthesis fixation methods extraoral fragments bottom chelyus minute, suspended craniofacial fracture fixation for swing the upper jaw, fixing devices using alloys with "memory" shape - drove many ortho pedicheskie apparatus.

Success of reconstructive surgery facial con Bova wide range of applications in the operating and after the operating period of orthopedic surgery. The problem of recovering the maxillofacial area sic ktsii mastication, ingestion, recovery conversation hydrochloric speech require orthopedic treatments. Therefore, in the complex rehabilitation Merope riyaty to the fore teamwork dentists surgical and orthopedic profile with the addition in the form of therapeutic exercises, di etoterapii, physical therapy and other types of assistance.

The main tasks of maxillofacial orthopedics:

1. Prosthesis patients with defects and deformation tions maxillofacial area, ie manufactured.. Of dentition, facial and maxillofacial prostheses;
2. Create a prosthetic for the correct Foot matching fragments of jaws in their re lomah, to remedy the situation properly mustache tanovlenii or incorrectly fused bone fragments, as well as to address other consequences of trauma Th lyustno-facial area (scars, contractures, etc.);
3. Making special orthopedic cons truktsy in preparing patients for complex operator tsiyam maxillofacial area and to ensure the most favorable conditions in Postoperati Onn period;
4. Making special prosthesis during bone, and plastic surgery of soft plastics TCA it maxillofacial patients with congenital GOVERNMENTAL and acquired defects and deformation in E of this localization.

I of . Defects of hard and soft on the etiology of the sky again dividing by the **innate** (embryonic malformations Nogo development) and **acquired** (ognestrela nye, trauma, surgical interventions consequence, complications diseases).

Congenital defects of the sky formed vsleds tvie nonunion bone of the upper jaw during the EMB rionalnogo child development. These defects under more considered in detail

Acquired defects of the sky have different localization and shape, they can be located in the region of hard or soft palate, or in both places at the same time. These defects, in contrast to the innate accompanied cicatricial mucous membrane changes, changes of the alveolar process and de defects in bone tissue of the maxilla.

A specific pattern defects are firmly of the sky syphilitic origin. Usually they are in the central part of the *bone* of the sky, are more or less round shape, at their edge Inog yes observed thin radiant scars and *in communication with* the nasal cavity. It is often pathological pro cession affected opener. In some cases, We mention chaetsya ceasing nose (saddle nose). If the defect captures the area of the soft palate, then the tongue is destroyed and the scars extend to the palatine-lingual and palatine-pharyngeal arches, as well as to the posterior pharyngeal wall. It should be noted that in syphilitic lesions of the soft palate palpation of these areas, as well as the throat does not cause Vaeth gag reflex. This point should be taken into account when taking impressions.

Defects in the sky after a gunshot injury have no strict localization, nor any tup GIH shapes, t. To. They depend on the shape of the projectile wounding.

When defects hard and soft palate bright you razheny functional disorders. Message between dy oral cavity and *nose acts gives* food intake and respiration, it suffers significantly. When ingesting SRI liquid food particles fall into the cavity *of the nose, in the* result of developing chronic catarrhal state yanie airways. Speech disorders are expressed in nasal and incorrect sound formation.

Snuffles is a consequence of the constant you air travel This is also facilitated by the underdevelopment of the muscles of the palate and pharynx. On Rushen sound generation arise

due to lack of air pressure in the oral cavity, the tongue support, optionally walk for generating different sounds.

When defects and shortening of the soft palate in D result of trauma may change hearing t. K. A muscle tenses the soft palate *(m . Tensor velipalatini),* starting vshayasya from cartilage and membranous part of the auditory tube facilitates the passage of air into the tympanic cavity. Damage of this muscle causes dehiscence auditory tube, which is the cause of chronic inflammation of the inner ear and consequently - CNI hearing zheniya.

All damage to the upper jaw with defects in the palate should be divided into 4 groups: (classification by Prof. V. Yu. Kurlyandsky):

Group I - defects of the hard palate in the presence of teeth on both halves of the upper jaw.

Subgroups:

a) the median defect of the sky;
b) lateral defect of the sky;
c) frontal defect of the sky.

Group II - defects of the hard palate in the presence of teeth on one half of the upper jaw.

Subgroups:

a) the median defect of the sky;
b) total absence of one half jaw with Nali PIR 1-2 teeth on the other side of it.

Group III - defects of the palate in the absence of teeth on the upper jaw.

Subgroups:

a) the median defect of the sky;
b) the absence of one half of the jaw;
c) the complete absence of the upper jaw with a violation of the edge of the orbit.

Group IV - a defect in the soft palate or hard and soft palate.

Subgroups:

a) cicatricial shortened and soft palate displacement
b) a soft and hard palate defect in the presence of teeth on both halves or one half of the jaw
c) a defect in the hard and soft palate in the absence of teeth on the upper jaw.

Each group has its own characteristics. Twain for the effectiveness of the subsequent prosthesis tion.

The treatment of acquired defects of the palate is possible by surgical, orthopedic and combined methods. Surgical interventions consist in enclosed defect TII Orthopedic Kie intervention is to close or compensation for defect prosthesis. Dentures have in their construction an obturating part called obturators.

The task of prosthetics for defects of the hard palate is:

1. Dissociation of the *oral* cavity from the nasal cavity.
2. Maintenance of tissues that have lost bone support.
3. The restoration of acts of speech, chewing and swallowing.

II . **Treatment of patients with group I defects (palate defects with teeth on both halves of the upper jaw)**

Patients with small hard palate defect, ranging in its middle portion, Nali PIR enough reference teeth to Clam-dimensional fixation of prosthetic implants arc. Arc prosthesis bears occlusive part, closed vayuschuyu defect in the sky, a few visits to its edge.

When the conditions for fixation of the prosthesis arc absent or there is a broad hard palate defect, prosthesis used removable plate (uncoupling schaya plate). This prosthesis is stronger on the jaw on (do not use the support clasps, so as not to interfere with the power of immersion retaining clasps prosthesis zheniyu), This prosthesis should fit snugly to the edges of the defect, creating a reliable separation of the oral cavity from the nasal cavity. Most tight closure palate defect formation can be obtained on the palatal side of the ba -crisis plate - platen 0.5 - 1 mm, located Xia around the defect, *departing from it* by 2 - 3 mm - therefore the base plate sinking into fusion Zist shell creates NO valve on peri ferii defect.

When thinning mucous stubborn about span of or presence of scars on the edge of a flaw to create a snug fit of the prosthesis on the periphery of the defect we can but use a lining of elastic plastic.

The prints with the upper jaw is removed elastically E impression materials with prior Tampa yield flaw gauze.

When the front palate defects about tezirovanie made laminar removable prostheses, the main method of fixing which are are klammernye locking device or crepe Leniye. In two of the remaining teeth on each side are superimposed crowns, which fell at the equator INDICATES wire: the first - facially to d nother - palatal side. In the prosthesis clasps cons truiruyutsya so that one shoulder was disposed

on the vestibular side, and the second - palatal. Such double fixation of the prosthesis prevents the sagging of the prosthesis in the anterior section. In the front section of the plate it is advisable to make the platen roller, which improves grip and eliminates the possibility Getting Nia food into the defect.

Side palate defects may be times of personal value. Small defects can occur when you remove the side teeth with perforations verhneche lyustnoy sinus. To isolate the sinus and oral cavity, small saddle prostheses with clamming fixation or telescopic crowns are used.

Large side defects close to Ba ve the same principles as the median defects wi mations roller for uncoupling the plate (stepping 2 - 3 mm from the edge of the defect).

III . **Treatment of patients with defects II group nN (with teeth present on one polo fault maxilla)**

When the median palate defect to increase the fixation of the prosthesis should be used remaining adhesive force, which is achieved by internally form of (roll around the defect) and the peripheral valve.

In case of a defect in one half of the upper jaw, the basis for fixing the prosthesis is a clasp or lock fastening. But ordinary clasps do not provide sufficient fixation. Therefore it is necessary to use IP artificially bits (bits 3-4 fortification with special devices: a palatal soldered vertical tubes (Figure 40) sootvets. Tween them set pins in the prosthesis). With vestibu lar side of the equator soldered wire or extruded bead, for that should go Clam-measures. Additional fixation and greater tightness is achieved by the formation of the vestibular cushion. If the remaining teeth are not sufficiently stable, when should run an additional vertical strengthening the prosthesis via the supporting spring. Prying rzhivayuschaya spring must be removable. Fixing the spring on the lower jaw can be solved by two methods: strengthening it on removable dentures or on crowns with special devices.

In the case of a small number of teeth on the remaining sheysya intact jaw achieve sufficient fixing of the prosthesis is difficult. In this case, the impression is carried out in stages. First prepared TEXT Current preserved part of the upper jaw, which prepare the base plate with all necessary appliances (clasps, pins, etc.). In addition , the plate facing toward the defect, complemented nyayut near metal hinges. After carefully fitting the manufactured part of the prosthesis, the thermoplastic mass is gradually layered *on the* loops, which is replaced with plastic. Make rigid individualistic dual spoon and imprint obtained in B functional likonovoy thixotropic mass.

IV **Treatment of patients with defects III group nN (palate defects with no zu CWA in the maxilla)**

The main difficulty in prosthetics pain GOVERNMENTAL this group is the fixation of the prosthesis, ie. K. At such a negative pressure beneath the prosthesis pathology impossible. Therefore, the topography of the defect is of great importance . With orthopedic standpoint track is defect distinguish two locations (Figure 41.);

a) Median defect sky when the design of the prosthesis can rely on adhesive strengthening of it by forming a valve system - vnut rennego and peripheral.

b) A lateral or frontal defect of the palate, when there can be no calculations for the possible suction of the prosthesis and the installation of supporting springs (or repulsive magnets) is required .

In these cases Prep vyat individual rigid spoon on anatomical al ginatnomu reprint, supplies inrush spoon and updating Ofori mlyaya its peripherally defect basal (high viscosity) B likonovoy mass. For Ofori straightening tight internal valve occlusive de fect, carry out nasal sample and the sample was swallowing water. Prior Bevan reliable isolation of the oral and nasal cavities.

Functional from TISK obtained silicone thixotropic weight average viscosity when the patient's head is upright. In these cases the reliability of fixing the prosthesis to the attained due to the snug fit occlusive hour whith prosthesis of elastic plastic (e.g., Goss).

The V . **Treatment of patients with defects of IV group nN (defects of the soft palate or firmly th and soft palate).**

When cicatricial shortening of the soft palate orthopyroxene -periodic interference is inappropriate. The main IU Todd treatment should be an operation aimed at lengthening the soft palate.

In the complete absence of teeth and soft palate defect prostheses used obtu- tors. They consist of two parts: fixing, located within the limits of the hard palate and obturating, covering the defect of the soft palate.

With the reduction of non-BNO-pharyngeal muscles of the rear part of the obturator muscle regards roller (roller Pas shroud), soft lifting something the sky, and closes the entrance to the nasal cavity. In this case, the air stream is directed in the Soft Sky Object

oral cavity and speech clarity is restored.

According to the method of connecting the fixing and obturating parts of the obturators, they are divided:

a) obturators with a fixed connection;

b) obturators with a movable joint;

c) floating obturator - do not have a locking part, are located in the area of the defect and held there blah Godard exact match their edges the edges of the surrounding tissues.

When an isolated defect in the soft palate and on the teeth on the jaw lichii obturator may be used, CONST rowan on the teeth via telescopic crowns or support-retaining clasps. These crowns or Klamme-Ry are connected by an arc, from which the process departs towards the soft palate, the obturating part of rigid or elastic plastic is strengthened on the process.

Combined defects rigid and *soft* palate closing ysya dentures that a fixed or movable but connected to the obturator of the soft palate. The basis of the prosthesis at the Place of contact with the edge of the defect of the hard palate should have a closing valve.

IV . Microstomy - narrowing of the mouth, refers to the severe consequences of maxillofacial trauma. It can occur after tissue injury when p tovoy area after surgery (especially in the front portion of the tumor or mandible Ost omielit) after burn person or system Sclerotiniose dermis.

The mouth gap is narrowed to 3 cm. In this case, the tissues of the mouth gap lose elasticity, the corners are often pulled together by powerful keloid scars. As a rule, in such cases, plastic surgery does not help much . Scars give relapses. Mikrostoma remains Prosthesis at mikrostome sometimes very difficult because of the narrowed mouth slit, as well as due to the spread scarring mucous prosthetic bed or a combination of the visually mikrostomii alveo lar ridge or secondary deformation tooth row under the action of keloid scars.

Therefore, we should focus on a special technique for prosthetics of such patients. The difficulty arises, first of all, when taking an impression, introducing and removing it with an impression spoon. It relies ottis ki shoot special collapsible spoons, but t. To. They are often not the case with the practical doctor, then we have to cut the usual standard metal spoon into two parts. Impression removed first one The half us jaws and without removing it from his mouth, it's only one spoon. Enter the second half of the spoon with'mass to remove the other half of the jaw. Impression mouth vyvo ditsya piecemeal.

Central occlusion should be determined using silicone blocks, but not wax blocks, because when they are removed, they are deformed.

The design of the finished prosthesis is also unusual. Most often they are folding or collapsible (hinged). ^

A folding prosthesis consists of two lateral parts connected by *a* hinge and the front part. In the oral cavity, it extends, is installed on the jaw and is strengthened by the frontal part. Last is the front teeth, the basis and pins to torye fall into the tubes located in the interior of polo prosthesis guilt.

Collapsible dentures are made up of individual parts . In the oral cavity and fasten them up into a single n th integrally with pins and tubes. You can do a normal prosthesis, but for ease of administration and derive Niya his mouth through the narrowed mouth slit should narrow dentures arc, while applying Telesco scopic mounting system as the most reliable.

One of the methods of modern orthopedic le cheniya schastichnoy patients and complete loss of teeth YaV wish to set up treatment with implants. Cons truktivno in the implant divided into three main parts: the root, neck and head (support head). The root of the call intraalveolar cons design and provides the cervix - cervical region of the implant neck and head together - the coronal part of the implant Tata. In some constructions allocate shoulders knife implant ki,

The use of different designs of implants: *1* - the upper jaw; *2* - the lower jaw; 3 - endodonto-endoscopic implant (EEI); 4 - partial subleriostal implant (ChSI); 5 - maxillary sinus (sinus); *6* - mandibular canal; 7 - endossal implant (EI); *8* - bridge; *9* - screw-endossal implant; *10* - individual

endossal implant

Classification of implants:

1. By biocompatibility distinguish biotole rantnye, bioinert, bioactive;
2. The shape - cylindrical (solid, hollow), helical, leaf (plate) stake sovidnye, forms the root of a natural tooth;
3. The structure of the material - nonporous, surface-nu-porous, with continuous porosity, combines bathrooms;
4. By the properties of the material - without the effect of "memory" of the odds we have with the effect of "memory" shape;
5. Localization - chreskornevye, lodslizistye, sub-periosteal, intraosseous, chreakostnye combi nirovannye;
6. By function - replacing, supporting, supporting-replacing;
7. According to the perception of chewing pressure - amortiza torus (vnekostnym, intraosseous, combined nym) without suspension;
8. By the design of the intraosseous part - collapsible, non-collapsible;
9. According to the design of the connection of the implant with the suprastructure, an integral connection with screws, cements and detachable with the help of magnetic systems, locks, etc .;
10. In the method of manufacturing - standard individual cial.

Different types of implantation schemes: *e)* endodonto- endossal implantation; *b)* endossal implantation; 6 / subperiosteal implantation; *g)* insert implantation; *D* / submucosal

implantation. N , S - magnet poles

In foreign literature, the design of the implant comrade a combined system. Each system has its own tooling.

In applying dental implantology by a large number of materials. There are biotelerant, bioinert and bioactive materials. By biotalerantnym include noble metal alloys, cobalt alloys, chromium and molybdenum, a bioinert Titan, and *its* alloys, carbon, a bioactive - stekloke ramika with bioactive surface hydroxyapatite. Implant materials must meet the following with the limits:

1. Must be corrosion resistant.
2. Non-carcinogenic.
3. Non-toxic.
4. Do not cause an allergic reaction.
5. Have high technological and Mechanical job kimi properties.
6. Easy to sterilize.
7. Be comfortable in the work, aesthetic and publicly available GOVERNMENTAL.

Implantation success in applying metalliches FIR materials depends on many factors: the composition and properties of metals, shape of the implant, the properties of the bone tissue, but the most important property of metals is their resistance to corrosion, which defines the electro chemical "behavior" metal implant. Ta Kie materials as stainless steel, alloys based on Co - Cr - Mo , Co - Cr - W - Ni , titanium and its alloys; Ti -6 AI -4 V , TiNi , noble metals and their alloys are corrosion-resistant. The ability of these materials anti stand exposed to chemical and electrochemical environment to form a metal film surface of sparingly soluble compounds, such as oxides.

Of all the materials you most sokoy corrosion resistance have titanium and its alloys, which allows them a lifetime plantation titanium structures in the body of the patient first. However, among all the known titanium alloys, special position is occupied by a titanium nickel alloy possessing ter momehanicheskoy memory - shape memory effect. Alloys TiNi meet three axes novnym requirements, without which no matching material may not be suitable for introduction into the human body. This is, firstly, high antikorro Zeon resistance; secondly, the absence toksichnos minute, carcinogenicity; Thirdly, the presence of mechanical properties close to the properties of living tissue that key Will with high reliability carry out treatment of patients.

II . Examination of patients referred for implantation tion, and holds by traditional way (complaints, medical history, physical examination, palpation, percussion and Labora Thorn instrumental studies), but with the following features. The survey, patients should be carried out in such a way that would identify common on Kazan and contraindications to implantation.

Based on the data and subsequent obsledo Bani can determine the general state of the organism and the possible reactions to the implant. From instrumentally laboratory studies dentition binding are plain radiography, or op-topantomografiya teleroentgenography facial Th turnip. Images should be prepared under standard CSS loviyah and suitable for carrying out measurements to determine the vertical dimensions *of* the alveolar crest to nasal cavity and maxillary sinuses in the upper jaw and mandibular canal until - at the bottom.

Several methods are used for study assessment implants functioning ki: sample Shillera- Pisareva gum to assess the state of the remaining memory CWA around the implant and - measuring the depth of the gingival sulcus at the implant; measurement of the amount of tissue fluid with the calculation of the number of leukocytes; with di -dynamic monitoring of patients use rents genologicheskie methods.

III . Indications and contraindications

In the absence of general and local contraindications orthopedic implant treatment using comrade shown in all cases the presence of defects of tooth rows:

1) with the end (unilateral and bilateral) de defects of dentition;

2) with a complete lack *of teeth,* when traditional means of prosthetics impossible secu chit function satisfactorily complete dentures; with 3) included dentition defects.

Contraindications to implantation are divided *into* general and local. Common diseases include diseases of the cardiovascular system, blood, liver (chronic renal failure), diseases of the neuropsychic sphere, infectious, allergic , neoplasms, immunological. The group of local contraindications includes diseases of the oral mucosa, osteomyelitis of the jaw bones, TMJ diseases, neuralgic diseases, severe malocclusion, macroglossia, parafunctions, adverse anatomical and topographic conditions, conditions after radiotherapy of the facial and cervical regions. Some of these contraindications are relative and lose their strength as they are eliminated.

Absolute contraindications for intraosseous implantation - connective tissue disease bo existing illness blood, allergic diseases.

Explanation contraindications to implant patients should be carried out deliberately, with the system GMM observance of ethical principles. But physicians chu need to remember, as soon as the circle contraindicated readings of tapers, and the range of indications is expanded, the percentage of success is significantly reduced.

I .There implantation methods Ob can be unified by the following features:

1. by implantation period: a) immediately after tooth extraction (implantation in a fresh zuoa well), o; delayed (after healing of the tooth socket);
2. On the basis of communication with the oral cavity during at zhivleniya implant: a) communicating (one-phase Nye implantation), b) noncommunicating (two-phase technique with the "closed" engraftment root hour whith the implant in the first phase).

Under direct dentures c implant should be understood method involving directly on operator diet table, fixing of a prefabricated dental prosthesis on implants. This method can be used with a simultaneous implantation technique and extremely accurate matching of the parameters one

designed on gypsum models of the jaws with support parameters obtained after implantation. D) With direct dental prosthetics using implants, they are immediately connected to the functional load. The processes of restructuring of the inert tissue and mucous membrane proceed under conditions of mechanical stress. Method of direct pulses lantatsii are useful for substitution ne Independent user teeth, in the manufacture of bridges implant and natural teeth. It's about tivopokazan after tooth extraction with diseases periodontal.

I !. The technique of single-phase implantation is that the root portion of the implant is set in the braid tnom bed, and wherein the head protrudes into the cavity of the mouth, the cervical *portion of* the implant *comes into* contact with the mucosa. This method is simple and sufficient foam for general use, does not require complex folding design implants. However, with its use, the likelihood of complications is high, since regenerative processes occur when there is a message with the oral

cavity. Serial NOSTA clinical and laboratory stages neposreds Twain prosthetic teeth after a single-phase implantation.

After examination of the patient for the purpose mouth ment of the indications for implantation of additional studies (diagnos preparation matically models Radiography of the teeth and jaws / selected type of implant, determine its size and location on the jaw.

Prepare the base plate with guide bushings, reproducing the spatial polo implants voltage.

Next, the prosthesis is made using modern technology. Then they proceed to direct implantation: excision and exfoliation of the mucous over the osseous flap, creation of a bone bed, insertion of an implant into the bone bed, fixation of the prosthesis on their plantations.

III. The technique involves a two-phase implantation engraftment first only the root portion of the implant acetate in isolation from the mouth only after successful solutions of this problem occurs is connected of *the root* portion of the implant head. Classification cal example of a two-phase implantation procedure is Bronemark system applied with floor prefecture absence of teeth when insufficient fixation of complete dentures because of marked atrophy of the alveolar ridges.

In order to establish the indications for implantation, as well as clinical and clinical dental surg gical examination of the patient (receiving diagnos cal models, X-rays of the teeth and jaws), functional studies.

Surgeries performed in this two pas (phases):

The first phase - the introduction of the root portion cpm lanthanum consists of a number of successive manipulation tions: 1) excision, peeling muco-nadkostnich- Nogo flap to expose the alveolar bone; 2) alignment of the alveolar ridge in a zone Raspaud Proposition implant; 3) determining LOCATION Nia implants; 4) establishment of the bone bed for them plantata; 5) expansion and preparation of the bone bed For the root of the implant; 6) the introduction of the root of the implant into the bone bed; 7) suturing the wound; 8) postoperative management of the patient.

The second phase is carried out after healing - after 3-4 months on the lower jaw and 5-6 on the upper. To establish the support heads, i.e. is pveolyarnoy of the produce section of the mucous membrane of the olochki over the implant. Remove the cap screws, replacing with porn heads. The surgical field is covered with a protective tray for one week.

Prosthetics begin 2 weeks after the operation to install the support heads.

The manufacture of dentures is carried out according to the generally accepted method of subsequent fixation on the supports.

The technique uses a two-phase implantation camping in orthopedic treatment of patients with both partial nym and the complete absence of teeth. The advantage of this method is that the reparative processes in the first phase occurring under conditions isolated from cFe rows mouth and without functional loads on lanthanum-imp. The duration of the first phase is associated with pro cession bone mineralization. The duration of the second phase is short, since the mucous membrane heals much faster.

In implantology, titanium and its alloys are most widely used.

IV. Evaluation of implants can be carried out on the power performance of the implant operation for MZ Mirgazizov:

1 - the implant is movable or not movable in pre affairs physiological pliability of tissue is inflamed of the gums and bone pocket absent;

0.75 - recurring observed mobility implant 1 - *2* degrees, the appearance and uc disappearance gingival inflammation, bone pocket otsuts tvuet (compensation step);

0.5 - constant mobility of the implant of 1-2 degrees, bone formation pocket (step Subki pensation);

0.25 - motility implant 3 degrees, expressed adjoint bone pocket (decompensation step);

0 - complete disappearance of the implant surrounding tat bone and pushing it out of the jaws granulocytes lyatsiyami.

I. Among the diseases of the mucous membrane of the mouth, to torye orthopedic surgeon is necessary to pay special attention, it is possible to allocate leukoplakia, angular cheilitis ("Zayed") and lichen planus.

Leukoplakia [K **13.2]** - chronic hundred Matit flowing thickening and keratinization dormancy smooth epithelium of the oral mucosa.

Conservative treatment consists in eliminating irritating factors, stopping smoking, and oral sanitation. Relatively efficient at Menenius vitamin A topically in the form of applications, since the inside of 10-20 drops 2 times a day for 20-30 days, multivitamins. In the case of unsuccessful treatment cally measures used surgical Meto dy such kakkriohirurgiya, radiosurgery ililazerna ,epilation foci verrucous or erosive leykopla cues. If malignancy is suspected, a biopsy and subsequent histological examination are **required. Angular cheilitis [K 13.00]** or "jamming" is manifested in erosion and then easily bleeding cracks in the corners of the mouth.

Conservative treatment of angular cheilitis with in the following: the use of fungicides prep comrade inside and locally (for example, Nystatin on 250 000 EL used once a day and nystatin ointment (100 000 units per 1 g of Ba you), multivitamins, smearing lesions 15% solution borax in glycerol. Given that the fungus can be introduced into the pores of the inner surface plastmas cial prosthesis last nebhodimo handle disinfectant solution and fungicidal ointment (powder). Pain nye represent a danger to others. Therefore, great importance is compliance with sanitary of Hygiene -ethnic mode in prosthetics such patients . **lichen planus [K 43]** - chronic inflammatory and dystrophic diseases resulting present on the skin and visible mucous membranes etiology remains hitherto unclear..

Conservative treatment is meticulous hydrochloric oral sanitation. In a typical, giperkeratoti-cal (if there are complaints of a burning sensation and pain when eating) and congestive exudative form of assigning by sedatives, locally affecting skin ointments, desensitizing and laser therapy. When erosive ulcerous and bullous forms best ef fect provides a combined method of treatment: use delagil (1-2 tablets per day) with methyluracil (1 tab taphole 3 times a day), anti-viral agents. When on the positive results of research nadisbakterioz prescribe antifungal medications, and general locations -acting. Operate as physiotherapy (laser, inhalation, phonophoresis with les for pharmaceuticals agents at the gingival margin) is carried out bracing and desensitizing therapy.

Patients with verrucous form of leukoplakia, lichen planus is first prepared canned tive treatment. If during 3 weeks this treatment does not provide a noticeable effect, surgical remove of the lesions (excision, cryosurgery or electrocautery pathologically modified tissues).

II . Typically, in the presence of mucosal diseases hull ki oral use dentures leading to obos rubbing process, which is more difficult to leche NIJ.

Laminar dentures, based on If Zist shell can, in turn, cause a variety of pathological processes. When the disease of the oral mucosa (leukoplakia, keratoses leuco red flat Lesch and t. D.) The treatment plan must be prepared individually for strictly kazh dogo patient. When planning the design of the prosthesis must be considered that the affected surface must be completely isolated from mechanical and Toxie Cesky its impact. Part of the prosthesis adjacent to the affected area should have good polish bath surface clasp should be hidden or broad, tightly embrace the abutment teeth.

Plots of the mucous membrane affected by leuko-keratosis cannot be a bed for a denture.

Given the poor thermal conductivity of plastic, it is necessary to warn patients about the negative effect of eating hot food. With special tschatelnos Tew in the manufacture of prostheses for patients with leykop lakiey should grind and polish the prosthesis and proactively resolve areas of increased PRESSURE Niya under dentures and within their boundaries. Large values chenie has a permanent dispensary observation of patients suffering from leukoplakia.

Positive effect it is achieved under applied nenii nesmnyh prostheses serebryanopalladievyh alloys, silver base plate removable prosthesis.

Clinic. Allergic inflammation against repentieth type contact stomatitis, is shown on the mucosa tongue, lips, cheeks, alveolar from germs and particularly on the palate. It is sharply limited and corresponds in magnitude to the basis of the prosthesis. Mucous about span of bright red, shiny.

Diagnostics. Skin testing Schwartzman: scalpel to scrape off part epider forearm skin Misa and sprinkled with crushed on the portion Roshko prepared from the base material of the prosthesis. In allergic conditions 24-48 hours at about worked portion shown redness. Ex uses Patch - test : on the back of the shovel overlaying dissolved platelets plastics and closed for 48 hours, the skin of the face reddening reaction force. Stop using the prosthesis.

Dental and allergic anamnesis is of great importance in the diagnosis of slaughtering Levan. Widespread use of gain exposure onnaya and provocative tests. The essence of these samples is that the disappearance of the pathological symptoms after removal of the denture from the oral cavity and resuming after the administration of allergenic indicates the influence of the prosthesis. For diagnosis of allergic stomatitis comrade used *leykopenicheskuyu and platelet-penicheskuyu sample,* consisting in reducing the number of leucocytes and thrombocytes not less than 1000 and 40000 (respectively) in allergic nature intolerance.

Test chemical silvering - is used to differential diagnos tics toxic and allergic stomatitis from mechanical irritation. *Immunological Meto dy research* - to identify Sensi stabilization of the body: the reaction of blast Transfrm mation lymphocytes, neutrophils damage test in VA Fradkin, quantitative determination of IgE , indirect reaction *Shelly* - test degranulation bazo- Filov specific detection reaction September sibilizirovannyh cells (lymphocytes, macrophages gov), lymphocyte blast transformation reaction (BTR), leucocyte migration inhibition reaction (RTML), macrophage migration inhibition reaction (RTMM) reaction lei specific agglomeration Cocytus (RSAL).

II . **Etiology.** Cause, provoking facto rum parastezii when a prosthesis is in oral application - only the symptoms of a medical illness. The reasons may be a mechanical injury to the rough surface of the prosthesis and the pressure of the basis of the prosthesis, the resistance of the oral mucosa.

Pathogenesis. Studies conducted by the study of the mechanism of parastezii revealed're active changes of prosthetic bed tissues, including those nerve agents and their endings. In this case , fragmentation and granular decomposition of the meat of nerve fibers, varicose expansion and fibration of the serene are revealed.

Clinic. Complaints of burning, tingling, pain and dryness in the mucous membrane of prosthetic bed, appeared to use a prosthesis immediately or Th cut some time after the application of the prosthesis with normal mucosa. The slightest irritating of any nature superposed mucosa in SRI prosthesis may cause excessive salivation and vomiting.

Diagnostics. Patients need to be a computer integrated polices treatment and examination. Dentist detail finds complaints, medical history, history bo useful to. This makes it possible to set the transferred disease in the past and identify the suspect or su stances. It is important to determine the etiological factor

III . **Etiology.** When dissimilar metal -crystal inclusions in the mouth occurs pos toyannaya change electrolytes with high and low potentials. Galvanic currents have a diverse effect on the body.

Pathogenesis. Suction fi products of electrolysis are in oral mucosa and getting into ZHKG, have an overall effect on the organism. Galvanic microcurrents affect about various physiological processes that occur in the oral cavity. They act on the receptor apparatus, break processes

excitability and adaptation by changing and distorting normal function, the membrane potential of cells, disrupting them pronitsa emost and ion exchange in cells. Galvanomikrotoki facilitate the exit of ions of metals with different potentials in saliva. Chromium and copper ions penetrating easily dissolved in the injured mucosa, and nickel ions may be deposited in tissues. Chromium, like all heavy metals, in elevated amounts can have adverse processes in the tissues. Prolonged WHO action metal ions cause sensitization and allergic reactions on HRT.

Clinic. Metallic taste, perverted schenie taste sensitivity. Sensation of sour, salty in the mouth , burning or pinching of the tongue, excessive salivation, or dry mouth. Sensations expressed in the morning, especially after eating spicy and salty foods.

Diagnostics. Cutaneous fineness metal la for 24-48 hours, to measure the current, the difference of potentials between the metal inclusions when changing milliammeter or millivoltmeter.

Chronic injury

IV . The epithelial layer of the oral mucosa undergoes atrophy with age : it becomes sensitive, easily vulnerable, and the healing process is disrupted. Even in case of minor dressings rezhdeny oral mucosa prosthesis E in elderly people with weakened tissue trophism prosthetic bed formed painful, prolonged healing dekubitalnye ulcers. Individuals should bow -age a marked tendency to the development of hyperplastic, dysplastic and neoplastic processes in the tissues of the oral and maxillofacial
area.

Patients using removable dentures do not feel pain even with significant injuries of the oral cavity, which should be borne in mind and warn the patient about the need for regular medical supervision.

Of particular concern are patients with chronic diseases of the oral mucosa (leukoplakia). Against the background of chronic injuries from prostheses, a flat form of leukoplakia can turn into a verrucous, which is a precancerous condition, or a chronic, very painful ulcer, poorly healing and often recurring (erosive- ulcerative form of leukoplakia) can form.

The design of prostheses with leukoplakia has its own characteristics. First of all, it is necessary to prevent the possibility of traumatic moments.

Through optimal recovery VNOL and surround simulation bases prosthesis proper orientation of the occlusal plane and creating Bugrova overlap can prevent impairment of the mucous membrane, and prikusyva- of lips or cheeks (especially where there are foci of expressions).

Given the poor thermal conductivity of plastic, it is necessary to warn patients about the negative effect of eating hot food. With special tschatelnos Tew in the manufacture of prostheses for patients with leykop lakiey should grind and polish the prosthesis, and in advance to eliminate areas of high PRESSURE Niya under dentures and within their boundaries. Manufacture of prostheses with titanium basis promotes eliminated ^ "greenhouse effect", a decrease of contact basis of acrylic plastic with a prosthetic bed. Of great importance is the constant follow-up of patients suffering from leukoplakia, with the aim of early diagnosis of malignancy possible with this disease .

Methods of prevention and treatment of pathological changes in tissues and of oral organs associated with the presence of *dentures* Allergy:

1. timely remove all oral lesions at dozritelnye to chronic infection.
2 In the newly prostheses eliminate sherohova toast and if injure labial fold, the edge of the prosthesis zu.
3. Eliminate deficiencies in occlusal vzaimootno sheniyah artificial teeth.
4. Avoid relocation of the prosthesis in the oral cavity.
5. Provide for manufacturing the prosthesis of colorless hydrochloric plastic or metal base.
6. Partial removable laminar dentures WHO Moznosti should be replaced by an arc. Correctly in the required time to carry out the polymerization steps of plas tmassy in the manufacture of the plate removable prosthesis.

Parasthesia:

1. Repair oral lesions chronic infectious tion.
2. Eliminate roughness in dentures.
3. Eliminate deficiencies in occlusal vzaimootno sheniyah artificial teeth.
4. Avoid relocation of the prosthesis in the oral cavity.
5. When the manifestation parastezii from just the imposition of the prosthesis need to be re-polymerized tion.

Production prosthesis of colorless plastic IU with the metallic base. 7 partial removable laminar dentures on possibility Nosta should be replaced by an arc.

Galvanism: Remove from the mouth all the metal inclusions, metal fillings replaced with someone pozitnye and dentures made of homogeneous alloy. Perform skin tests with metal alloys in order to identify the most suitable for the patient. Bridge prostheses in such cases must be made in one piece. A general desensitizing treatment of the body is carried out.

Calendar of thematic plan of practical clinical and independent work in hospital orthopedic dentistry for students of the 5th year 9-10 semesters .

heme of practical exercises	Practice hours	Clinical hours	Theme of independent work	clock	Teaching methods	Subjects of study
odontal disease. Etiology and enesis. Periodontal disease with artial secondary adentia and tinuity of the dentition. Their linical and biological basis.	2	2	Odontoperiodogram and its meaning.	3	Brainstorming "	Computer , multimedia , test questions setuatsionny task .
gy and pathogenesis of focal ontitis. Classification of devices the treatment of focal ontitis.	3	3	Focal periodontitis and its clinic. X-ray inspection methods.	3	Round table	Computer , multimedia , test questions
lization methods in the ent of focal ontitis. Tires Structural ts of splinting prostheses and pplication. The requirement is ted to the apparatus for the ent of focal periodontitis.	3	3	Methods of Orthopedic and complex treatment of limited pathological abrasion.	3	The Weakest Link "	Computer , multimedia , test questions setuatsionny task .
Clinic for generalized ontitis. Methods of examination (x-ray, periodontogram).	3	3	X-ray, arthrography and tomography of the TMJ.	3	"Brainstorming "	Computer , multimedia , test questions
of devices used for orthopedic ent of generalized periodontitis eriodontal disease. Oral hygiene ring treatment with dentures.	3	3	Symptoms of the facial area. Otoneurological syndrome.	3	" Weak link "	
gy, pathogenesis and diagnosis of pathological sion. Classification of clinical anifestations of pathological on. Significance examination of J with pathological abrasion.	3	3	Kosten's syndrome. Dif diagnosis.	3	"Aquarium"	Computer , multimedia , test questions
ssification of changes in the ofacial system encountered in pathological abrasion.	3	3	Symptom “Weyer” in the front teeth and deep incisal overlap. The appearance of prognathic bite.	3	"Brainstorming "	
Focal type of pathological on. Methods of preparing teeth under cast tabs and mixed ns. Comprehensive treatment ods for pathological abrasion.	3	3	Classification of anomalies of the maxillofacial system in adults.	3	"Weak link "	
alized pathological abrasion of dentitions with a decrease in the lower third face. Facial toms. Etiopathogenesis of the rological syndrome. Features of orthopedic treatment.	3	3	Special methods for diagnosing anomalies of the maxillofacial system in adults.	3	"Brainstorming "	

thological abrasion of intact ons without lowering the height he lower third person. Clinic, gnosis and treatment methods.	3	3	Ethics of appointment with a doctor. Psycho - therapeutic preparation of patients for orthopedic procedures.	3	"Weak link "	
ormation of the dentition with ts of the dentition. Diagnostics . Tactics of treatment.	2	2	Modern materials for taking a cast. Preparation of patients for taking a cast.	3	Round table	Computer , multimedia , test questions setuatsionny task .
Clinical manifestation of cclusion. Pathogenesis of distal extension of the lower Diagnostics. Symptom of the n" in the front teeth and deep al overlap. The appearance of prognathic bite.	3	3	Pressing dentures made of plastic and the necessary tools for this process. Auxiliary dental instruments. Oral hygiene when using dentures.	3	"Brainstorming "	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye task .
nical change in pathological on with partial dentition defects with clusion. Diagnostics. Orthopedic treatment.	2	2	Sterilization and disinfection, wired devices for employees. Iatrogenic infectious disease. HIV infection. Prevention of hepatitis B and others.	3	"Weak link "	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye task .
nomalies of the dentition in adults. Special research nods. Anomalies in the shape, per and location of teeth. Their l manifestations. Diagnostic and treatment methods.	3	3	Diagnosis of dentoalveolar anomalies and their study. Congenital malformations of the dentition.	3	" Brainstorming "	. By mpyuter, projecto multimedia, razdovat materials , test questior setuatsionnye task .
Studies of dentoalveolar nomalies. Classification of dentofacial anomalies.	3	3	The movement of the lower jaw "Occlusive surfaces of the teeth. Hippe curve line. Benett angle, cutting and articular path.	3	Round table	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye task .
Pathological bite.	3	3	Occlusiography Method ..	3	" Brainstorming "	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye task .
MJ disease. Classification.	2	4	Etiology, clinic and pathogenesis of deformations of maxillofacial orthopedics.	3	" Round table"	. By mpyuter, projecto multimedia, razdovat materials , test questior setuatsionnye task .
TMJ research methods.	3	3	Clinic and differential diagnosis of patients using dentures.	3	"Crossword"	By mpyuter, multimedia, razdovat materials , test questior setuatsionnye problem
pedic devices and dentures used he treatment of TMJ diseases.	3	3	Indication and contraindication for implants.	3	"Brainstorming "	By mpyuter, multimedia, razdovat materials , test questions .
ia for the restoration of occlusal ces and the occlusal ratio of the rows. Finding contact surfaces ng the movements of the lower w. The method of occlusion.	3	3	The use of two-layer dentures. Indication to them.	3	" Round table"	
pedic treatment of TMJ diseases with combination	2	4	Orthopedic treatment with tabs made of	3	" Weak link "	

ns. Applications of locking and pic crowns that are fixed on the denture.			metal and photocomposite by the opposite method.			
e direct method of orthopedic ent of non-carious generation of ooth tissue with photocomposite crowns (veneers).	3	3	Etiology, clinic and pathogenesis of TMJ diseases.	3	"M osgovoe assault	By mpyuter, multimedia, razdovat materials , test questior setuatsionnye task .
es of orthopedic treatment with dentia. Articulators with clasps (Arcon system)	3	3	Implantation methods: immediate, late, one and two stage.	3	Round table	. By mpyuter, multimedia, razdovat materials , test questior setuatsionnye task .
Orthopedics maxillofacial . Comprehensive treatment of fractures resulting from gunshot n-gunshot wounds. Methods for treatment of sedentary bone ragments. Classification of maxillofacial apparatus.	3	3	Aesthetic laws in the design of dentures.	3	" Brainstorming "	By mpyuter, multimedia, razdovat materials ,
c, etiology and pathogenesis of ormations of the maxillofacial region.	2	4	Allergy, galvanization. Their diagnosis, prevention and treatment methods.	3	Round table	
ds of orthopedic treatment for a oint, abnormal bone fusion after ture of the jaw, with a defect in bones of the lower jaw and a microstomy.	3	3	The study of the composition of blood, smona and urine. Ability to conduct Allergic tests and other clinical studies.	3	"Brainstorming "	
ods of orthopedic treatment of nd hard palate defects. Methods anufacturing prostheses before ery. The design of the forming apparatus.	3	3	TMJ research methods.	3	" Round table "	By mpyuter, multimedia , test questions .
ment of partial dentition defects h implants. Requirements for implant materials.	3	3	Argy articulators - Arkon system.	3	"Crossword"	By mpyuter, projector multimedia, razdovat materials , test questions .
earch methods of patients for ntation. Preparation of the oral for implantation, indication and raindication for implantation.	3	3	Absolute contraindication to implantation.	3	Round table	
thods and types of orthopedic tment with implants. Implant n methods: immediate, late, one and two stage.	3	3	A change in the tissues of the body and oral cavity associated with dentures.	3	"Brainstorming "	
ods of orthopedic treatment of nts with chronic diseases of the l mucosa. The right choice of rials for orthopedic structures.	3	3	The use of locking systems and telescopic crowns that are fixed with clasp dentures.	3	"Weak link "	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye task .
changes occurring in orgonism n the oral cavity are associated n the use of dentures. Clinical estations of allergies, paresthesia galvanization. Pathogenesis, ic, diffdiagnosis, oncological alertness.	3	3	Collapsible bridges, their use.	3	"Aquarium"	By mpyuter, projector multimedia, razdovat materials , setuatsionny task .
erentiation of the symptoms of nism. Differential diagnosis of anges arising due to general eases of the body and use for	3	3	Coating basic materials by the chemical method and the method of galvanization with	3	" Carousel "	By mpyuter, projector multimedia, razdovat materials , test questior setuatsionnye problem

thopedic treatment of basic rials. Prevention and treatment methods.			gold and silver.			
iagnostic, dentological and nological errors made by the ist. Complications during and after treatment.	3	3	E stethics in orthopedic dentists and.	3	"Aquarium"	By mpyuter, multimedia, razdovat materials , test questior setuatsionnye problem
Aesthetics in orthopedic ntistry. Compliance with the irement of aesthetics of dental hesis designs. Anthropometric es create the body of the jaw.	3	3			" Round table"	
The result :	99	105		102		

Practical lesson-1

Topic: Periodontal disease. Etiology and pathogenesis. Periodontal disease with partial secondary adentia and continuity of the dentition. Their clinical and biological basis.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (65 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.

	5. Assessment of actively participating students.	
Stage 3 (70 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

The concept of "periodontal" combines complex anatomy iCal formations: the gums, periodontal bone alveoli and root cement with common IP source of innervation and blood supply, makes boiling a whole, related by common features and origin. The collective concept of "periodontal disease" includes diseases in which a complex of periodontal tissues is affected. Diseases of periodontal tissues are one of the main mass lesions of the dentition. Periodontal disease in its origin, development mechanism, clinical course is quite diverse. Some diseases occur advan nificant a manifestation of chronic or acute and subacute inflammation, other inherent distrofiches Kie changes. The periodontium can simultaneously devel vatsya deep inflammatory, destructive and dis trophic processes, as well as diseases that are neoplastic or tumor nature.

Such a variety of shapes and flow of nature led to the creation Classification of Diseases steam Dont. The first attempt to create a single classification tion in the 30s of the 20th century has taken Interna native Research Organization periodontal diseases (APMA). Its basis was the classification of the German researcher Veski. Its main advantage - a clear description of the clinical manifestations of each existing member vuyuschih forms of periodontal disease, and the lack of - the variety of terms, which do not always reveal the pathogenetic essence of the disease.

In 40-50-ies in our country widely User The were classifications developed AI Evdokia movym, IG Lukomsky, IO Novikov, EE Platonov, YS Pecker, later appeared classification MMSI, NF Danilevsky, GD Ovrutsky, I of the Leningrad medical Institute and others. Decision XVI plenum of All-Union scientific societies dentists (1983) approved the classification of periodontal diseases for use in scientific, pedago cal and clinical work. It is based on nozo logical principle, which uses the WHO.

Classification of periodontal disease

I of . Gingivitis - an inflammation of the gums caused by nebla gopriyatnym influence of local and general factors and occurs without compromising the integrity of the periodontal connection.

Form: catarrhal, hypertrophic, ulcerative ny.

Severity: light, medium, heavy.

Current: acute, chronic, aggravated, remission.

Prevalence: localized, the general call.

II of - Periodontitis - inflammation of the periodontal tissues, characterized ized by progressive destruction of perio Dont and bones.

Severity: light, medium, heavy.

Current: acute, chronic, aggravated (including abscessed), remission.

Prevalence: localized, generalized .

III . Periodontal disease is a degenerative periodontal disease.

Severity: light, medium, heavy.

Current: chronic, remission.

Prevalence: generalized.

IV . Idiopathic diseases with progressive lysis of periodontal tissues (Papillon-Le February syndrome, histiocytosis X , gamma globules and germia, diabetes mellitus (uncompensated), etc.).

The V . Parodontomy - tumors and tumor protses sy in the periodontium.

The main advantage of the classification YaV wish to set up a differentiated approach *to* different for bolevaniyam periodontal tissues in accordance with the clinical and morphological features of the pathological process: inflammation, degeneration, tumors.

K I and II disease groups referred Patolo -meteorological processes periodontal tissues, determined compulsory display of them with classical inflammation signs: exudation, alteration of proliferative and radio.

In the I group includes numerous Zabolev Nia that affect only the soft tissues of periodontal; in I II group - periodontitis, whereby *a* engaging process etsya entire complex periodontal - gingiva, periodontium, ALVE olyarnaya bone (outgrowth) of tooth tissue.

For III group includes periodontal disease - generalizing Vanny dystrophic process of all tissues parodon that.

The IV group combines the processes in periodontal disease that accompany a number of common diseases in the body. Differential method, put in wasps nova this classification takes into account also the etiology cal factors of each disease, allowing selection of optimal strictly individualized complex for effective treatment and prevention of periodontal diseases. Choosing a desired range of the complex of therapeutic measures contributes also adopted in the labeling uniformity determination major symptoms of each disease: form, cha tin, clinic, prevalence.

In 1995, the country introduced necessarily -inflammatory use of the International Classification of dental disease, which is a direct extract from the Tenth Revision of the International Classification of Diseases (ICD-10), proposed by the WHO. Periodontal diseases according to ICD-10C are GOATS code of chronic cal periodontitis localized KOB.30 General ized KOZ.31.

Most investigators attributed the disease pas rodonta, in particular periodontitis, to polietiologiches r them, developing under the influence of local, general (endogenous), and the combined effects of local and general background factors on the altered reactivity of the organism.

The leading role in periodontal disease tissue belongs to the following factors: bad hygienic cal oral care, smoking tobacco and narkotiches FIR substances, occupational hazard, harmful production, the appearance in the oral cavity effect galvanism. The local factors include pathogenic flora of the mouth, the local change them munologicheskoy situation, the formation of bacterial toxins (cavities, adenoid et al.), Various kinds of disorders of articulation equilibrium (Godon syndrome) degree supra- and sub- gingival deposits, overhanging edges of fillings, nekaches idents production of dental prostheses, anomalies polo supply and shape of the teeth, bite pathology, chronic injury and functional teeth overload.

Kobschim etiological factors mozh but include: hormonal disorders and diseases (ca Harn diabetes, trisomy C syndrome, syndrome Papiyo- on-Lefebvre, disorders of the pituitary-adrenal ICI threads); metabolic disturbances, with generalized lesions from the vasculature of the whole organism, leading to micro- angiopathies in periodontal disease (hypertension, atherosclerosis, infectious diseases).

Common Etiologies well as worn nervous system diseases (epilepsy, n; . Rafunktsii etc.), blood diseases, genetic predisposition and hereditary diseases al lergicheskie disease denominated general distro graphical instruments processes that reduce immunity and causing boiling to a change in the body's defenses .

One of the causes of periodontal disease is a deficiency of vitamins C, B, A, Ë , etc.

A role in the etiology and pathogenesis of bolevany play periodontal disease of the gastrointestinal tract.

Recently, much attention to the camping immunological aspects in the development of diseases parodonte.

With orthopedic standpoint particular interest perodontitov etiology is chro nical microtraumas periodontal or functional overload. Under microtrauma understand mnogokrat Noah same type of mechanical action on the tooth forces of chewing pressure that exceeds the limits fi ziologicheskogo periodontal tissue resistance. Under the influence of these forces there is no damage to the anatomical integrity of the periodontium, but there are violations of the functional state of its tissues. These disorders are manifested in the vascular system periods Dont, bone and gums and eventually Transfrm miruyutsya in inflammatory-dystrophic reaction. Distinguish microtrauma (overload), obuslov fief impact strength, an unusual frequency and pro expectancy effects, character, direction and magnitude. An increase in the load on the tooth and a partial change in the direction of its action occurs in the manufacture of crowns, inlays, fillings, bridges , overestimating occlusal contacts. On load great- est in the direction of developing the application of controversial-retaining clasp or at- tachmena, as well as in bruxism. In all these situations pairs odonto individual teeth or groups of teeth enters the new operating conditions, resulting in the development of a variety of compensatory-adapt -negative reactions. Eventually there comes exhaustion of compensatory mechanisms that lead to the PLAY -inflammatory-destructive processes in the periodontium, once vitie inflammation under the influence of Naru solutions of chewing function begins with changes in the vessels of the periodontal transition through intraosseous vessels in the gingival tissue.

Tasks orthopedic stage computer integrated polices treatment .

The purpose of the orthopedic treatment of periodontitis is the elimination or attenuation of a functional periodontal overload, which at some stage of the disease is one of the main patogeneti iCal factors determining during periodontitis. Elimination or reduction of functional overload ki periodontal puts new conditions under which distilled rofiya develops slowly. Due to this for the disease changes for the better, and terapevtiches Kie activities become more efficient. In order to reduce functional ne regruzku and to facilitate periodontitis implementation of its functions tions, you must:

1) back tooth system lost unity and pre gates teeth separately from the operating elements in an integral whole;
2) to take steps to correct distribution chew Tel'nykh pressure among the remaining teeth and rout zit teeth with most infected periodontium due teeth, in which it is better preserved;

3) prevent the teeth from a traumatic action hori zontally overload;

4) with partial loss of teeth, in addition, it is necessary o to evenly distribute the functional load between the remaining teeth and the prosthetic bed.

The V . The main symptoms of periodontitis are camping:

• gingivitis (inflammation of the mucous membrane of de dreams);

• disappearance of the gingival sulcus, impaired svya communication with the epithelial attachment cuticular layer of enamel, partial or complete disappearance of the circular tooth ligament;

• the presence of tartar and soft plaque;
• bleeding gums;
• the formation of p and periodontal pockets and the death of part of the periodontal fibers;
• suppuration or secretion of serous fluid from periodontal pockets;
• visually detectable retraction of the gingival margin;
• pathological tooth mobility (1st-3rd degree);

- resorption of bone tissue of the walls of the alveoli;
- changes in the occlusal surface as a result of tooth displacement: rotations and tilts of teeth, the formation of three, diasgem;
- the formation of premature contacts on the occlusal surface of some teeth;
- abscess formation during exacerbations.

The nature and severity of these symptoms is determined by:

1) etiological factors (their combination);
2) the duration of the disease;
3) the condition of the dentition (the type of bite, the presence of defects, increased (pathological) is erased with a thw, etc.);
4) the hygienic condition of the oral cavity;
5) the compensatory capabilities of the body and tooth of the jaw system.

VI . Localized (alopecia) form steam Dont, or traumatic node, the Features rizuetsya periodontal lesions in one or several teeth. The reason for its development are local damaging factors: mechanical herb ma, chemical and physical damage. Often for bolevanie arises as a result of permanent injuries overhanging edges seals at defects presses Bani, improperly manufactured crown or mos tovidnym prosthesis (resulting in overestimation of height of bite or manufacture without contact with the teeth-anta gonistami (dysfunction of periodontal tissue) and t. D.). Pa rodontit may cause profuse dental plaque, overload of individual teeth during occlusion anomalies, the position and shape of the individual teeth.

Localized form of periodontitis, or herbs nematic host - site of the dentition with the highest expression of functional impairment pas rodonta. The localization of the traumatic node is frontal, sagittal, fronto-sagittal, pa rasagittal and cross. It can be odinoch nym and plural.

Generalized periodontitis - it develops with prolonged chronic course about the processes that are often in the background of common diseases. In this case , the entire dentition is affected. The main SIM ptomu inherent generalized periodontitis, gingivitis are symptomatic, formation pas rodontalnyh pockets selection of serous fluid or suppuration, progressive resorption alveo lar bone abnormal mobility, education traumatic occlusion. The severity of these signs depends on the severity of the pathological process.

The main radiologic signs of generalized periodontitis are different degree of degradation of cortical, non-uniform resorption interalveolar septa, osteoporosis cancellous alveolar bone, moderate races extension periodontal ligament.

I of . Purpose of the survey of patients with pathology parodon that - assessment of the overall condition of the body, the clinical characteristics of periodontal vyyaelenieobschih and local etiologic and pathogenetic factors determined Lenie forms, stages and the nature of the disease. On the more completely the information allows the correct dia gnostirovat disease effectively plan complex treatment and prevention. The required set of differential diagnostic display teley physician receives a careful history taking, a detailed clinical examination, using la boratornyh methods and survey data specialists sheets other medical profile.

Life history : clarifies the passport given nye - the profession, the presence or absence of profes tional hazards, the nature of power, borne disease, stress, environmental, with socially, living conditions, hygiene of the mouth, etc. It is necessary to clarify and hereditary link:. Do not suffer if similar diseases closest relatives (parents, sisters, brothers), whether in the past or are currently harmful

if quotation marks. Clarify whether the patient is not inclined to allergiches Kim reactions.

If necessary, the patient must undergo examination and obtain the opinion of other specialists sheets. In case of periodontal diseases, the consultations of a therapist, endocrinologist, neuropathologist of an allergist and other doctors are most often needed .

Anamnesis of the disease : find out complaints related to processes occurring in the oral cavity, time of their onset , development dynamics, possible causes; were there exacerbations, what were their causes.

The information obtained during the clarification of the anamnesis is often crucial for clarifying the diagnosis.

When viewed on braschayut attention to the general appearance, facial expression, the presence of s pathology on visible skin integument, color of skin covers in soft tissues chelyus spot-facial region, the presence or absence asimmet Rhee, the condition of the lips, corners of the mouth, the character of the diction, the degree of mouth opening and etc.

When examining the vestibule of the mouth pay attention to its depth. To determine the depth, measure the distance from the edge of the gum to its bottom with a graduated instrument. The vestibule is considered shallow if its I depth is not more than 5 mm, medium - 8-10 mm, deep more than 10 mm.

Gum. On examination, assess the condition of de dreams with vestibular and lingual sides. Note color, consistency, bleeding, gingival depth bo Rozdil, safety periodontal compound consisting of interdental papillae and severity, presence pas rodontalnyh pockets and separated from them.

When evaluating dentition consider interac mootnosheniya teeth, the presence of plaque, dental plaque, enamel shade, shape of crowns, their degree of abrasion and offset, and the formation of three diastema, the presence of grass matic occlusion, mobility, etc..

Pairs of d of ntalny pocket formed due to violation of the integrity of the periodontal from unity, under the influence of a submersible epithelium growth, destruction and ligamentous pparata, alveolar bone and cement of a tooth root. An extraosseous periodontal pocket (without destruction of the alveoli bone) and bone (with destruction of the alveoli bone) are distinguished . The presence parodon so cial pockets, their depth and length at na Tologoi periodontal largely determine the clinical picture of the disease, the tactics of the doctor in the treatment of one or another nosology and prognosis.

On the condition of the periodontal pocket are judged on the basis of its depth, the presence of exudates and ulcerated Nij. When determining the depth should take into account its physiological characteristics.

Distinguish between true and false periodontal pockets. When false periodontal pocket integrity is not broken NOSTA periodontal compounds and the depth of the pocket is increased by swelling or hypertrophy of the gums.

II . Periodontal pocket depth measured cal Rowan trowel or with a blunt probe Damage E on them millimeter divisions. For the same purpose, they also use a special instrument, a steam meter .

The tool is inserted into the pathological pocket and slowly advanced until a slight sense of stop appears . Depending on the group of teeth is recommended about harassing several measurements: in the area of the larger root GOVERNMENTAL teeth, two on the buccal and lingual poverhnos palato- Tay and one on distapnoy and medial. In the field of small molars, incisors and canines produce Th tyre measurement - one on each surface.

The resulting data is recorded Arabic Dig ramie conventional or special characters in the dental formula and odontoparodontogramme. Sometimes made more precise neniya localization and depth of the periodontal pocket carried roentgenography after introduction therein of radiopaque pins turundae impregnated spe -trivial solutions or suspensions radiopaque Sub- stances (barium sulfate, lipiodol, kardiotrast, verografin, urotrast et al.).

The depth of the periodontal pocket is estimated taking into account age, the degree of teething. When measurable rhenium depth, besides the distance from the gingival margin to the bottom of the pocket allow for exposure of the surface of the root I due to gingival retraction (distance from the enamel-tseme n tnoj borders to the top of the gingival papilla).

The mobility of the teeth connected and , with the severity and depth of tooth fracture ligamentous apparatus and the nature of inflammation in periodontitis. Tooth mobility is most pronounced when the vertical form resorption of alveolar otros TCA and sharpen during inflammation, elimination of which is usually accompanied by significantly reduced Niemi mobility teeth stabilization. Mobility is characterized by the direction and degree of deviation of the tooth from the normal position and is determined by palpation using tweezers or special devices.

Three degrees of tooth mobility are distinguished:

I - tilted tooth in the vestibular-oral (labial-lingual) direction within shi widths of the cutting edge (1-2 mm);

II - in addition to the above mobility, there is mobility in the medial distal direction;

III - in addition to the indicated displacements, the tooth is visually movable in the vertical direction.

III . Sample Schiller-Pisarev applies Xia to detect inflammation in the gums. It is based on vital staining yodsoderzha conductive solution Lugol glycogen, the number of koto cerned increased in the epithelium during inflammation. When the accumulation of glycogen color intensity vozras melts. The gingival margin is treated with a cotton swab moistened with a solution of the following composition: 1 g of iodine, 2 g of potassium iodide, 40 ml of distilled water. Boc Singe portion gums

instantly turns transient tone - from light brown to dark korich nevogo - depending on the degree of inflammation.

The sample may be used for the definition of propa- gation inflammation and volume (boundaries) operative vmesh atelstva at gingivectomy, Pa pillomotomii. curettage periodontal pockets, for detecting subgingival dental plaque, it mo Jette serve as an objective evaluation test effektivnos minute treatment, for differential diagnosis, and others.

Clarification of occlusal contacts may be about to carry on with the help of okklyuziogramm and diagnostic models. **Occlusiography** *is a* method of obtaining occlusal contacts on thin plates of wax (clasp wax can be used) when closing dentitions. Normally, when a orthognathic CIDP meat on the strip of wax is defined in line contact ob- mouth and the front teeth point in the area of the side , but in these areas is stored a thin layer of wax . In the presence of excessive contacts on a particular site in the wax, holes are formed (in the absence of contacts, a fingerprint in the wax is not observed). Superimposing plate wax to diagnos cally model using pencil transferred lan ki excessive contacts to determine the model of the teeth and areas with shlifovyvaniya.

Also in the definition Nia superkontaktov ispol'uet form a occlusal paper of different thicknesses (from 8 to 200 microns). First occlusion onnye contact with study of power occlusal paper 200 microns thick; after from biratelnogo prishlifovy- Bani adjusted until a line contact in the area of the front teeth and mnozhes Twain contact point in the posterior region (with approx klyuzionnoy paper thickness hydrochloric 8-12 microns) .If parodon titah due to significant under VIZH NOSTA teeth obtaining of occlusiograms and, especially, interpretation are difficult, therefore V.N. Kopeikin suggested that selective grinding of teeth be carried out in two stages. The first step is to conduct pre preliminarily prishlifovyvenie teeth in superkontaktov pronounced. The second step is carried out after the immobilisation of the various teeth shiniruyuschi mi therapeutic constructs (Fig. 1).

Selective grinding is carried out using high-speed machines and centered shaped heads by an intermittent, gentle method. Sanding preceded completed application or infiltration anesthesia, and if necessary - about the maintenance of sedation. It should be remembered that grinding only changes the configuration of the dental tubercles and their slopes, while the tubercles themselves, as a rule, are not polished, since a decrease in the interalveolar height should not be allowed . To do this, grinding is carried out using the ShchVYAN formula . This means that with shlifovyvayutsya buccal (W) hillocks upper (B) and Yazichi N s (I) hillocks lower (H s ubov. Since these protuberance ki determine the direction transversal movements of the mandible, then this mozh but hillocks upper teeth and the buccal cusps lower to reliably fix mezhalveolyarnyh height (Figure 2)

Fig. 2. Support and protective tubercles

IV . Orthopantomography (panoramic tomogra FFL) provides images of both chelyus Tay on one film. The study is conducted on an orthopantomograph. X-ray tube and the cassette with the film having the shape of a half cylinder, positioning the dissolved ne opposite ends of one axis strictly against. X-ray tube and the film, rotating, describe ik- incomplete concentric circle around the patient's head which is fixed stationary. The cassette with the film revolving around the patient's head is moved and around its vertical axis, this X-ray radiation for sequentially illuminated when the various parts of the jaw, fixing Esja on the film. X-ray tube can be given a rotation around three axes, which ensures a perpendicular direction and orthoradial lu whose relative to the recordable

area. Panoramic imaging helps to ensure a simultaneous images of the entire dentition system as a second functional complex. The disadvantage of this method is

Fig. 3. Odontoperiodogram of the jaws

not very sharp image of the braid structure tnoj tissue, mainly in the front zu CWA (Fig. 3).

When X-ray in patients with periodontitis reveal about the resorptive processes periodontal varying severity. In the initial step in the interdental septum x in a certain about ryh cases show no change. Inog yes marked "enlightenment" of their summits - starting the process of osteoporosis, cortical destruction Place Tinky on top of walls. Subsequently reveal an increase in trabecular bone looped region Ver tire disappearance of peaks, the expansion periodontal- hydrochloric slit. Progression of the process leads to pos Thelen disappearance bone partitions on different with respect to the top level. This allows, just as when using sounding, to distinguish four degrees of destruction of bone tissue:

I degree - initial, without the disappearance of bone tissue in length;

II degree - a decrease in the height of the interdental septa by 1/4 - 1/3 of the root length;

II I degree - decrease in height 1/2 1/2 of the root length;

IV degree - resorption of the interdental partitions on about stringing 3/4 of the root length and more. Along with the increased resorption of bone tissue increases I severity of symptoms osteo Porozov on sohranivsh REGARD areas between the teeth and between the root partition, expanding the periodontal crevice.

It is characteristic of periodontitis a that bone destruction occurs only in the alveolar process of the upper jaw or alveolar part of the lower jaw. The structure of bone tissue in other departments is not changed. Depending on the origin of the disease destruk tive processes in bone tissue developing at otde lnyh sites or throughout the entire dentition (focal or localized, diffuse, or gene ralizovanny, periodontitis).

Panoramic radiography and orthopantomography allow one to obtain only an overview of the level of destructive processes. Using within the oral radiography is possible to obtain more accurate data about the structure of the bone tissue and in more detail op thinning processes occurring therein.

Odontoparodontogramma of Courland skom - a graphical representation of a tooth injury GOVERNMENTAL series and periodontal, which gives a clear picture of the state of the support apparatus remaining teeth. With representation odontoparodontogrammy conducted to identify the state of dentition, t. E sic tional stability of each tooth of the support unit to the load. Odontoparodontogrammu get poo the entry information for each tooth and its supporting apparatus in a special drawing table (Fig .4).

In varying degrees of atrophy of the wells (in dan nym radiologic studies) varies endurance abutment, which is calculated according to the power of the conditioned coefficients. Coefficients you noslivosti periodontal load respectively

SNI zhayutsya with increasing atrophy of the wells. At the 1st degree of atrophy, there is a periodontal endurance reserve. In atrophy wells 2nd degree periodontal reserve forces are reduced, and at the 3rd degree of atrophy occurs expression zhennaya functional failure. With atrophy of the 4th degree, the tooth must be removed. After the disappearance Nia reserve forces periodontal pathological process takes place particularly acute.

After filling in the appropriate graph for the teeth of the upper and lower jaws, the actual degree of preservation of the supporting apparatus of the entire dentition is displayed in figures . These data oriented vatsya in power ratios between the upper and lower them dentition, between the individual teeth groups. The main task of orthopedic treatment is to align the power relations between the tooth and the rows of the upper and lower jaws.

Further tactics physicians h and is aimed at Tro nenie available traumatic knots in certain areas of dentition.

Test questions:

1. What is included in the concepts of periodontal tooth and parodont diseases ?

2 . Classification of periodontal disease.
3. Etiology and pathogenesis of periodontal diseases.
4. Tasks of the orthopedic stage of complex treatment of periodontal diseases.
5. The main symptoms of periodontitis.
6. Determination of clinical entities diseases pas rodonta - focal periodontitis (traumatic node) and generalized periodontitis.
7 . Research methods for periodontal teeth. Sounding, arodontometry.
8 . Determination under the mobility of the teeth.
9. Carrying out the Schiller – Pisarev test, occlusography.
10. The study of the orthop of NTOMograms, the filling of the odontope of the Rodontogram and its analysis.

Practical lesson-2

Subject: Etiology and pathogenesis of focal periodontitis. Classification of devices used in the treatment of focal periodontitis.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training	4. Preparing the audience.	Listen

(5 minutes)	5. Analysis of student preparation for class 6. Attendance check	
Introduction to the topic (10 minutes)	4. Preparation of the educational complex on this topic. 5. Preparing slides for the lesson. 6. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	6. Divide the group and ask questions. 7. Use visual aid 8. Use slides, multimedia 9. Summing up the topic 10. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . In case of focal (localized) periodontitis, inflammatory and dystrophic processes of periodontal tissues are determined in individual teeth or their groups and are localized within periodontal tissues. In originated tration focal periodontitis play a fundamental role dissolved Topical factors, microbial plaque formation sub- and supragingival dental plaque, no interproximal contacts overhanging edge seals, poorly manufactured dentures anomaly position and shape of the teeth, Patolo ogy occlusion, trauma, and chronic overload teeth. Exogenous factors (poor hygienic care, smoking) also affect the functional consisting of periodontal tissues. Play an important role profes sional harm, stress, injuries and bad habits. Acute focal periodontitis begins with the appearance of a spontaneous, not very intense) pain when chewing, bleeding gums, mobility Nosta tooth or group of teeth. Preceded it, as a rule, gingivitis different etiology or vracheb Noah intervention. Radiographs - extension of the periodontal ligament.

II . The strength of the chewing pressure acting on the tooth, is transformed to ligaments, cellular elements, periodontal vessels and transferred to the inner nyuyu surface of the alveoli walls, spongy substance and an outer compact disc. Influenced sic tional loads the deformation of the periodontal tissue elements and, primarily ligamentous apparatus of periodontal and bone tissue. Fung tional load and occurring at the same elastic deformation periodontal tissues are functional GOVERNMENTAL stimuli vascular and neural elements comrade periodontal. In

turn, neurovascular, the unit plays an important role in the reflex regularization tion forces of chewing pressure. Upon application to a tooth vertically directed force in the walls of the wells having elastic deformation, causing voltage voltage (contraction) of these walls, different at different urs nyah. The limit depends on elasticity of bone from building Nia bone substance and the degree of mineralization.

III . The degree of deformation of the bone hole walls zu CWA is determined and the presence of adjacent teeth. With hrannost contact points on the approximal surfaces of teeth promotes partial re load distribution from one tooth to the neighboring and thereby reduces the amount of deformation of the walls of the wells of the loaded tooth. In case of violation of contact points increases the deformation of the walls of wells of rizontalny component chewing pressure gu bitelno acts on periodontal tissue. At the same time in some areas there is excessive compression and Drew in the GIH - stretching. Upon compression of periodontal occur partial or complete cessation of blood flow in otde lnyh capillaries.

The compression portions processes prevail rezor btsii. If not removed from a constant pressure on one board, the processes of resorption and enhanced pro are the formation of periodontal pockets, and then the apparent diminution top wall holes in the teeth of compression sections. Bone tissue resorption is explained not only by the influence of chewing pressure forces. State yanie jaw bone tissue directly connected with the vascular bed, is dependent on metabolism entire body, as well as the state of the neuro-receptor unit and local circulation. When periodontitis process of resorption wall holes proceeds much faster, t. To. Atrophy combined with inflammatory about the processes in periodontitis, leading to greater mobility Nosta tooth.

The degree of deformation of the walls of the wells and the load on periodontal increase, increases the amplitude Move scheniya tooth, which further exacerbates the degree of atrophy graphical instruments processes. At a certain stage of development of the disease functional overload is becoming one of the leading factors in the pathogenesis, *in* result of which WHO Nick traumatic nodes traumatic occlusion and traumatic articulation.

For different groups of teeth to create a function -functional conditions of existence. Distinguish function tional Center, traumatic and non-functioning node yuschee link - atrophic unit.

Operational Center - group en tatoniruyuschih teeth mastication couples who E occurs without injury of periodontal (due to the presence of physiological periodontal backup force). Function -regional center is unstable and can move from a functional load. Because of mobility, it is also called a relative functional center.

Atrophic block - dormant yuschee link. These are teeth that do not have antagonists. The steam Dont dental pulp and deprived antagonists occur atrophic processes. In the atrophic link , deformations most often occur (Popov-Godon phenomenon),

Traumatic Node- site dental series with the highest manifestation of the functional is not sufficiency. The teeth forming the traumatic site are in a state of functional overload. Traumatic localization unit is frontal ny, sagittal, frontal, sagittal, parasagit tal and cross. It can be single or multiple. Clinical symptoms - displacement of teeth, deformation of the occlusal curve and all sympto we characteristic of periodontitis. Etiology Various chayut direct and reflected traumatic knot.

Direct traumatic node can occur both in intact tooth number, and in part on the presence of teeth. A direct traumatic node occurs as a result of the action of a chewing load at the site of the etiological factor.

The reflected traumatic node occurs in other areas (outside the site of the etiological factor).

IV . Treatment of periodontal disease is conducted whom the complex and consists of general and local. **The total treatment** is directed to the stimulation of the reactivity of the organism, antiinflammatory, desensibilizi ruyuschuyu and restorative therapy. **Local treatment** is to

eliminate the causative factors and conducting complex treatment with Menenius therapy, physical therapy, surgical and orthopedic techniques. They pre dusmatrivayut:
- elimination of local factors that cause and support the inflammatory process;
- treatment of the inflammatory process;
- stimulation and activation of periodontal vessels.

Orthopedic methods allow normalized Vat occlusal relationships remove the trauma of chewing pressure to restore the continuity of continuity dentition.

Splinting design combining unit teeth group unloads them periodontium when biting SRI or mastication of food. This effect is increased due to the increased number of teeth shiniruemyh that allows unloading teeth infected parodon is chewy and redistribute pressure pa rodont healthy teeth having large WHO possibility for damping chewing pressure (Fig. 18, 19),

Orthopedic treatment aims to eliminate or reduce the functional load (ne regruzku) periodontal. **The objectives of** orthopedic leche Niya are:

1) removal of traumatic factors;

2) functional groups equilibration teeth Rav -dimensional distribution of the chewing pressure cFe di remaining teeth with most infected periodontium due teeth with healthy periodontium;

3) restoration of the anatomical form and function of the dentoalveolar system, its transformation into a continuous whole. For the treatment of diseases of steam Dont prosthetic dental surg ology used the following IU T o d a :

- Selectively grind the dentition;
- temporary splinting;
- orthodontic treatment;
- indirect prosthetics;
- constant splinting with RESET tained continuity tooth rows by making shin- prostheses.

Indications to function nationalities Sanding zu ERD are:

1) premature contacts, resulting HEPA numbered stiraemoesti or absence of abrasion of the individual groups of teeth, changing put Nia teeth due to lesions of periodontal;

2) the presence of only the contact fittings teeth when closing Th Lust in the central, side and front occlusions;

3) contacts blocking the movement of the lower jaw in various directions.

The therapeutic effect of prishlifovyvanie is to eliminate or significantly Decrease the shenii adversely affected for periodontal hori Talnoe component chewing pressure, ability shenii tooth spatial displacement, a smaller compression of periodontal vessels and hence in removing the factors deteriorating blood circulation and tissue trophism. Functional grinding is applied both in the initial and in the developed stage of the process. Normalization occlusal and ap tikulyatsionnyh ratios dentition reaches Xia by:

1) shortening of extended teeth;

2) reducing the degree of incisal overlap;

3) selective grinding of slopes of the hillocks.

Normalization of occlusal ratios should not reduce the height of the bite. Traumatic points are detected when the lower jaw moves with carbon paper. Grinding is carried out by the gentle method. Maxillary teeth Sneem are slopes of the buccal cusps on the lower teeth - rays lingual cusps. Shortening the crown of the tooth is carried out with a diamond disk with reliable tooth fixation. Gone fovyvanie projecting from the occlusal tooth equalization Vaeth ratio coronal and root portion, and puts in a tooth suitable functional position. After alignment with the occlusal surface polished portions are polished, and then treating are fluorine-containing pastes.

In cases where there are defects in the tooth rows and there is a possibility of secondary displacements Nia teeth, their reduction should need to complete the prosthetic measures. To be successful in the treatment of the disease is not at all a disease in a particular patient, it is

necessary to take into account characteristics of the disease in this brow century, schedule and execute strictly individual treatment plan, combining a variety of therapeutic agents. The correct choice of treatment and use of optimal designs and warns Held navlivaet further destruction of the destructive processes of the dental system and allows to fully implement the modern Orthopedic some treatment of focal (localized) periodontitis. In this method, in particular, it is shinirova set.

Under splinting is meant a compound in the mobile unit with the teeth of some ortho pedicheskogo medical device. As the tire can be welded together ekvatornye crown poluko Ronchi, crowns, rings, caps, tabs Solid, crowns and splinting removable dentures. With tires manages to combine the teeth in the overall system is schuyusya the perception of chewing pressure unified whole. Bus achieved immobilisation teeth and ne redistribution of loading on the teeth.

II . Depending on the localization of the tire distinguished follows blowing types of stabilization:

1) frontal;
2) sagittal;
3) parasagittal;
4) the front is sagittal;
5) stabilization in an arc.

Type stabilization dentition, t. E. Length NOSTA tire is determined based on the clinical situation and analysis parodontogrammy.

The devices used to treat focal (localized) periodontitis should:

- to reduce the trauma of mastication of pressure and abnormal mobility of Dhu CWA involved in the pathological process;

- normalize pathologic soot wearing periodontal tissues during function due to the uniform distribution of chewing the chewing pressure p and rodont struck GOVERNMENTAL bus and combined with the teeth nepovrezh dennym periodontium;

- restoring functional physiologists cal balance between tissues parodon that the damaged portion and antatoniruyuschey group of teeth;

- restore the anatomical shape of the teeth and dentitions, their topographic and anatomical relationships.

The length and type of the tire depends on the degree to hrannosti reserve forces of teeth affected with periodontal volume and functional relations antagoniruyuschih teeth. It should be guided by the following rules: the sum of the coefficients functional zna chimosti teeth (for parodontogramme) with intact periodontium included in the bus must 1.5-2 times greater than the sum of the coefficients with an infected tooth periodontium and be equal to ½ the sum of the coefficients zu CWA antagonists participating in biting and chewing food, taking into account the maximum range scheniya lump of food between teeth 3-4. In this case, a single system of equator crowns, veneered crowns (cermet or metal composite), adhesive tires, solid cast removable tires, etc. can be used as a tire . In case focal (localized) periodontitis extends to the entire functionally oriented group of teeth (trans dnyuyu, side) and these teeth no reserve force (atrophy reached half the length of the hole wall and more), it is necessary to switch to a mixed type of stabilization. For the group of posterior teeth most expedient parasagit Talnoe view immobilization, for a group of front zu BOV - stabilization of an arc connecting premolars.

Indications for use paraszgittalnoy stabilization and detachable types of tire cases are expressions periodontal distally spaced teeth both when intact tooth rows and in defects in them. With intact dentition and focal periodontitis of the II and III degree in the group of frontal

teeth of the upper jaw, an effective way to reduce tooth mobility is the use of endodontic-enossal implants inserted into the bone tissue of the periapical zone through the tooth canal. This type of key splinting Will enhance the mobility of the teeth II - III degree.

III . Periodontitis in combination with a partial secondary adentia exacerbates the pathological process in periodontal tissues . If time is not rendered op topedicheskoe treatment, comes the loss of all teeth. Orthopedic treatment is carried out using various prosthetic tires.

Fixed prosthetic tires include bridge prostheses. When periodontitis bridges prostheses are used only in the presence of included defects based functionality TKA her periodontal support of the teeth. The use of cantilever bridges should be excluded.

Removable solid cast splinting prostheses are medical designs of arch prostheses.

At the heart of the design of removable splinting about tezov and devices that provide horizontal time Booting teeth are double-arm and multi-unit clasps with the vestibular and oral coverage of all teeth. Dipping of the prosthesis into the mucosa by preventing etsya using occlusal pad. For these tse lei most frequently used system of clasps.

Removable splinting prosthesis design which are pressed and molded caps and beams, supported on the teeth group and combining them simultaneously provide vertical and hori zontally unloading teeth.

A combined method of splinting - it is applied of the types of fixed and removable prostheses.

The nature of the combination of fixed splinting tires yuschimi prostheses depends on the clinical picture. The remaining teeth splinted any vie house permanent bus, and the defect is filled clasp or other type of prosthesis.

The V . To achieve the best treatment result, tires must meet the following **requirements:**

1) create a solid block of groups of teeth, restricting their movements in three directions: vertical, weight of tibulooral, mediolateral (for anterior) and medio-distal (for posterior teeth);

2) be stable and firmly fixed on zu boom;

3) non-irritating to the marginalized ny periodontium;

4) do not interfere with medical and surgical therapy of the gingival pocket;

5) do not have retention points for food retention; 6) does not create its occlusal surface blo kiruyuschih points while moving the lower jaw;

7) do not disturb speech;

8) not cause gross appearance pain disorders Nogo.

Orthopedic treatment is carried out in combination with therapeutic, surgical, physical therapist cal methods.

Test questions:

1. The leading symptoms of the clinic are partial tooth loss, etiology, pathogenesis.
2. The concept of functional overload of teeth.
3 . Traumatic occlusion and its types.
4 . Clinic and orthopedic methods of treatment of focal (localized) periodontitis.
5. Justification of tire constructions or prosthesis and about stringing based on data analysis of periodontal grams.
6 . Types of stabilization and their justification.
7 . Tire construction and splinting prostheses: nesem nye, removable, combined.
8 . Requirements for fixed devices in the presence of focal (localized) periodontitis . The clinical phase, depending on the design of the splinting device or prosthesis.

9. Justification of tire constructions or prosthesis and about stringing based on data analysis of periodontal grams.
10 . Types of stabilization and their justification.
11 . Tire construction and splinting prostheses: nesem nye, removable, combined.
12 . Requirements for fixed devices in the presence of focal (localized) periodontitis . The clinical phase, depending on the design of the splinting device or prosthesis.

Practical lesson-3

Subject: Methods of stabilization in the treatment of focal periodontitis. Tires Structural elements of splinting prostheses and their application. The requirement presented to the device for the treatment of focal periodontitis

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	7. Preparing the audience. 8. Analysis of student preparation for class 9. Attendance check	Listen
Introduction to the topic (10 minutes)	7. Preparation of the educational complex on this topic. 8. Preparing slides for the lesson. 9. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin “Periodontal disease” 199 3 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	11. Divide the group and ask questions. 12. Use visual aid 13. Use slides, multimedia 14. Summing up the topic 15. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.

Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . The leading role in the pathogenesis of periodontal diseases under must traumatic overload periodontal Ustra nenie which creates favorable conditions for function tion periodontal disease process stabilizes, increases the therapeutic effectiveness and Surgeons Cesky treatment.

Traumatic overload of the periodontium occurs as a result of tooth loss and the Popov-Godot phenomenon on malocclusion and eubular position, delayed abrasion of hard teeth in periodontal diseases and uneven abrasion in pathology of hard tissues. At the same time, on the occlusal surface of the teeth there are areas that prevent multiple teeth contacts in the central, anterior and lateral occlusions (premature contact).

II . To achieve multiple contact of teeth with changing selective lapping away - an important event in the treatment of periodontal disease, as well as parafunktsionalnyh states pathology as successive muscles and temporomandibular joint.

There are various methods of grinding teeth, but the most popular methods are Jenkelson and Schuller . According to the latest technique, occlusion correction is performed both in the central, and in the front and side occlusions.

III . Prishlifovyvanie precedes extractions with you sokoy pathological degree of mobility causing constituents pronounced deformation of the dentition. Then grinding planning is carried out. For this, first visually and then by means of glosses softened wax or carbon paper specify those areas which subsequently podver gayutsya grinding. First, such a manipulation is carried out only in the central position of occlusion sion, and then the front, side and rear occlusions. Sanding When changing a config rays radio hillocks, mounds themselves, as a rule, is not ground off.

Ground off most intensively okra shennye or tissue sections in those places where it forms a perforation in the wax, depending on that the use zuetsya as a diagnostic tool. In this should not grossly distort the anatomical shape of the tooth , and distribute tissue reduction should equally into an tagonisty. This is especially true cutting edges re dnih teeth. Prishlifovyvanie completed after mouth interference injury to smooth movements of the lower jaw and after receiving multiple contacts put SRI centric occlusion using paper 8-12 microns thick.

With deep incisorial overlap, deep bite, upper or lower prognathism, retrognatii, macro and micrognathia recommended izbi selectivity of prishlifovyvanie, mostly in central hydrochloric, front and rear occlusions. When cross- bite, narrowing dentition opposite vzaimootno shenii lateral teeth in a plane transversal pre property provisions for recording and mouth injury and premature blocking interproximal contacts are central and side occlusion.

IV . Selective prishlifovyvanie is carried out by the power of high-speed machines and centered shaped heads, is preceded by grinding completed application or infiltration anesthesia, and if necessary - premedication.

The vertices of the supporting tubercles (palatine superior and buccal inferior) are not polished, since they ensure the stability of central occlusion and preserve the occlusal height. Protective buccal upper tubercles protect the mucous membrane of the cheek, and lingual, lower tubercles protect the tongue from getting between the teeth. Slopes of tubercles are polished, which interfere with dynamic occlusion, unfinished parts of teeth, deepen fissures, smooth sharp edges.

In central occlusion, teeth are not removed from contact. To avoid excessive by grinding the teeth, it is advisable to be ground first teeth mo Delhi, make soshlifovok plan in the mouth, to solve the question of whether it is possible to eliminate superkontakty Meto home by grinding or other methods needed occlusal correction.

Reconstruction occlusal zu CWA recommended in the following sequence faculty.

A wax plate or occlusal paper is placed on the dentition of the upper or lower jaw, the patient closes the dentition, and wax marks are marked on the teeth with wax using a pencil . Then the wax is removed and the marked area is ground. In the manufacture of the central okklyuziogrammy with respect expedient wax overlay plate on the upper jaw dentition in the posterior region. The doctor places the thumb of the right hand on the lower front teeth and with light pressure on the lower jaw shifts it distally (passive displacement). Active displacement of the lower jaw into the central relation is carried out by the patient without the help of a doctor. The horizontal position of the patient relaxes chew -inflammatory muscle and contributes correctly installed NIJ mandible in centric relation.

Normally, the occlusiogram should have uniform translucent areas of wax throughout the entire occlusal surface of the teeth.

When Sanding on the working side (one hundred Rhone mandibular displacement) must be reached chickpeas group contact at least the buccal cusps of the upper and lower premolars or molars, the front occlusion - the maximum possible number of front teeth (incisors and canines), a central okklyuzii- multiple fissure -bugorkovy contact the teeth on both sides, in the central relationship - dvusto sided touch stingrays cusps (2-3 pairs).

By sliding movements of the central approx fairleads relation to the central (back contact position) must be setback those rays hillocks, which hinder uniform sagittal ne remescheniyam mandible.

Sanding teeth in the mouth at the side approx fairleads and orthognathic occlusion conducted by the method Dzhenkelsona: on the working side ground off I and II classes occlusal surface (the outer rays of the buccal cusps of the lower posterior teeth and internal ramps buccal cusps of the upper posterior teeth, to the outside nye rays palatal cusps of the upper side teeth and internal slopes of the lingual tubercles of the lower posterior teeth), and on the balancing side they grind

- II class of the occlusal surface (internal slopes of the buccal tubercles of the lower posterior teeth and internal slopes of the palatine tubercles of the upper posterior teeth).

Usually by grinding incisors and canines in ne Independent user occlusion: ground off the cutting edges and not bnuyu surface of the upper teeth, cutting edge and weight tibulyarnuyu surface of the lower teeth, while maintaining contacts in centric occlusion. The inner ramps face the central fissure.

Then check the occlusal contact the lateral O teeth at the front of the mandible motions, const lifovyvaya superkontakty hillocks on the front tires of the lower posterior teeth and distal ramps cusps of the upper posterior teeth.

When moving back the lower jaw identified are premature contacts at their distal slopes cusps of the lower posterior teeth and front ramps cusps of the upper posterior teeth.

Selective grinding of teeth is carried out within 3-4 visits in a week. After each procedure fluoride on teeth treated triem, ftorlakom.

Patients with malocclusion observed atypical contacts in the central, front and side occlusions, so portions of the occlusal surface of the teeth to be Sanding determine yn dividual for each patient.

In case of periodontitis, which developed against the background of a deep bite, shortening of the anterior teeth group , the aim is to remove the blocking areas of the teeth during sagittal shift of the lower jaw and to reduce the separation of the group of posterior teeth during anterior occlusion. Grinding is performed on the cutting edge and on the contacting surfaces of the teeth when the jaw is shifted forward. With periodontitis, grinding is performed to remove the concentration of occlusal contacts on individual teeth, and not to turn them off from occlusion. Grinding is performed under visual control when the lower jaw is shifted anteriorly, to the right and to the left and it is stopped at the first pain. First, the central incisors are shortened, then the lateral and (if necessary) fangs are shortened . After shortening the teeth, they begin to remove the blocking areas. For this first folded in half articulating paper is placed between the teeth and fixing the movable fingers teeth, ask the patient to move the lower jaw forward, then to the right and to the left. The teeth at locations at great- est contact are traces articulation paper. After visual inspection of these areas during jaw movements, they are ground. If the paper leaves a uniform mark on all contacting surfaces, and visual inspection confirms the absence of blocking areas, grinding is stopped. All sanded areas are smoothed with a rubber polisher.

The V . The final stage is the treatment of wound surfaces of the teeth. Firstly, they are polished; secondly, calcium ions are impregnated with electrophoresis in them . Thirdly, they are coated with fluorine varnish or top- coat , protective varnish.

Complications polling otshlifovyva SRI teeth: lower occlusal height orthodontist cal effect tooth movement, hyperesthesia solid teeth tissues, excessive load on the periodontium by grinding after tooth cusps, removing one of the contact teeth and periodontal overloading other teeth. According to this for the correct use of this method approx klyuzionnoy correction is necessary to know the basics of bio mechanics, dental system, analysis of occlusal contacts in the oral cavity, as well as the dia gnostic models, compliance with certain great lift.

I of . A comprehensive method of treatment involves the identification of etiological factors, a clear definition of the pathogenetic mechanism and leading links of the disease. It is necessary to define the causal and pathogenic therapy and for expression Botko specific treatment plan integrated steam Dont.

The basic principle of treatment of parodontitis consists in implementing a complex therapy, including The which chaet local conservative, physiotherapy, surgical and orthopedic treatments as well as pre dusmatrivaet application means the overall impact on the entire body. Local treatment is Ustra nenii exogenous factors in the mouth, wherein the pro usual simultaneously with the application of other methods (therapeutic, physiotherapy, hirurgiches FIR and orthopedic) (LDR 1).

Treatment involves:

a) elimination of local exogenous factors causing constituents and support the inflammatory process (removal of dental plaque, the overhanging edges of fillings, orthopedic correction or replacement Prote call, etc.).;

b) The effect on inflammation (holding local and general inflammatory leche Niya);

c) stimulating the reactivity of op -organisms;

g) desensitizing tera apy;

e) restorative therapy.

Orthopedic methods in complex treatment zabole vany periodontal allow holes malizovat occlusive soot wear, remove the traumatic effects of chewing PRESSURE Niya, to restore the continuity of the dentition, keep the mobility nye teeth during the exacerbation of the disease and improve the quality of medical and surgical treatments.

Orthopedic treatment of periodontal disease svjaza but with different designs of tires. Therapeutic effect of a particular tire axes Nova laws biomechanics (LDR 2).

With tires ud etsya teeth merge into the overall system component under Sun acceptance masticatory pressures integrally. In this way, until attained immobilization teeth redistribution of load on teeth with healthy periodontium or alveolar bone, uniform distribution of the masticatory pressure remains Esja teeth while mouth wound aesthetic defects normalization chewing function and speech.

LDS 2. Laws of biomechanics used in orthopedic dentistry

Characterization of biomechanical principles

1. A tire mounted on the teeth, due to stiffness, limits the freedom of their mobility. Teeth can only move with the tire in one direction.

2. The splinting design, combining all the front and all the lateral teeth into a block , unloads their periodontium when biting off or chewing food

3. The load in the splint unit is perceived primarily by teeth having less pathological mobility: they unload the teeth with a more affected periodontal.

4 The teeth are arranged along an arc, the curvature of which is more pronounced in the anterior part; therefore, the splinting structure located along the arc is more resistant to external forces than a tire located linearly.

5. The order of distribution of the masticatory load depends on the point of application of forces.

6. With a linear arrangement of the tire, tire vibrations are possible when the teeth have I or II degree of mobility

II . Tire classification:

a) by duration - permanent and temporary;

b) by the method of fixation - removable and non-removable;

c) in the method of manufacturing - laboratory and clinical Cesky manufacture;

g) the material - metal, plastic, com pozitnye combined;

d) by the method of manufacturing - cast, pressed, brazed, manufactured by polymerization, the league -temperature;

f) by design - different types of inlays, crowns, Moscow prostheses, clasp and plate prostheses.

III . In order to fulfill the role of a medical device, the tire shall meet the following the requirements Niyama:

- creating a solid block of teeth group og ranichivaya their movement in three directions: vertical, vestibulooralnom, Mediola teralnom (for forward) and mediodistalnom (for posterior teeth)
- be stable and firmly fixed on the teeth;
- has no irritating effect on March nal periodontium ;
- does not interfere with medical and surgeons cal treatment of periodontal tissues;
- does not have to hold your items retention Nia food;
- not to create its occlusal poverhnos Tew blocking points when driving LO her jaw;
- do not disturb speech;
- Do not cause gross violations of the appearance of the patient;
- easily applied and removed from the tooth convent rows;
- evenly redistribute chewing pressure on the supporting teeth and replace the defect in the dentition.

Combining different designs prosthetic teeth with a different state of periodontal Use Vat reserve forces many teeth or even the entire tooth is a power series. Taking into account the availability of

reserve forces, their absence or the development of functional insufficiency is the basis for the choice of design of splinting devices and prostheses.

Type stabilization dentition (bus length) is determined on the basis of study and analysis odontopa rodontogrammy and ortopantomogrammu The patient depending on the localization of the tire distinguished fron experimentally, sagittal, frontal, sagittal, para- sagittal stabilization and stabilization of the arc (VY Kurland, 1956) .

Tires for front teeth:

a) inserter tires are to fight a group of tabs, Ob compounds in a solid structure by disposing yuschuyusya on a specially prepared bed. A bed for the tabs may be located on rezhu boiling, oral and approximal surfaces. Tabs can also be fixed with paprapulpular and root pins

b) beam tires for front teeth represent a block of natural teeth, immobilized GOVERNMENTAL via the beam, located on the Aural hydrochloric tooth surfaces. The positive properties of these structures: a good immobilization of the teeth and sob Luden aesthetic requirements. Negative - IU -mechanical treatment of hard tooth tissue .

c) the ring bus is a system welded rings and covers the teeth facially to the equator, and to oral tooth extends beyond tubercle D cementitious tooth edge remains free;

d) the cap is a system bus spa yannyh caps covering the cutting edge, con stroke tooth surfaces, oral surfaces from reaching the equator.

e) tires made of half-crowns look like a block of half-crowns welded together, provide reliable immobilization. Disadvantages: difficult to manufacture, unaesthetic .

e) the tire, strengthens for root pins approx nyayutsya for splinting mobile depulpiro bathrooms teeth.

Tires provide good they mobilize and comfortable aesthetically. The disadvantages include tooth removal . These include the tire of Mamlok, Bruna, etc.

f) the tire of the total bits for anterior teeth shi used extensively for immobilizing movable teeth. These tires have good splinting properties effectively limit of pathological kuyu tooth mobility. When periodontal diseases full crowns manufactured supragingival prepa rirovaniem avoid contact sdesnoy. To achieve the aesthetic effect of these tires izgo prepare from combined (cermet, metalloplastmassa). Tooth immobilization, in which the tires are located in the anteroposterior direction on the lateral teeth, is called the lateral, or sagittal. The sagittal type of stabilization makes it possible to create a tooth block that is resistant to the forces developing in the vertical , transversal, and medial distal directions.

Tires for posterior teeth:

a) insertion tires for the posterior teeth cover part of the chewing surface and limit their movement from vertical mobility To. imparting greater strength sometimes bus connection with teeth about comes at the expense of the pin in the.

b) beam tire lateral teeth OJEC ensures, most functional LOAD ku. The structural elements cops tires can be included polukoron ki, crown, root pin between which the beam.

c) the cap, polukoronko stems and tire ekvatornymi bits for side zu CWA used for their mobilization movable teeth in diseases periodontal. They have a good enough Shea niruyuschimi properties that are not adjacent to the marginal gingiva and not burden it with distance, but neeffek tive aesthetic otno shenii .

d) tires made of full crowns for the posterior teeth are widely used for the immobilization of mobile teeth.

According to the manufacturing technology they can be stamped bathrooms, alloy, combined. This cons truktsiya tires having good splinting properties may not be effective in aesthetic terms, and, adjacent to the marginal gingiva, it can weigh down its state 'to annoy her injuries Rowan and obstruct the conduct of prophylactic FIR events. Therefore, using full crowns, supragingival preparation is necessary. Full artificial crowns should be used in cases

where the ratio of the extra- and intraelveolar parts of the posterior teeth is not broken. To Hon zheniya aesthetic result, preference should be given to metalloakrilovym and metal-ceramic crowns.

If stabilization is connected to the side wheel dentition separated, then this type of stabilization tion fronto-called sagittal.

In the dental arch with the included defects in the lateral O sagittal sections of its stabilization may be from Silenus transverse. This type of stabilization is called parasagittal. Typically such stabilization is achieved arc prosthesis, t. E. A combination nesem GOVERNMENTAL splinting devices with removable prosthesis. In such a system splinting lateral load originated yuschaya on one side, and is distributed in the anti bying.

Removable bus can be used for splinting Bani any one group of teeth or entire dental series, they can be incorporated into the design of the arc about the thesis as a component part, in which case they are called bus-prosthesis.

a) removable tire in intact dental arches built nye multi-unit type clasps, providing an immobilization teeth dissolved in horizontal PLANE minute. Elements of flip clasps, occlusal plates and claw-shaped processes allow to achieve a good splinting effect .

b) removable tire in intact dental arches, built nye by the type of single collapsible tire for the entire tooth row. Indications for their manufacturing is impossible possibility of blending the above tires in connection with a pronounced inclination of individual teeth .

c) removable splinting arc (clasp) prostheses, used for the partial loss of teeth show us included when large defects (3-4 or more missing teeth), the terminal defects, but stable or inactive in frontal teeth SG department, as well as the absence of a sufficiently strong distal support. Removable splinting arc prostheses allow transverse the stabilizer tion of, and included in the set design prosthesis gozvenevyh clasps allows additional tion support with the oral surface, which allows to create a circular fixation .

When continuity of the dentition can be combined into a single unit, continuous or mnogozve Ippolito Nievo bus. This type of stabilization is called hundred stabilization of arc. The stabilization along the arc mobilizes the reserve forces of the periodontal of all teeth.

Based on the fact that when steam generalized Dont reserve forces periodontal reduced in all zu CWA and the degree of reduction varies stabilize by sensible teeth group is impractical. With focal periodontitis, it is permissible to use one of the stabilization methods .

The bus must be included teeth do not have conductive periodontal reserve forces, and teeth that retain them. Should be guided by the following rule: sum ma coefficients functionally significant group Dhu ERD from the unaffected periodontal included in the tire must be 1.5-2 times the sum of the coefficients of teeth with periodontal disease and be equal to ½ sum we coefficients opposing teeth, taking part in the chewing act.

Bus - a device for the immobilization (complete immobility or significantly reduce the mobility of) Bus, used for a certain period of treatment, at is called temporary.

Temporary tires can be reinforced composite acrylic resin, manufactured labo Rhatore or directly in the mouth.

As temporary tires, the direct arc technique (bracket system) can be used .

The emergence and widespread adoption of composites and dental practice adhesive technology led to the creation of new materials that the Executive form a in periodontics for manufacturing splinting boiling designs, in Vol. H. And time. As a method of selection using Tooth tire without requiring zna considerably preparation of hard tooth tissue, ie. N. adhesive reinforced tires. They are in most cases have a small volume, firmly fixed on the memory boom, aesthetic, easily polished, they provide reliable hydrochloric immobilizing mobile teeth, easy to remove camping and in the presence of a defect in the dentition can carry an artificial tooth .

Known composite splinting method of bonding teeth aramid yarn - "cable systems mA Rehovskomu" with single-row or double-row Kru traction weaving.

The V . Temporary splinting method used in generalized or focal chronic pas rodontite in acute and throughout the period of combined treatment until superimposed Nia constant a strut unit. Temporary splinting allows eliminating the traumatic effect of pathological mobility and chewing function - one of the pathogenetic signs that supports hemodynamic disturbances in periodontitis. The tire ensures a uniform distribution of masticatory forces between the pressure pa rodontom teeth included in the bus, creating rest infected tissues and promotes ef ficiency and pathogenetically grounded Symp topical therapy. The use of temporary bus allows to break pathogenetic chain: inflamed of - impaired blood supply - dystrophy - the function of mastication; improves trophic tissue periodontal elimination of inflammatory pro cession. Furthermore, without prior immobilization teeth tion is not recommended surgical periodontal treatment.

Temporary tire must correspond to the Vat the following requirements:

- securely fix all teeth;
- easily applied and removed from the tooth convent rows;
- evenly redistribute chewing pressure on the abutment teeth and replace the defect in the dentition;
- does not interfere with medical therapy and hi rurgicheskomu treatment;
- do not injure the mucous membrane of the gums;
- be easy to manufacture and affordable .

The easiest way of temporary shini tion is the use of igaturnyh tires. In addition , the bus timing may be made of bys- trotverdeyuschih acrylic resins in the laboratory or directly in the mouth, and also from the components zitov or light-curing composite material (oral, vestibular, multi-unit).

Temporary tires can be metal: bent, cast, stamped mouth guards with occlusal windows. It is possible to apply multi-unit bus fic siruyuschuyusya on teeth by using cyanoacrylate glue or various adhesive systems.

Control s nye questions:

1. Anatomy, etiology, pathogenesis, clinic of periodontal tissue diseases.
2 . Appointment selective prishlifovyvanie zu CWA.
3 . How is selective grinding planned?
4 . Describe the procedures for selective grinding of teeth.
5 . What is the final dentition after selective grinding?
6 . Comprehensive treatment of periodontitis.
7 . Tire classification.
8 . Tire requirements.
9 . Types of stabilization of the dentition.
10 . Temporary splinting method as the therapeutic stage, aiming at the creation of resistance of the teeth and tooth GOVERNMENTAL series as a whole.

Practical lesson-4

Subject: Clinic for generalized periodontitis. Methods of examination (x-ray, periodontogram).

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	10. Preparing the audience. 11. Analysis of student preparation for class 12. Attendance check	Listen
Introduction to the topic (10 minutes)	10. Preparation of the educational complex on this topic. 11. Preparing slides for the lesson. 12. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	16. Divide the group and ask questions. 17. Use visual aid 18. Use slides, multimedia 19. Summing up the topic 20. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Orthopedic treatment for periodontal diseases is carried out with the aim of preventing, eliminating, or weakening the functional overload of periodontal disease, which at one stage of the disease is one of the main pathological factors determining the course of the disease. Tro nenie or decrease in functional overload puts n and rodont in the new conditions under which the x inflammation and degeneration devel vayutsya slower. Thanks to this, therapeutic measures become more effective. To reduce the functional overload of the teeth and to facilitate the affected periodontal function, it is necessary:

1) to restore the lost unity to the dental system and turn teeth from separately acting elements into an indissoluble whole;

2) take measures to the correct distribution of chewing pressure on the remaining teeth and unload the teeth with the most affected periodontal teeth due to the teeth, in which it is better preserved;

3) Fuse thread teeth from traumatic dei with tviya horizontal overload;

4) with partial tooth loss, in addition, it is necessary to evenly distribute the functional load between the remaining teeth and the mucous membrane of the prosthetic bed.

Treatment is carried out in a complex with the use of boiling and local therapeutic measures. Local medi nye activities are therapeutic, physical therapy matic, surgical and orthopedic in nature.

II . Orthopedic treatment should begin simultaneously with therapeutic, but after will be carried out the necessary remedial procedures (tooth removal of sediments removal of decayed teeth and core it, not to be restored, the removal of PLAY - inflammatory layers). Further activities performed by normalizing occlusion by grinding premature contacts cutting surfaces and bumps teeth, orthodontic activities shi nirovanie and prosthetics defects dentition. Alginate mass removed the prints from the top of it and lower jaws for diagnostic models. Based on the received impressions, models from plaster are cast. Next, central occlusion is determined.

After that you need to fix the diagnos cal models in the articulator using the facial arc. To this end, the front arc is established by Fran kfurtskoy horizontally and strengthened in the face of the nose pads and ear tabs. Available on the arc op bitalnaya arrow is supplied to the lower edge of the orbit. In the bite fork is laminated silicone composition, which press down to the upper dentition chelyus minute before immersion posterior cusps and 1/4 the length of the coronal portion of the front teeth. The bite plug connects to the facial arch. The entire arc is removed from the patient's face with a bite fork, installed in the articulator and fixed. The physician then adjusts arti kulyator, t. E. Determines the magnitude of the sagittal joint GOVERNMENTAL superkontakty angles and on the diagnostic models of jaws via articulating paper.

III . Next, a treatment plan is determined. If the patient is an initial stage of periodontitis and identified before belt contacts the correctly carried out constituencies rather n th prishlifovyvanie teeth can before tvratit distal neck of disease progression. Selective grinding improves the clinical picture of the disease, because the movements of the lower jaw become smoother.

If periodontitis has already developed from tadia , where tooth mobility of the II – III degree, defects of the dentition , and deep gingival pockets are observed , only selective grinding will be ineffective. It must be combined with splinting.

IV . By connecting several splinting understand x teeth or entire dental unit number in any ortho pedicheskim apparatus - bus. SLE tires can live full welded together, ekvatornye crown polukoronki, rings, caps and splinting BULLETIN a gel medical devices with different combinations tions about porn

retaining clasps. With the help of a tire, it is possible to combine teeth into a common system, which acts as a single unit when perceiving chewing pressure .

Functional tooth overload during periodontal disease, as already noted, does not occur immediately, but gradually. Therefore , it is important to determine the time of its appearance according to certain clinical signs . That Kim symptoms are etsya abnormal mobility of teeth, indicating with decompensated standing periodontitis. Splinting can also be carried out in the late stages of the disease, but the best therapeutic effect is achieved at the first signs of functional overload.

Orthopedic treatment is one of the most effective therapeutic methods that change the course of the disease and allows you to save your teeth for a long time. Reduction of functional overload beneficial effect on trophic periodontal simultaneously improving chew set, suppuration and reduced inflammatory phenomena Niya in the gums, modified patient health.

I of . Generalized periodontitis - is destructive n on-inflammatory disease, affecting both the jaw and is characterized by an inflammatory about the processes in the periodontium and destructive processes in the bone tissue of the alveoli -polar process and body of the mandible. The disease is mainly endogenous in nature. The leading role in the development of periodontitis is assigned to the neurovascular disorders in the maxillofacial region. A role in the origin of steam dontita play immunological changes in organisms IU. Are essential and local facto ry contributing aggravation of the disease.

Consequently, two factors dominate the issue of etiology of periodontal diseases : general and local.

The common etiological factors we can but include:

- hormonal disorders and diseases (diabetes mellitus, Trisomy C syndrome, Papillon-Lefebvre syndrome , pituitary- adrenal system disorders);

- violation of metabolic processes, accompanied Vozhdayev generalized lesion of the vascular network of the whole body, leading to microvascular complications in periodontal (hypertension Cesky disease, atherosclerosis, infectious disease);
- Nervous system diseases (epilepsy, Pa . Rafunktsii etc.), blood diseases, genetics Ceska predisposition and hereditary diseases, allergic diseases, expression conjugated common degenerative processes, sni zhayuschie immunity and lead to a change in the body's defenses.

The local factors are: poor gi gienichesky oral care, tobacco smoking, occupational hazard. These also include the pathogenic flora of the mouth, education of bacterial toxins (carious teeth, roots, adenoid et al.), Various kinds naru sheniya articulatory equilibrium, poor manufacturing dentures anomaly position and shape of the teeth bite pathology. Therefore, we can talk about the genesis of polietiologichesky zabole vany periodontal teeth.

The development of periodontal diseases is based on vascular changes in the form of disturbances in the periodontal microvasculature . Using modern methods

of investigation (rheography, and radioisotope techniques al.) Shows that the initiating factor in the pathogen se are microcirculatory disturbances leading initially to functional and then to organic changes in the vascular wall in periodontal tissues. This leads initially to tissue hypoxia, and then to a considerable tion dystrophic disorders. Furthermore, it proved distorted or increased immunologists Ceska reactivity with periodontitis, which indicates a role for this factor in the pathogenesis Zabolev Nij periodontal. Therefore, when drawing up a treatment plan, the main attention should be paid to these disturbed mechanisms. Only under this condition, medical IU events gathered will be of pathogenetic character

The main symptoms are inherent in E generalized periodontitis, are hereby ptomatichesky gingivitis, supra- and subgingival dental stone, bleeding gums, tooth mobility, parodontelnye pockets selection serous Yid bone or suppuration, progressive resorption of alveolar bone formation traumatic occlusion. The severity of these signs depends on the severity of the process.

By generalizing Wann periodontitis light ste fines depth of periodontal pockets can attains causeway 3.5 mm, the average severity of periodontitis - 5 mm. Clinical signs of inflammation and destruction of periodontal tissues are exacerbated. Teeth become mobile (I , II degree) laid bare and their neck, partially, the roots, the height of the alveolar bone of the upper jaw (ALVE olyarnoy portion of the mandible) uniformly reduces Xia to 1 / 3-1 / 2 root length. With a severe degree of periodontitis, all symptoms increase, abscesses form, the depth of periodontal pockets can be more than 6-8 mm, tooth mobility - II - III degree. Decrease in the skeletal tissue of the alveolar process reaches 3/4 of the length of the tooth root and more.

II . The main radiologic signs of general and Call periodontitis include varying degrees of degradation cortical resorption mezhalve olyarnyh partitions, osteoporosis cancellous alveolar bone, periodontal expansion slot. These manifestations of the pathological process with a different course of the disease are not the same.

Radiographically chronic periodontal those **mild** noted resorption mezhalveo polar partitions to 1/4 tooth root length, lack of a compact disc on top of the alveoli and lay guides of the side sections.

In case of periodontitis of moderate **severity, the** resorption of the alveolar bone up to 1/2 of the root length is clearly expressed on the X- ray diffraction pattern ; the resorption proceeds along the vertical , horizontal and mixed types of atrophy; there is an increase in the looping of the trabecular bone.

In severe periodontitis **degree** at x-ray diffraction patterns determined resorption alveoli to $^{3}/_{4}$ length us root or more.

It should be noted that the panoramic ra- raphy and orthopantomography allow to make review of the level of destructive processes. With on power intraoral

radiography it is possible to obtain more accurate data on the structure of bone and more detail to determine the processes occurring in it.

III . When choosing the design of the tires should be based on the functional value of each tooth and the functional -functional relationships of dentition upper and lower her jaws.

Topography and size of the defect dentition along with the state of the teeth of periodontal bordering de relationship involved, and all remaining teeth define character stabilization and view of the prosthesis of the tire.

The basis of treatment of orthopedic diseases pas rodonta is the use of backup forces periodontal alignment functional force the interrelation Nij and their redistribution between groups of teeth and dental arches as a whole. This requires meticulous ny analysis odontoparodontogrammy patient.

Orthopedic treatment in diseases parodon that can be carried out while maintaining all of the teeth in the dental arches. In these cases, they talk about splinting, immobilization of all teeth with fixed or removable medical devices.

If periodontal disease accompanied by de defects dentition, the task of the orthopedic treatment further includes the necessary restore missing teeth. For these purposes, use structures that are called splint prostheses.

Q Otomi any prosthetic better to choose l echeniya periodontal diseases {Sh nye bus or nonremovable) can only be solved as follows: immobilisation of the kind shown that with all the individual features of the disease will allow to suspend distal neck of development of the pathological process.

The manufacture of splinting structures for permanent splinting requires a thorough analysis and study of the dentition in every patient with periodontitis.

When planning the design of a splinting prosthesis, it is necessary:

- distribute the masticatory load , taking into account the condition of the supporting apparatus of each tooth;
- select a reference, splinting and fixing conductive members, and methods of compound (zhes rant labile, polulabilnoe) ;
- take into account the esthetic requirements of the patient.

Handling transmission masticatory pressure intermediate portion prosthetic tires can by increasing N lichenie number of reference teeth aligning angles of the coronal portion of the abutment teeth, reducing the width uc artificially teeth, changing design features clasps prosthesis and increasing basis. Leveling functionality between the dental arches of upper and lower jaws may be achieved ny the informed use of removable and fixed tire dentures .

Please observe the following condition: no removable tire should not overload antagoniruyuschie teeth.

IV . Orthopedic treatment of generalized periodontitis with preserved dentition varies depending on the severity of the disease.

Mild when about degenerative process of captures less than 1/4 the length of the hole wall prois goes slight reduction in reserve forces tooth row. Splinting in this state of the dentition is not shown. Local and general

recommended to signal- ing treatment, as well as selective prishlifo in yvanie teeth (indication).

With atrophy more than 1/4 of the length of the wall of the tooth socket , the reserve forces of the periodontium decrease, the pathological mobility of the teeth increases . In this case, the following tasks are before orthopedic treatment:

1) to achieve the redistribution of chewing pressure attributable to individual teeth on the entire dentition ;

2) combine all the teeth of each jaw into a block;

3) eliminate pathological mobility;

4) prevent tooth displacement.

Used tires must provide IMMO stabilization of the arc, combined with parasagittal hundred stabilization.

In the treatment of periodontitis that moderate and severe used tselnoli Tide removable tires consisting of Unified various modifications musculoskeletal and retaining the set gozvenevyh clasps vestibular processes. In designing such a tire should be purposefully used clasps system modification N ey with tse l Strongly reducing action on periodontal each tooth traumatic components chewing pressure. Orthopedic treatment should eliminate the effect on teeth is not only horizontal but also vertical com nents chewing pressure. For this constructive tion removable tire must include alloy elements you overlap the occlusal surface of the teeth (e.g., tire Elbrehta). It is possible to use a combination bus - fixed and removable.

Atrophy more than *1/2* of the tooth length of the hole wall best effect is obtained by using non-removable tire with cetanah with demountable, which provide parasagit Talnoe stabilization and redistribution vertical Nogo component masticatory pressure. By non-removable buses include: ekvatornye, cap tire yn terdentalnaya Kopeykina tire, the tire Mamlok (integrally cast tabs with the pins) Solid crown of litsovannye composite materials. Attachments, Roach clasps, etc. are the elements of the connection between the anterior and posterior teeth. When treating periodontitis, "Maryland- systems" type tires and its variants are used (VN Kopeikin, 1988; N Popov, 1984). This non-removable tire (fixed on the teeth of a power composites) representing from bout oral extended multi-unit clasp with occlusive pads system changeover elements comrade and vestibular sprouting

The V . When generalized periodontitis complicated by the partial tooth loss, orthopedic treatment is difficult due to the reduction or complete otsuts tviem reserve forces of the teeth and periodontal violation power relationship between the dental arches. Wherein the tire used prostheses have SBA lansirovat chewing pressure distribution between the individual teeth or groups of functionally oriented on each of the jaws and uniformly redistribute PRESSURE chewing of denture basis to the remaining teeth.

Objectives of orthopedic treatment:

a) The unification into a single unit all the teeth each chelyus minute;

b) a uniform distribution of all components chew pressures on periodontium remaining teeth;
c) the elimination of the additional load on periodontal zu CWA bordering the defect;
d) restoration of chewing function in all functional Nal but focused group of teeth .

Patients with periodontal disease and disrupt Niemi continuity dentition should be divided into two groups. The first is the patients included, the second - with a one- or two-sided terminal de Fecteau.

When a defect location in the front of the case dentition prosthesis can performs camping via bridges fixed on crowns.

When a large defect in the anterior left lateral teeth splinting nonremovable bus E and replace defect removable prosthesis.

For small and medium including The bilateral and single chennyh side defects splinting carried bridges, crowns fixed to the given functionality of the abutment teeth. The edges of the crowns must not extend below the gum, leaving open the gingival pocket for medical and hi rurgicheskoy therapy

For large defects and included considerable Mr defeat pas rodonta use of single teeth for locking clasps of clasp dentures are not admissible, ie. A. Will further strengthen their overload.

At high mobility of teeth constr tion partial denture should include the complement tional elements in the form of continuous multi-hop evyh clasps, changeover clasps (Jackson), binary (on Bonwill) unguiculate processes, amor tizatorov chewing pressure. Appointment amor tizatora - reduce or completely remove the vertical nye, horizontal and tilting components chewing pressure transmitted to the saddle of the prosthesis on the abutment teeth. The longer with springs branching and higher elastic modulus of the alloy, the considerable Tel'nykh value of damping torque. Amortization congestion load spring may be an offshoot of the shoulder clasp to frame basis. A peculiar RESS swarm or shock load may be an arc of a strut of the prosthesis.

Apply sochetannye kinds of tires - non-removable dentures, fixed on a group of front teeth and pre molars and clasp prosthesis replacement group mo lyarov. Non-removable and removable parts can be connected using various tubeless fixing systems (attachments, telescopes, etc.).

Control s nye questions:

1 . Imprinting and study of diagnostic models in a mid-anatomical articulator.
2 . Detection and comparison with superkontaktov Func s E okklyuziogrammy. Methods of election with about shlifovyvaniya models.
3. Formulation of the diagnosis. Planning an integrated treatment for periodontitis.
4. The basics of the choice of designs of medical devices.
5. Generalized periodontitis. Etiology. Pathogenesis.
6. X-ray analysis of amm with generalized periodontitis.
7. Justification for the selection of design features of tires and dentures.

8. Orthopedic treatment of generalized periodontitis with intact dentition. Types of medical devices.
9. Orthopedic le chenie generalized claim arodo n titanium at partial absence of teeth . Types of medical devices.

Practice Lesson 5

Subject: Types of devices used for orthopedic treatment of generalized periodontitis and periodontal disease. Oral hygiene during treatment with dentures.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	13. Preparing the audience. 14. Analysis of student preparation for class 15. Attendance check	Listen
Introduction to the topic (10 minutes)	13. Preparation of the educational complex on this topic. 14. Preparing slides for the lesson. 15. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	21. Divide the group and ask questions. 22. Use visual aid 23. Use slides, multimedia 24. Summing up the topic 25. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . In the preparation of oral prosthetics removable and fixed prostheses often Com ditsya resort to removal of the teeth with abnormal mobility. In addressing this issue req Dimo, first, to bear in mind the function of prices Nosta series, and secondly - the possibility of using it in orthopedic treatment. Determination sic tional value of a tooth requires first of all you are computing the degree of pathological mobility and depth of periodontal lesions, ie. E. The degree of atrophy of bone tissue of alveolar process. Degree pas ontological tooth mobility is closely connected with you expressions inflammatory process, the quantity of bone resorption of the alveolar bone. But in some patients, for example, with dystrophic forms of periodontal disease (periodontal disease), such a relationship is not traced.

In pathological mobility III degree and bone resorption of the alveolar process more ¾ d liny tooth roots when the opportunities of compensatory minute periodontal completely exhausted, the teeth subject ud leniyu. Furthermore, the teeth on II - III degree of mobility, having periapical lesions chronic sore Nia also be deleted.

Operation teeth removal *in* person accompanied given considerable anatomic and functional GOVERNMENTAL changes . Excessive stress on the remaining teeth, violations of the act of chewing, speech, and aesthetic defects that arise in the postoperative period have a negative effect on periodontal tissues and on the psychophysical state of the patient himself. Uda Lenie even one or several front teeth sharp breaks pronunciation sounds difficult about occupational activities, accompanied psychol cal injury.

II . One of the most effective methods of eliminating defects arising as a result of tooth extraction is direct prosthetics. This method consists in the fact that prostheses are prepared prior to surgery and then neposreds Twain after tooth extraction, pripasovyvayutsya on the jaw. Such prostheses are called implant prostheses.

Scientific studies have shown that the processes of bone tissue regeneration and healing of the socket under a direct plate prosthesis proceed much faster.

Application immediate dentures allows to keep the height of the bottom of the face, which can be changed in the removal of teeth, holding the constituents in the occlusal Height of evenly distribute the load on the prosthetic teeth and preserved bed.

Along with direct prosthetics, prostheses can be made after surgery , before complete healing of the tooth socket — early prosthetics (5-7 days after tooth extraction).

The first method (direct prosthetic vanie) applies in those cases to the GDSs under the condition of teeth mobilities allows you to cast without fear

of tooth removed at the time of impression taking. The second method (wound her prosthesis) is used in an abscessed n Processes, the need to remove significant lichestva movable teeth, when there are hampered Nia in obtaining cast and can not establish the magnitude of the possible changes in the shape of the alveolar process after surgery.

I of I of I of . Stages of manufacturing a direct prosthesis:

1) the choice of prosthesis design;

2) obtaining casts and models;

3) determination of central occlusion or central correlation of people , fixing models in the articulator using the front arc;

4) preparation of models;

5) laboratory stages of the manufacture of the prosthesis;

6) fitting and application of the prosthesis in the oral cavity after tooth extraction.

IV . In preparing the model of the alveolar ridge to re mended alveolar ridge impart a smooth oval shape in the anterior and tra petsievidnuyu - in posterior teeth.

With periodontitis, the layer of plaster removed does not exceed 1.0-1.5 mm. On the upper jaw in fron Talnoye department plaster removed only from the vestibular side. On the lower jaw in the frontal section, gypsum is removed evenly along the crest of the alveolar process.

In the area of chewing teeth, a layer of gypsum is removed from the model along the edges of the holes, slightly rounding the edges.

The V . After the preparation of the model, the laboratory stages of manufacturing the immed ath prosthesis are performed . Before superimposed Niemi prosthesis 1 is kept for 5-20 min in a 3% solution of hydrogen peroxide; sections of the basis adjacent to the wound surface are treated with 5 % alcohol solution of iodine.

The next day, the patient must attend the reception to the doctor to correct a prosthesis.

After the introduction of the prosthesis into the oral cavity, the patient is recommended:

1) rinse your mouth after eating and rinse the prosthesis overnight;

2) do not remove the prosthesis at night for the first 10-12 days after tooth extraction;

3) try to chew food, first take soft kuyu food in small portions, and then a solid alloy blow and large portions;

4) to quickly read speech read aloud.

Only a month after the tooth extraction tre buet refinement basis self-hardening plastmas soi.

I of . Complex tires and prosthetic tires are carefully inspected before being inserted into the oral cavity. When viewed on notice how the quality of the

processing, the correct NOSTA manufacturing clasps, arcs, splinting devices and plastic bases.

Clasps and splinting devices must be well processed and sanded, and their end parts rounded. After inspection, the prosthesis tire introduced into the oral cavity and gently, without any special effort on Maiden on teeth.

Clasps holding the shoulders, is the dependence ing on their amount, must be free Slippage Vat clinical equator and occlusion yuzionnye pads, loose-leaf elements, claw and other prispo in autonomous located in their beds. At the same time they do not need to create superkontakty and block the motion of the lower jaw.

After this it is necessary to teach the patient & Input dit in the oral cavity and on the teeth wear splinting le chebnye apparatus. Such training eliminates damage to the deformation of the prosthetic tire parts

In order to avoid the formation of caries teeth in place fit-supporting retaining Clam mers and splinting of medical devices requires good oral hygiene Hg and prosthesis.

The addiction to clasp dentures is slower than to fixed structures.

II . When the complex treatment of periodontitis prognosis mo Jette be beneficial only if the wasp fected dispensary observation of patients, and the patient strictly obey the instructions of the doctor of indie vidual prevention and personal hygiene of oral cavity.

Poor or insufficient oral care in the presence of orthopedic devices promotes further accumulation of food residues multiplied NIJ microflora deposition hum and tartar. When this plaque and then calculus Off dyval not only on the teeth, but also in tires and tire-pro tezah. All this creates conditions for the worsening already IME yuschihsya inflammation in periodontal tissues. The methods of complex treatment used in this case do not give the desired result. In this regard, the attending physician to warn about the need of the patient more thorough oral hygiene, t. K. The presence of various medical splinting structures due difficult leached portions under dentures samoochi schenie oral significantly reduced.

III . Of great importance is the quality of the medical treatment of the device - polishing metal and plastic O elements of a strut of the prosthesis. When nekachest - governmental polishing microflora colonization rate on prostheses increases in several times, which can lead to complications of the pathological process in periodontal tissues.

In the presence of minor, between the three teeth is recommended for ground off approximal surfaces of teeth, creating the parallelism between them, which makes free washout food residues. Mechanical cleaning natural teeth remaining in the oral cavity, and fixed dentures produce tires with claim omoschyu brush and paste. Toothpastes foams well, dissolving mucus and soft to l is to natural teeth and fixed tire-prostheses. Cleaning of natural and artificial teeth should be regular and carried out 2 times a day - in the morning

and in the evening . The patient optionally go necessarily assure rinsing of the oral cavity after each meal.

During cleaning and tires and dentures should be be careful that prevents possible deformation tion splinting devices. The most dangerous in this respect are solid tires, which by rough handling can not only deformation ized, but also to break down.

When the complex treatment of periodontitis in pain GOVERNMENTAL with concomitant somatic pathology dentist close cooperation with the general practitioner. Only with this approach to le cheniyu periodontitis possible prognosis.

Control s nye questions:

1 . Indications for multiple tooth extraction.
2 . Indications for direct prosthetics and splinting.
3 . " Cl inicheskie technical and manufacturing steps are not mediocre tires dentures.
4. Preparation of the model with direct prosthesis Rovani anterior and posterior groups.
5 . Treatment of a denture prosthesis before application to the oral cavity.
6. Features of the introduction of prostheses- tires into the oral cavity and their fixation on the teeth.
7. Care for fixed and removable tires and splint prostheses in a comprehensive treatment.
8. Complications and errors in the splinting of teeth, n alo voltage complex tires and dentures.

Practical lesson-6

Subject: Etiology, pathogenesis and diagnosis of pathological abrasion. Classification of clinical manifestations of pathological abrasion. Significance examination of TMJ with pathological abrasion.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to	1. Preparation of the educational	Listen and record

the topic (10 minutes)	complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Human teeth are the body that performs primary mechanical processing of food. The function of the teeth determined the morphological features of their tissues. The crown part of the teeth consists of enamel, the most durable tissue against mechanical stress. Withstanding high pressure during chewing, the enamel at the same time has considerable fragility, and does not withstand sudden loads in the form of an impact. The latter leads to splitting off the enamel and expose de quarantine. The thickness of the enamel layer is not constant: at necks tooth ki at the equator - 1.0 -1.5 mm; in the area of the bottom of the fissure - 0.1 - 1.5 mm; on the cutting edge of non-erased teeth - 1.7 mm; on the tubercles - 3.5 mm.

Specific heat of enamel is 0.23 tep conductivities low (Rmn is 10,5-10). Exterior Enamel coated with a very dense and resistant to acids and alkalis film thickness of 3-10 microns (kuchi Kuloi) which is connected at the neck of the tooth to gingiva mucous membrane epithelium, both as to its continuation Niemi. Shortly after the eruption of teeth enamel captured ka erased, and in the first place on the contacting surfaces. The structural element of enamel is an enamel prism. It is formed in the process of tooth development from adamant regions - cells of the internal epithelium of the enamel organ.

With age, the macro- and microstructure of the teeth changes. Physiological abrasion subjected chew Tel'nykh bumps, the cutting edge and the contact surface of the teeth - as a temporary (milk) and permanent. Erasure exposed contact points, converting Yas later in the contact areas. Erasing causes the displacement of the contact surfaces zu CWA while maintaining contact between that before tvraschaet ingress of food and into the interdental space between the teeth of tissue injury. Physiological functional erasing teeth is adapted tion reaction, ie. K. A free and promotes smooth sliding of dentition, thereby eliminating the overload of individual teeth groups. A layer of hard tissues of teeth lost as a result of Wash Nia, increases with age.

Thus, under physiological STI raniem teeth understand compensated slowly flowing attrition process ema left cover teeth without passing to the dentin layer. Age-related changes gradually STI Rania teeth were scored.

■ No erasure (0 points) - up to 16 years;

■ Smoothness of tubercles (1 point) - 16-20 years;

■ The appearance of dentin on the tubercles and the cutting edge (2 points) -20-30 years;

■ Erasing the chewing surface, in which the enamel is stored within the furrows (3 points) -30-50 years;

■ Complete erasure of enamel (4 points) - 50-60 years;

■ Lack of a half crown (5 points) - 60-70 years;

■ Erasing the crown to the neck of the tooth (6 ball catch) - over 70 years.

When age characteristic degree erasure teeth also take into account individual typological feature chewing and erasing at high function rata-dominant side chewing. Tooth erosion is caused by many reasons, and its severity varies widely.

However, it should be remembered that as a result of the increased load of the teeth is not always a povy -progress erasing hard tissues. Often this leads to pathological destructive changes in the tissues of periodontal and pulp. As a result, these teeth become pathological changes mobility and hard tissues (enamel and dentin) not only subjected povy shennomu abrasion, but also cessation of physiologists Cesky erasure. This phenomenon is called delayed abrasion.

Elevated erasing teeth the Features rizuetsya not only rapid progressive diminution of enamel to enamel-dentin transition boundary. It mo Jette be due to a violation of the histogenesis of hard tissue (enamel and dentin), which is expressed in a non- fledged their calcification. As a result of violation of calcification process unbalanced structure formed of hard tooth tissue, not capable sensed mother significant largest occlusal load and prone to intense abrasion increased.

Increased dental erasing process is the progressive loss of hard tissue of teeth with transition enamel-dentin border, which is accompanied by a change in the complex aesthetic function rational and morphological nature in dental and periodontal tissues, chewing muscles and temporomandibular joints. Teeth are erased by various local and general factors. A significant impact on the development of high-Wash Nia teeth have endogenous and exogenous Ethyol - meteorological factors. It should be noted metabolic disorders substances and histogenesis particular bite depth incisal overlap, the loss of lateral teeth, originated novena traumatic nodes due to concentration as masticatory pressures, irrational prosthesis, functional disorders of the central nervous system (parafunction), the presence of dentoalveolar Anomen ly, impact occupational harmfulness.

According to the International classification tion of dental diseases 1995 from Georgia (ICD-C) increased erasing teeth indicated KOZ.O code, and is divided into:

KOZ.00 - occlusal;

KOZ.01 - approximate;

KOZ.08 - another specified;

KOZ.09 - toothbrushing not specified

Increased tooth erasing K 03.0

1 Etiology 1.1. Deficiency (functional failure) of hard tissues of teeth

A. Endogenous factors of increased tooth erasure.

I of . Congenital:

■ dentinogenesis imperfecta amelo- and (Marble Nye disease Kapdepona syndrome).

II . Acquired:

■ Violation of the function of the endocrine glands: gipofi of the thyroid, parathyroid, adrenal glands, gonads.

B. Exogenous factors of increased erasure:

■ Chemical exposure.
■ Physical impact.
■ Alimentary deficiency.

1.2. Functional tooth overload

■ Lack of posterior teeth.
■ Type of occlusion, dentition.
■ various functional tooth wear Prote call, fillings or natural teeth.

1.3. Combining functional overload untill sufficiently hard dental tissue

1.4. Excessive abrasive action on solid alloy Dyje dental tissue

■ Bad habits.
■ Excessive abrasive action of food.
Excessive abrasive action of hygiene products.

2. Pathogenesis

In the event of high erasure teeth of changing anatomical shape of the tooth and formed patho logical vicious circle: changing anatomical shape leads to the need for greater zhevatel pressure (for biting or chewing), which leads to overload and blur the solid TCA her teeth, which in its in turn, starts pathogenesis in a new circle.

3. Clinic 3.1. Classifications

A. The prevalence of the process:
1. Localized PSZ;

2.Generalized PSZ (there is not a single pair of antagonists without increased abrasion of hard tissues of teeth).
B. By the location of the erase facet:
1. The horizontal form of PSZ (shortening of the crown);
2. The vertical form of the PSZ (thinning of the crown);
3. C mixed form PSZ (B1 + B2);
C. by the degree of erasure:
I of . degree (initial stage) - attrition to dentin;
II. Degree (developed stage) - up to 1/2 the height of the crown;
III. Degree (final stage) - more than 1/2 the height of the crown to the level of the gums.
D . According to the principle of preservation of VNOL:
1 Compensated form COR (without reducing the height of the bottom of the face due to compensatory ALVE olyarnogo elongation);
2 Decompensated form COR (with reduced you lower portion of the cell faces due to the fact that the rate of loss of dental hard tissue exceeds the rate of com pensatornogo dentoalveolar extension).

3.2. Complaints

and - a violation of the aesthetics of a smile because of the erased memory crowns CWA;
b - violation of the function of chewing;
c - tooth hypersensitivity;
g - violation of phonetics;
d - muscle pain and TMJ;
e - change in appearance (senile facial expression);

g - soft tissue injury with sharp edges of the teeth.

3.3. Visual inspection

A. In decompensated generalized form PAE observed all facial features, you reduce the cell bottom of the face:
- retraction of the upper lip;
- excess soft tissues of the face;
- pronounced chin fold;
- omitted corners of the mouth;
- possible angular cheilitis (seizures);
- displacement of the chin forward and upward with tightly closed dentition.

B. With the compensated generalized form of PSZ, the appearance remains unchanged.

B. With a decompensated localized form of PSH due to the absence of lateral teeth, the appearance as in case A.

3.4. Oral examination

- Changes in the anatomical shape of crowns once personal level depending on the form and extent of dental erasure.
- Dento-alveolar increase in generalized hydrochloric COR compensated form.
- Warping line (level) at the necks of teeth locale Call COR compensated form.
- Violation of the occlusal plane with the uneven dimensional Shipyard.

3.5. Diagnostics

Clinical methods:

1.Survey:

- a detailed study of the history of life (the presence of the COR in the family, diet, occupation) and slaughtering timetotal (endocrine, nervous) patient.

2. Inspection:
- visual inspection;
- examination of the oral cavity.

3. The study of diagnostic models.

4. Determination of VNOL using wax bases with occlusal rollers.

Paraclinical methods:

1. AOCCO.

2. Radiography of all teeth (table. 4).

3. Tomography TMJ during dental serried ranks and with standing physiological dormancy.

4. MRI of the TMJ for joint pathology.

4. Treatment of PSH

The goal of orthopedic treatment of PSH

Preparatory stage:

1. Restoring the height of the lower face;

2. Normalization of the position of the lower jaw;

3. Elimination of dentoalveolar elongation and Restore tained interalveolar height.

Permanent prosthetics:

1. Therestoration of the anatomical shape and size of the teeth;

2. Restoring the relief of the occlusal surface of the dentition.

4.1. Remediation plan:

professional oral hygiene and personal hygiene training;

sanitation of inflammatory processes in the periodontium (api -local and marginal).

4.2. The preparatory phase of orthopedic leche Nia (diagnostic and treatment phase)

Restoration of lost VNOL (under radiologists cal control TMJ):

- tooth mouth guards;
- tooth mouth guards + removable dentures;
- gingival dentures.

2. Elimination of the lower distal offset chelyus minute (under control AOTSO):

- kappa with an inclined plane;
- a plate with an inclined plane and a bite area .

3. Elimination of dentoalveolar elongation:

- the orthodontic method - a method of gradual disruption;
- surgical method;
- combined method (hardware-surgical + physical) .

4. Endodontic treatment and restoration of the stump part of tooth crowns with pin designs for II – III degree PSZ:

- anchor pins (metal, graphite, ceramic-ceramic, fiberglass + composite);
- cast stump pin tabs.

4.3. Permanent prosthetics

I degree: without changing the interalveolar height:

1. Prosthetics in the group of posterior teeth with oncoming constructions:

■ Tabs:

- metal;
- ceramic.

■ Crowns:

- metal (stamped or cast);
- all - ceramic;
- combination (metal ceramic or metal with metal loplastmassovye okklyuzionnoi on surface).

2. Filling of the front group of teeth.
3. Remotherapy.

II . PSH degree:

1. Prosthesis lateral teeth to artificial Ronchi:

■ metal (solid or stamped crowns with a fused occlusal surface);
■ all-ceramic;
■ combined (cermet or metal- plastic only on the upper jaw with a metal occlusal surface).

2. Prosthetics of the front teeth:

■ veneers;
■ crowns:

i all-ceramic;
ii combined (cermet, metal-plastic - only on the upper jaw).

3. In the presence of defects in the dentition:

■ bridges;
■ clasp prostheses with cast on occlusal clutches;
■ sochetannye prostheses: crowns + clasp Prote PS with klammernoy or locking fixation system tion;
■ crowns with support on implants;
■ a small number of remaining teeth - covering nye prostheses:
■ with telescopic fixation;
■ with lock fixation (root or inside ricorne);

■ with magnetic fixation. III. Degree of PSZ:

It requires mandatory endodontic Prep aration and restore tooth stump bayonet cons truktsiyami:

1- Crowns:

■ metal (cast);
■ ceramic;
■ combined (cermet or metal-plastic - on the upper jaw).

2. In the presence of defects in the dentition:

■ bridges;
■ clasp prostheses with cast on occlusal clutches;
■ combined prostheses: crowns + clasp prostheses with a clam or lock system
■ Crowns based on implantants

3. with a small number of preserved teeth - cover prostheses:

- with telescopic lock
- with locking fixation (root or intra-root)
- With magnetic lock

5. Errors:

a) diagnostic:

- incomplete volume of research (not done):
* EDI;
* TMJ tomography with a decrease in VNOL;
* Orthopantomography;
* not studied diagnostic models with bite patterns;
* not defined VNOL.

b) tactical:

-the use of stamped crowns at 2-3 degrees;
- the use of metal-plastic crowns with a plastic chewing surface;
-selection of cermet structures in patients with bruxism;
- the choice of cermet structures and removable plate prostheses in the group of chewing teeth;
- lack of restoration of the position of the jaw (sagittal shift with distal displacement of the lower jaw is not seen - according to the TMJ tomography).
- lack of recovery of VNOL;
- simultaneous restoration of VNOL on orthopedic permanent structures, bypassing the preparatory period (2.3 degrees PSZ);
- pain in the TMJ and muscles during the adaptation period (increase in VNOL more than 4mm)

c) technical:

- endodontic:
* breaking tool in the root canal;
* perforation of the root wall.
- typical errors in the restoration of tooth roots with pin designs:
* short pin;
* excessive expansion of the root canal;
* fixing the pin on thick cement.
- burn of the mucous membrane during relocation of the temporary structure.

6. Complications:

- Intolerance to materials for dental prosthetics.

Elimination of complications:

- The choice of materials for dental prosthetics.

7. Forecast.

With proper treatment and strict adherence to all its stages, the function of the dentition is restored for a long time. The degree of recovery of lost function is determined by the severity of the pathology.

(0D-2M and others). Based on the data of susceptible bility sensitive tooth receptors RE Ceska clarify current state of the pulp and periapi--local tissues both in normal and in pathological conditions. Healthy dental pulp responds to current BBC loi 2-6 uA.

Electromechanical Fargo - research method DWI gatelnogo apparatus, based on the Regis tration of electric potentials of skeletal muscle (Figure 1.). Electro myography used to determine the function tion peripheral neuromotor appa rata and evaluation of muscle coordination maxillofacial area in time and in intensity, in normal and pathological conditions. In the treatment of high erasure teeth through the EMG control of margins Vyshen VNOL. An increase in VNOL within 8-10 mm leads to tonic bioelectric activity of the temporal muscles at rest. The appearance of the same aktivnos minute in proper chewing muscles is Symp volume excessive (over 10 mm) interalveolar distance.

X-ray examination

To study the pathology of teeth of non-carious origin, external and intraoral oral radiography are widely used . Thus on the radiograph is determined planar Images expressions hard tooth tissue, periodontal tissue and Th lyustnyh bones. The image on the contact rentgenog Ramm obtained clearer t. K. A film adjacent to the tooth crown and sufficiently close to the test tooth roots. Therefore, the contact radiographing method YaV wish to set up the primary X-ray examination of the teeth and periodontal tissues.

Tomography, or the method of layering rentgenog raffia, provides images a particular layer of the object studied. The object may be at any depth research on special nom device - scan or x-universal technologically tomography apparatus with a prefix. Only in the study of the temporomandibular joint tomography can be used as an independent method of radiographic examination in all Drew GIH cases, additional imaging is spo sobom and used after conventional radiography.

Orthopantomography is a special method of simultaneous radiography of all teeth of the upper and lower jaws (Fig. 4). This is achieved with the help of a small x-ray tube. Investigation reveals the anatomical Stroe of teeth crowns, roots and channels, their number, shape and position of the jaws, the presence of the cavity obliteration tooth dentikli, periodontal status and most alveo lar bone.

This method is particularly indicated for obsledova Nia patients with generalized form of MS, t. To. Due to excessive functional load at Substation often observed multiple kistogranulemy that well visualized on ortopantomogrammu. Analysis is carried out diagnostic models for studying cheniya occlusal surface topography, which is characterized by anatomical features, re - kinetic adapted for function. Occlusion-onnaya surface consists of hillocks teeth (base Nia hillocks vertex and ramps hillocks) has an edge, an edge around the periphery of the occlusal surface, a central hole - the deepest place occlusion onnoy surface fissures and between hillocks. Full contact occlusal surfaces observed at erasing sharp teeth. Normally the support bumps (bump tooth buccal and palatal mandibular lobe tooth maxilla) pointwise contact with ramps hillocks antagoniruyuschih teeth, provide both support and stability occlusion and freedom di -dynamic occlusion. Assessment of occlusion and occlusal contacts dentition are made directly in the clinic for Lost mouth of the patient, as well as using the jaws model.

Determine the closing jaws in the central app Clusaz. Normally when physio logical forms occlusion in centric occlusion IME etsya symmetrical dvusto sided fissure-contact Bugrova lateral teeth, sim -symmetric cutting-Bugrova contacts incisors and canines.

In the central occlusion sion palatal tubercles top of their molars and premolars in contact with the edge and central pits of the lower molars and premolars. Buccal hillocks lower posterior

teeth are in contact with the edge and central fossae upper lateral zu CWA. This eliminates periodontal overload, provides axial occlusal loading of teeth and stability of central occlusion.

With light compression of the dentition in the central occlusion, there should be no contact of the front teeth, and with strong compression - light contact.

There are various methods of detecting super contacts. The simplest of these are: visual inspection, the use of wax and Art okklyudogramm tikulyatsionnoy paper (foil, silk). For okklyudogrammy on the dentition of the mandible way vayut strip wax, the patient closes the tooth rows in the price tral occlusion, through the wax pencil mark on the teeth portions of wax perforation. Then the wax is removed and the marked areas are analyzed. The same is repeated for anterior and lateral occlusion.

Control s nye questions:

1. Determination concept "physiological", "DELAY zhannoe", "high" erasing teeth.
2. Age characteristic fiziologicheskgo Wash Nia teeth.
3. Etiology, pathogenesis, classification of clinical forms of erasure depending on the stage of development, severity and depth of tooth damage.
4. Clinical examination methods.
5. Special examination methods.
6. X-ray research methods (orthopantomography , TMJ tomography), electromyography.
7.Analysis of diagnostic models.

Practical lesson-7

Subject: Classification of changes in the dentofacial system encountered in pathological abrasion.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998	Listen and record

	Additional literature: 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Physiological functional erasing teeth is adapted tion reaction, ie. K. A free and promotes smooth sliding of dentition, thereby eliminating the overload of individual teeth groups. A layer of hard tissues of teeth lost as a result of Wash Nia, increases with age.

Thus, **under physiological STI raniem teeth understand compensated slowly flowing attrition process ema left cover teeth without passing to the dentin layer.** Age-related changes gradually STI Rania teeth were scored.

- No erasure (0 points) - up to 16 years;
- Smoothness of tubercles (1 point) - 16-20 years;
- The appearance of dentin on the tubercles and the cutting edge (2 points) -20-30 years;
- Erasing the chewing surface, in which the enamel is stored within the furrows (3 points) -30-50 years;
- Complete erasure of enamel (4 points) - 50-60 years;
- Lack of a half crown (5 points) - 60-70 years;
- Erasing crown to the tooth neck (6 Ball catch) is the highest 70 years.

When age characteristic degree erasure teeth also take into account individual typological feature chewing and erasing at high function rata-dominant side chewing. Tooth erosion is caused by many reasons, and its severity varies widely.

However, it should be remembered that as a result of the increased load of the teeth is not always a povy -progress erasing hard tissues. Often this leads to pathological destructive changes in the tissues of periodontal and pulp. As a result, these teeth become pathological changes mobility and hard tissues (enamel and dentin) not only subjected povy shennomu abrasion, but also cessation of physiologists Cesky erasure. This phenomenon is called delayed abrasion.

Elevated erasing teeth the Features rizuetsya not only rapid progressive diminution of enamel to enamel-dentin transition boundary. It mo Jette be due to a violation of the histogenesis of hard tissue (enamel and dentin), which is expressed in a non- fledged their calcification. As a result of violation of calcification process unbalanced structure formed of hard tooth tissue, not capable sensed mother significant largest occlusal load and prone to intense abrasion increased.

Increased dental erasing process is the progressive loss of hard tissue of teeth with transition enamel-dentin border, which is accompanied by a change in the complex aesthetic function rational and morphological nature in dental and periodontal tissues, chewing muscles and temporomandibular joints. Teeth are erased by various local and general factors. A significant impact on the development of high-Wash Nia teeth have endogenous and exogenous Ethyol -meteorological factors. It should be noted metabolic disorders substances and *histogenesis* particular bite depth incisal overlap, the loss of lateral teeth, originated novena traumatic nodes due to concentration as masticatory pressures, irrational prosthesis, functional disorders of the central nervous system (parafunction), the presence of dentoalveolar Anomen ly, impact occupational harmfulness

A.L. Grozovsky (1946) identified three clinical forms of increased abrasion of teeth: horizontal hydrochloric, vertical, mixed.

By the length of the pathological process VY Kurland (1962) distinguished between localized and re neralizovannuyu form of increased abrasion.

The classification most fully reflects the clinical picture of tooth abrasion proposed by M. G. Bushan (1979) (Table 3). It includes a variety of clinical cal aspects of functional and morphological character development stage, depth, length, destruction plane, and functional impairment.

3.1. Classifications

A. The prevalence of the process:

1. Localized PSZ;

2.Generalized PSZ (there is not a single pair of antagonists without increased abrasion of hard tissues

teeth).

B. By the location of the erase facet:

1. The horizontal form of PSZ (shortening of the crown);

2. The vertical form of the PSZ (thinning of the crown);

3 mixed form of PSZ (B1 + B2);

C. by the degree of erasure:

I of . degree (initial stage) - attrition to dentin; II. Degree (developed stage) - up to 1/2 crown height; III. Degree (final stage) - more than 1/2 of the crown height to the level of the gums.

D . According to the principle of preservation of VNOL:

3 Compensated form COR (without reducing the height of the bottom of the face due to compensatory ALVE olyarnogo elongation);

4 Decompensated form COR (with a decrease you cell lower portion of the face due to the fact that the rate of loss of dental hard tissue exceeds the rate of com pensatornogo dentoalveolar extension).

Classifications

A. Vertical, horizontal, mixed

B. **Tooth alveolar elongation** (deformation along with the alveolar crest, crown length unchanged).

Tooth "elongation" (deformation with exposing Niemi tooth neck and atrophy of the alveolar ridge, the clinical crown is greater anatomic crowns tooth ki).

C. Degrees of vertical deformation of the dentition:

4 degree - Elongation at 1/3 bits length;

5 degree - elongation by '/ ₂ crown lengths;
6 degree - elongation by ²/ ₉ of crown length or more.
D. Degrees of horizontal dentition
4 degree - tilt up to 15 °;
5 degree - a slope of 16-30 °;
6 degree - tilt more than 30 °.

Control s nye questions:

1 .Vozrastnaya characteristic fiziologicheskgo Wash Nia teeth.
2. Classification of pathological abrasion according to A.L. Grozovsky
3. Classification of pathological abrasion according to V.Yu. Kurlandsky
4. Classification of pathological abrasion according to M.G. Bushan
5. Classification of pathological abrasion according to V.A. Ponamorev

Practical lesson-8

Subject: Focal type of pathological abrasion. Methods of preparing teeth under cast tabs and mixed crowns. Comprehensive treatment methods for pathological abrasion .

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:**	Listen and record

	1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs .
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Increased wear can be limited and spilled. Limited or localized Noe increased erasing captures only otde flax teeth or group of teeth, not extending across the arc. More often it is observed in the anterior teeth, but the process can extend to premolars and molars .

Increased erasure is horizontal, vertical, mixed. Mixed form of increased Nogo erasing most often observed in orthognathic, at least - with a deep bite. Vertical abrasion of hard tissues takes place in the area of incisors and fangs, and horizontal - in the area of premolars and molars. Hour Toth and the degree of vertical and horizontal Noah forms depend on the depth of the incisal overlap.

Depending on com pensatorno-prisposobitel hydrochloric reaction dentition system should distinguish two clinical forms of Vyshen erasing hard tooth tissues: dekompensiro suite compensated. These forms are both with generalized erasure, and with localized.

Localized com compensate form Wash Nia also causes reduce of height koronokotdelnyh teeth. Thus worn teeth retain contact with antagonism oily due to hypertrophy of alveolar part (vakatnaya hypertrophy) in this zone to Thoraya dentoalveolar leads to elongation. Mezhal veolyarnaya height and height of the lower portion of the face remain unchanged

Treatment of patients with localized form povy shennogo erasing the restored tooth is lenii anatomical shape and features of erased memory CWA. Recovery form (and function) erased teeth should be considered as **patogenetiches some** treatment. Special studies prof. V.Yu. Kurland is proved that the erasure of the cutting edges of the anterior teeth and posterior tubercles bo postglacial teeth requires a multiple increase in the masticatory pressure to preserve the effect of fractional Lenia and grinding food. In turn, increased chewing load leads to even greater abrasion and closes the vicious circle. In this regard, prosthetics of the erased teeth without restoration of the functional form of the crown should be regarded as a medical error.

But in many cases there is no clinical occlusal space for the prosthesis due to hypertrophy vakatnoy antagoniruyuschego dentoalveolar com plex. Therefore, for pathogenetically op Ravdan therapy requires a special preparatory Tel'nykh dentition stage to eliminate deformation. Patients in this group need special training before prosthetics, the task of which is to provide a place for the prosthesis. For this purpose, using therapeutic bite block plate osuschest S THE restructuring the alveolar bone and displaced schenie teeth with increased erasure. The quantity razo bscheniya dentition to bite block plate should be equal to the free interocclusal distance. To speed up the restructuring of the alveolar of process in patients after the age of 30 years should be corticotomy.

With increased erasing III point where core or teeth are not of value, is carried out spe cial surgical preparation before prosthesis it - removing the roots of teeth worn *with* resection of the alveolar bone.

After preparation of the oral cavity is carried ortho pedicheskoe treatment of various kinds of artificial crowns, the choice of which is determined by the location of the tooth in the tooth number and degree of its erasure.

Orthopedic treatment of localized povy shennogo erasure complicated defects and deformations matsiyami dentition, is divided into three stages. At the first stage deformation correct dentition on WTO rum - carried reconstitution integrity dentition, the third - the necessary rehabilitative and preventive measures.

The most common deformation dentition tooth loss after a hundred extension teeth Ron missing antagonists. Sometimes (at a young age) is accompanied by an extension of the hypertrophy of alveolar process - there is the so called emoe dentoalveolar elongation. In addition, the teeth adjacent to the defect, lean toward the defects that. This deformation is known as the Popov-Godon phenomenon.

Treatment of this deformation dentition for hanging on the age of the patient, the severity de formation of periodontal tissues and magnitude truncation lower face. Sometimes true dentoalveolar elongation is not observed. Painting this deformation is created by erasing remaining camping occlusal contact teeth. In particular, the STI Rania front teeth, and defects in the lateral section of çäàåò false picture dentoalveolar elongation in the molar area. In such cases it is enough Sun formation interalveolar height (VNOL) in Process se denture. In the presence of true dentoalveolar lengthening, special treatment is carried out, which may include:

1) application of orthodontic appliances (Instruments Noe treatment);
2) instrument and surgical treatment (orthodontic + corticostomy);
3) removal nominated teeth with resection alveo lar ridge.

The choice of method depends on the specific conditions. In young age (40 years) in the absence of bolevany periodontal dentoalveolar elongation can be treated with therapeutic bite block plas roughcast (Ponomaryov VA) or bridge, which slightly increases the height CIDP meat in nominated teeth (method followed by successive deocclusion). To accelerate the restructuring of the alveolar process, a combination of orthodontic treatment and compactosteotomy are recommended.

To manufacture therapeutic bite block plates ki removed prints define a central occlusion and prepared by the usual method Plate-removable prosthesis, which does not increase VNOL first Xia. After complete habituation to the prosthesis plastic to the surface of the clamping teeth with you antagoniruyuschih having moved tooth, impose a small portion of the fast-hardening plastics and increase mezhalve olyarnuyu height 1.5-2 mm (height difference between the bottom of the face alone and occlusion). All other teeth are disconnected. Produce razo bschenie more than 2 mm is not recommended, t. To. It you binds considerable inconvenience, there may be pain in the temporomandibular joint.

The effect of this medical device is follows following. After raising VNOL periodontium pulling shegosya occlusal tooth experiences increased at Booting. Under the influence of such a load, restructuring processes occur throughout the periodontal tissues, including the bone tissue of the alveolar ridge. The latter are expressed in the resorption of bone tissue in the entire inner surface Nosta and crest wells loaded tooth. In these areas, numerous gaps, multinucleated osteoclast cells are located, which absorb the bone. Months Tami noted complete resolution of bone tissue. As a result, the tooth-nominated gradually introduced etsya into the hole, but the shortening of its crown part than is observed, ie. K. Resorbed bone on the ridge and the wells, and therefore the ratio and intraalveolar vnealveolyarnoy tooth portions is not changed. The so-called alveolar shortening occurs, i.e. UCO rachivaetsya tooth with the alveolar ridge.

At the same time, tissue changes occur in the area of teeth that are turned off from occlusion. In ALVE olyarnom appendage processes occur construction cost hydrochloric tissue. On the whole inner surface and along the crest of the wells appears pale

pink stripe young neobyzvestvlennoy osteoid bordered tse kidney osteoblasts that build the tissue. Vsleds tvie processes build bone in the area separated from the teeth occlusion occurs zuboalve olyarnoe elongation.

Thus, with the use of a medical-bite plate, tissue changes are observed both in the region of the extended and loaded tooth, and in the area of teeth that are turned off from the bite. The combination of these processes leads to the elimination of deformation.

After 4-6 weeks, adaptation to this height occurs and teeth turned off from the bite come into occlusal contact. From this moment, the therapeutic effect of the plate is terminated. To activate the processes necessary to re-adjustment to increase the height of bite mezhalveolyarnyh 1-2 mm by laminating a new portion rapidity verdeyuschey plastic. So do several times until you have achieved a favorable environment for the prosthesis tion. The duration of treatment is from 6 months to 1.5 years.

It should be noted that the intensity of protses tissue restructuring owls depend on the age and individualistic dual characteristics of the organism. The younger the patient, the faster the processes of tissue remodeling and vice versa. But sometimes you can not get a positive result in young people, which seems to obuslov Leno individual features of the structure and re building bone.

At older ages, or when there is a pronounced elongation dentoalveolar such leche of not rational. In such cases, extended teeth should be pulsed and then shortened to the desired size. In some cases, when the deformation tion and pronounced by shortening the teeth impossibility but to obtain optimal conditions for the prosthesis shown extractions (nominated) with alveolo-Mia or without it.

Should remove teeth and in those cases when there are camping pronounced signs of periodontitis and nominated camping teeth characterized mobility II - III degree and exposing the tooth necks. After such preparation, you can proceed to the second stage of orthopedic treatment - dental prosthetics according to generally accepted principles with the restoration of the functionally justified shape of the tooth crowns.

Control s nye questions:

1. The clinic, diagnosis of localized forms povy shennogo erasure.
2 .Metody orthopedic and complex treatment of Vyshen erasure when intact tooth rows and the partial absence of teeth.
3. Clinical use of medical diagnostic kappa.

Practical lesson-9

Subject: Mineralized pathological abrasion of intact dentitions with a decrease in the lower third face. Facial symptoms. Etiopathogenesis of the otoneurological syndrome. Features of orthopedic treatment.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class	Listen

	3. Attendance check	
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Increased blurring (PS) generalized odds we are causing significant changes in dentition. The decompensated generalized form of PS due to a decrease in the height of the crowns of all teeth causes a decrease in the interalveolar height and a decrease in the height of the lower third of the face. The lower jaw with this pathology approaches the upper. Thus, decompensated generalized form of PS causes a change about the spatial position of the mandible. This may occur miodisfunktsionalny sind rum temporomandibular joints. Perhaps a distal displacement of the lower jaw, which is most often observed with a combination of erasure with distal occlusion or a deep bite.

Of interest facial morphology sk summer and gnaticheskoi portion in patients with SS hard tooth tissues. According to X-ray cephalometric studies E.M. Shulkova (1989), for decompensated and compensated form of PS is characterized by CCA singularity structure of the facial skeleton.

The structure of the facial skeleton in the decompensated form of the generalized form of PS:

- reduced vertical dimensions of all teeth;
- deformation of the occlusal surface, the ability to Shen depth incisal overlap and sagittal Nogo mezhreztsovogo overlap;
- reduced mezhalveolyarnyh height and IU zhapikalnaya height;
- dentoalveolar shortening in the region of the upper canines and the first premolars of the lower jaw, as well as the canines and the first premolars of the upper;

- reduced height of the alveolar bone in the domain of the upper front teeth, upper premolya moat and lower canines;
- reconfigured mandible and ability shen, its angle;
- there is rotation of the mandible and the approximate voltage it to the top and base of the skull;
- reduced vertical dimensions of the face and its area;
- reduced length of dental arches;
- significant movement of the mandible from the centric position to the rest position with the predominance of the rotational movement and the emergence of a large interocclusal races standing.

Reducing Esja interocclusal distance and reducing the height of the lower third of the face is called **SNI zhayuschimsya CIDP catfish .** Reducing interocclusal you cell and the height of the lower third of the face is often accompanied by parafunction chew -negative muscle, lateral and sagittal displacement of the mandible. Thus there is a change Niya topographic relationship of elements of the TMJ. Klee -ethnic picture with the complicated and sometimes impossible to establish a causal relationship between the links pathogen cal chain: increased blurring, periodontal lesions, bruxism and disfunk tion of the TMJ. The most dangerous wasps complication in the PS is **dis function of the TMJ.** It oslozh nenie often occurs in conjunction with the generalized form of PS defects and de formations dentition .

Clinic TMJ dysfunction diverse and depend sieves the patient's age, general condition, psihiches one status type of occlusion, shape and depth of the teeth of the SS, the state of periodontal tissues. However, for all slozhnos five clinical revealed a clear correlation between the state of solid teeth tissues, tissues steam Dont, masticatory muscle tone and TMJ.

The clinical picture of a dysfunctional syndrome can identify a number of characteristic symptoms: pain, crunching and clicking in the joint face, headache and neuralgic pain, fatigue chewing Musk Latour, muscle pain, displacement of the mandible in ka kuyu either side, hearing loss, glossalgia, dry mouth, dizziness.

Typical symptoms (joint pain and zhevatel GOVERNMENTAL muscle) caused by lowering the height of CIDP sa and the distal displacement of the lower jaw of the head in the glenoid fossa. The second most common symptom of TMJ dysfunction is crunching and clicking in the joint. A distal displacement of the lower jaw over time leads to parafunction of the masticatory muscles of compensatory origin and the formation of the so-called sliding bite, in which the patient tends to set the lower jaw into the correct burning sensation, but at the moment of closure of the dentition the jaw again moves to the side, i.e. habitual occlusion Zia. Patients with such complications is necessary to con sult from otolaryngologists, neurologists, therapists and other professionals.

The diagnosis in patients with increased erasing includes the following pathological about the phenomenon:

- process localization;
- degree of erasure;
- the clinical form of the disease, depending on the reaction of the alveolar process to erasure;
- the possibility of complications.

I of . **An approximate diagnosis;** Erasing solid alloy increased gut tissues of teeth, generalized decompression onnaya Form II degree. Distal occlusion. Para- function of the masticatory muscles.

II . The main objectives of the treatment of the generalized de- compensated form of PS with intact dentition or partial absence of teeth are:

- preventing further erasure;
- restoration of the normal position of the lower jaw;

- normalization jaw movements and functions tion chewing muscles and TMJ;
- restoration of appearance;
- restoration of the anatomical shape and function of the teeth.

III . Methods of treating patients in this group depends ve masks reduce interalveolar distance and the presence of the distal displacement of the mandible. Reducing the interalveolar distance to 6 mm without distal displacement of the lower jaw allows prosthetics of patients without special training with a simultaneous increase in VNOL. Decrease VNOL to 6mm and more calls for about drive its recovery in phases of treatment on piecewise plates to avoid the pathological changes of the masticatory muscles, temporomandibular nizhneche lyustnogo joint and periodontal teeth. All methods leche Nia chosen strictly individually for each patient.

The reduction of VNOL with a distal shift of the lower jaw requires special preparation on a medical bite plate with an inclined plane. Move schenie lower jaw forward should be done under X-ray control of the TMJ.

Treatment of patients with decompensated generalized xed form in the early stages of the SS is a pro galactic in nature and is in prosthetics counter crowns and tabs. Prosthesis patients in this group with II degree erasure osuschest S THE both removable and fixed prostheses. Fixed prostheses - integral cast crowns, stamped crowns with cast chewing surface. Removable dentures - arch prostheses with occlusal lining. When III degree PS Provo ditsya endodontic preparation of the roots of teeth, Sun becoming their bayonet designs and prostheses tion of fixed and removable prostheses.

In the initial form of generalized PS with reduced VNOL used tab when n neralizovannoy form to the equator level - cast to Ronchi or caps with cast occlusal loser kami. By reducing VNOL more than $^{1}/_{2}$ tooth crown shows the use stump pin tabs followed by coating with their crowns.

Control s nye questions:

1. Clinic and diagnosis of generalized PS III severity to lower the height of the bottom of the face of the case.
2. Normalization of the height of the lower face.
3. Methods of orthopedic and complex treatment of increased generalized abrasion with a decrease in the height of the lower face.

Practice Lesson 10

Subject: Pathological abrasion of intact dentitions without lowering the height of the lower third person. Clinic, diagnosis and treatment methods.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson.	Listen and record

	3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

In some patients with generalized PS decreases the height of the teeth crowns, CNI voltage interalveolar height, but the height of the lower third of the face does not change. This form is called com compensate generalized form of MS. In that FIR patients in parallel with a decrease in height to ronok teeth is an increase in alveolar bone (vakatnaya hypertrophy). On examination, these patients are seen pronounced alveolar bone Th Lust, which are exposed at a smile and conversation.

The facial skeleton in patients with a generalized form of PS without lowering the height of the lower face is characterized by:

■ reduction of the vertical dimensions of all teeth;

■ no change in the position of the lower Th Lust and preservation of vertical facial dimensions;

■ deformation of the occlusal surface and a decrease in the depth of the incisal overlap;

■ dentoalveolar elongation in all memory CWA except upper canines;

■ decrease interalveolar, mezhtservikalnoy height and distance between the apical ba zisami;

■ shortening of the length of the dental arches and upper retrusion their incisors;

■ the value of the length of the base of the lower jaw at a distance medo ;

■ decrease in root length of the front teeth, lane O premolars of each jaw and the second premolars of the mandible;

■ slight movement of the lower jaw from the occlusion position to the resting position.

II . When II - III degree of generalized PS at defects dentition recommended "rearrange ka miotaticheskogo reflex on Rubinov". Myotome matic reflex is manifested in functional states associated with stretching chewing muscles. The beginning of the myotatic

reflex is given by impulses arising in the receptors located in the masticatory muscles and their tendons. Further they pulses of II and III branches of the trigeminal nerve come into sensitive nuclei of the medulla oblongata and then into sensitive nucleus thalamus and then into sensitive zone anterior cortical hemisphere holo vnogo brain, where they are switched sensitive to motor nuclei and centrifugal nerve pathways back to chewing muscles, causing a contraction reaction. The more omitted LO NJ jaw, the more stretched the chewing muscles. Gradually produced a new length in the muscle fiber in a state of physiological of rest. This is the essence of the preliminary restructuring of the myotatic reflex. For patients on the upper jaw, a removable plate with a bite pad in the anterior section is made. The Boko O departments there dezokklyuziya. Occlusal tooth ratio adjusted so as long as dentoalveolar offset totally or partially eliminated and the possibility appears NOSTA for rational prosthesis. In dependence ing on topography dentition defect (or terminal included) medical device design varies. When the terminal apparatus defects produced in the form of an arc of the prosthesis, when included de defects and displacement of antagonists recommended gotavlivat apparatus type removable bridge.

III . The main objective of the treatment of generalized forms of PS without reducing VNOL is: restore anato nomic shape and function of the teeth. Method orthopyroxene cally treatment of patients in this group is primarily determined by the degree of erasure teeth. When I ste fines gravity treatment is prophylactic characterized ter and trehpunktnogo is to provide a contact on the opposing crowns or tabs unchanged interalveolar height.

When erasing II degree appears The necessity Axle restore anatomic form of the teeth, without increasing the height of the lower third of the face, as pos Lednov not changed (Fig. 12, 13). Therefore patients nuzh given special training, which is to restructure the alveolar bone and changing polo zheniya mandible relative physiological rest via therapeutic bite block plate. To accelerate the processes of adjustment, it is advisable to use corticotomy . After receiving space for prosthetic restoration anato nomic form teeth is carried out not removable, or removable E constructs.

When erasing teeth III extent ortho pedicheskoe treatment is conducted several E ways. In some patients carried etsya under special cooking with a view to re construction alveolar bone followed conductive prosthesis copings and crowns with prepainted ritelnym presses vaniem tooth roots and neobhodimos ti - prosthetic dentures. Other patients undergo special surgical preparation, which consists in removing the roots of the teeth and part of the alveolar ridge. When pronounced hypertrophy of the alveolar bone, in addition to removing disposed therein teeth, have resorted to re economical resection of the alveolar bone. Prosthetics in these patients is staged, immediate and distant.

Control s nye questions:

1. Clinic and diagnosis of generalized PS teeth III severity without reducing the height of the base of the department faces.
2. The concept of “myotatic” reflex according to Rubinov, its restructuring in the II – III degree of PS teeth.
3. Methods of treating orthopedic and complex n neralizovannoy form PS teeth without reducing SEASON you bottom of the face.

Practice Lesson 11

Subject: Deformation of the dentition with defects of the dentition. Diagnostics . Tactics of treatment.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (65 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (70 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

The purpose of the lesson:

Examine changes to the dentition, obuslov lennye partial loss of teeth, to identify factors exacerbate their symptoms, disclose compensatory possible dentition, complicated processes hydrochloric morphological and functional rearrangements in its various links.

Deformation of the dentition Etiology

1.The destruction of the crown of the tooth:

- Caries and its complications.
- Injury to the crown of the tooth.
- Increased abrasion of hard fabrics.

2. Tooth loss.
3. The defeat of periodontal disease.
4. Tumors

. Inflammatory processes in HMO.

6. Injuries to the jaw and other skull bones. **Pathogenesis of dentition deformity**

Loss of tooth-antagonist or aloss of Sedna tooth - an imbalance occlusion system (violation of occlusal equilibrium) - tooth-alveo- polar shift (vakatnaya hypertrophy of alveolar bone) - atrophy periodontal tooth displaces = tooth Noah elongation = elongation of the clinical crown of the tooth -> complications.

Pathogenesis deformation complications pn tooth rows

The deformation of the occlusal over Nosta - "

- changes in the nature of the movement of the lower jaw;
- a change in the position of the lower jaw; - "
- violation of multiple occlusal conta comrade; dysfunction of the temporomandibular joint (TMJ);
- TMJ arthritis;
- TMJ arthrosis. **Clinic**

Complaints:

a. difficult chewing of food;
b. violation of aesthetics;
c . violation of appearance;
d . trauma to the soft tissues of the oral cavity; E. Pain in the muscles and in the TMJ.

External inspection:

4. No change.
5. Restriction of the movements of the lower jaw.
6. Lowering the height of the lower face:

- seizures (angular cheilitis);
- deepening of the nasolabial and genial skla dock.

The clinical picture:

2. Tooth alveolar or dental lengthening.
3. The inclination of the teeth.

7. Restriction mandibular movements (in the sagittal hydrochloric and transversal planes).
8. Incorrect position of the lower jaw.
9. Trauma oral mucosa bumped tooth mi.
10. The clinical picture of a decrease in VNOL .
11. Education three, diastemata, fanlike rashozhie denie front teeth in periodontitis.

Classifications

A. Vertical, horizontal, mixed

B. **Tooth alveolar elongation** (deformation along with the alveolar crest, crown length unchanged).

Tooth "elongation" (deformation with exposing Niemi tooth neck and atrophy of the alveolar ridge, the clinical crown is greater anatomic crowns tooth ki).

C. Degrees of vertical deformation of the dentition:

7 degree - Elongation at $^{1}/_{3}$ bits length;
8 degree - elongation by $'/_{2}$ crown lengths;
Grade 9 - elongation by $^{2}/_{g}$ of crown length or more.

D. Degrees of horizontal dentition
7 degree - tilt up to 15 °;
8 degree - tilt 16-30 °;
Grade 9 - tilt over 30 °.

Diagnostics
7. The survey.
8. Inspection.
9. Sounding.
10. Palpation (muscle, TMJ) .
11. Determination of the central ratio of the jaws.
12. Definition of VNOL.

Paraclinical methods
3. The study of diagnostic models.
4. Radiodiagnosis.

Treatment of patients with dentition deformity

ZTAP 1 ~~ preparatory
Objectives:
- oral sanitation;
- elimination of deformation;
- restoration of VNOL;
- restoration of the correct position of the lower jaw.

STEP 2 - Main Objectives:
- permanent prosthetics;
- restoration of the anatomical shape and size of damaged teeth;
- restoration of continuity of dentition.

STEP 3 - rehabilitation and prophylactic

STEP 1 - Preparatory

With a decrease in VNOL

Depending on the degree of reduction LO height a person under
- Simultaneous recovery of height (up to *2* ~ 4 mm).
- Phased recovery with a decrease (more than 4 mm).

Deformation Elimination

1st degree:
- Orthodontic treatment;
- Grinding.

2nd degree:
- Orthodontic treatment;
- root canal tooth + + shortening surgeons cal lengthening of the clinical crown.

3rd degree:
- Orthognathic surgery;

Tooth extraction or tooth extraction + alveolotomy

STEP 2 - permanent prosthetics

3. Restoration of the anatomical shape and just measure decayed teeth.
4. Restoring the continuity of the dentition.

■ For short clinical crowns, special pin designs are used .

■ When choosing a prosthesis design, it is necessary to take into account the remaining length of the root of the abutment after grinding (shortening) the crown.

■ When restoring a tooth with a slope of the axis of the crowns ki to 30 shows the use of pin-stump O structures.

STEP 3 - rehabilitation and prophylactic

Regular, at least 1 time in half a year, control

■ oral hygiene;

■ for the proper use and care of Prote Zami;

■ dynamic occlusion of the dentition.

! Dental arch as part dentition before stavlyaet integrally thanks to contacts and interproximal alveolar bone (bottom Th Lust - alveolar part) which are fixed tooth roots. The loss of one or more teeth destroys this unity, and creates new conditions for Fun tional activities of the masticatory apparatus. The cause of tooth loss often are ka Ries, periodontal disease, trauma, surgery, beriberi and others. The resulting This clinical picture depends on the number of lost teeth, Lok tion of and the defect length, type of occlusion, with standing support apparatus remaining teeth, the time that It has passed since the loss of teeth and the general state of the patient ence.

Leading clinical symptoms in partial sweat ri teeth is:

■ discontinuity dentition (the appearance of defects);

the appearance of groups of teeth - antagonis retained comrade (functional group) and loss of (dysfunctional group);

■ functional overload of individual groups zu CWA;

■ secondary malformation of the bite;

■ reduction of VNOL;

■ violation of the function of chewing, speech, aesthetics;

■ violation of the temporomandibular joint.

II . In the formation of deformations in tooth rows and Kusa in dentition occurs functional onal dissociation. It is characterized in that different groups of teeth are different condition Via operation that affects the metabolic processes. The dissociated tooth system follows blowing distinguish three main link: functional center, traumatic and non-functional link node - atrophic unit (VU on Courland). **Functional center** is formed in nai larger group antagoniruyuschih pairs of teeth with well preserved periodontium. The emergence of his vyzy INDICATES appearance of the conditioned reflex (adaptation), which is based on the presence of irritation, inflamed Niya or even the possible loss of teeth in other areas of the dentition.

Traumatic node arises because any disturbance in a particular portion Toothbrush series (inflammation, periodontal atrophy, tooth loss and m. P.). In the event of traumatic node in the results Tate reflex spares the patient the damaged portion and arranged in use ceases traumatic node teeth. This term is defined lyayut education in a particular area of the dentition of traumatic overload.

Direct traumatic node - etodekom-compensate the state of the affected area of the tooth jaw system. With partial defects in the teeth

the ranks of the state of decompensation characterized Naklo Mr teeth towards dentition defect, destruction of the jaw, a violation of the contact points of the teeth (addressing mations three and diastema).

The reflected traumatic node is

dentition pathological condition in which changes in the location of the front teeth, hard tissue destruction and periodontal this group zu CWA due to recent changes in either their side groups of teeth. The reflected traumatic node is formed both in the intact dentition and in violation of their integrity.

A non-functioning link - atrophic block consists of teeth devoid of antagonists. In periodontal and tooth pulp deprived antagonists about originate pathological processes.

For traumatic articulation characterized by the fact that one of periodontal dentition has functions tional failure. Traumatic articulation determined in those cases where there is functional onal failure periodontal all antagoniruyuschih teeth or one of antagoniruyuschih teeth in each pair.

Treatment of patients with strains dental pn rows and occlusion associated with insufficiency of steam Dont must be conducted sequentially. Ba howling complex treatment are the regulation and restoration of mastication function, eliminating the influence of harmful components is horizontally acting Schnega stimulus, as well as steps larger spatial offset teeth and beacause of them trophic tissue disorders. Comprehensive treatment method involves the detection of the disease etiological factors and more precise definition of axes novnyh units pathogenetic mechanism. This need go to:

■ selection of etiotropic and pathogenetically based therapy;

■ generate a specific plan of the patient When a functional failure parodon the extent of pathologic tooth mobility Rate INDICATES the direction and magnitude of the deflection of teeth. The degree of tooth mobility is necessary to determine how to treat, and during its holding obja optionally comparing the mobility of teeth mo ment examination and after elimination of inflammatory phenomena that t. K. A degree of tooth mobility is the basis for choosing the design of therapeutic splinting present apparatus.

Estimating ratio dentition and defined Laa degree pathologic tooth mobility, one temporary estimate the position of each tooth in the dental arch. When periodontal diseases are possible displacement of teeth in the vestibular, oral hand turns zu CWA about a vertical axis. As a rule, this leads to the appearance of gaps between the teeth, the imposition of one tooth on another. By moving the group of front teeth forward lip vary the location and relation shenie level cutting surfaces of the teeth and the red portion of the upper lip. This tooth displacement is called secondary deformation of the dentition.

I .Obsledovanie patient with dentoalveolar deformation tions identical survey conducted Paci tomers with partial loss of teeth. Examination pro usual using clinical techniques (survey inspection, palpation, sensing, auscultation) and paraclinical (mo Delaey diagnostic study, dental radiography and alveolar bone, temporomandibular joints, etc.)

Additional studies should help the doctor establish:

1) causes and time of occurrence of deformation
2) the nature of the deformation: vertical elongation zuboalveo Noe, medial, distal or combined displacements of etc .;
3) type of dentoalveolar elongation;
4) the nature of occlusal disorders;
5) the state of TMJ and chew -negative muscle;
6) psycho-emotional with standing patient ready NOSTA to prolonged treatment.

The important point is to establish anamnesis date Delete Nia teeth in the area deformation matsy, but also need to know whether attempts were made to eliminate occlusion - precision violations, but if they were, why It turned were unsuccessful.

Through examination, we get information about the state yanii teeth periodontal study their stability, soot wearing the clinical crown of the tooth and composed yanie mucosa of alveolar bone and others.

We examine the tooth rows in position cents tral and other occlusions, studying the movement of the lower jaw when opening and closing the mouth, analyze the diagnostic models.

The study of the occlusion should begin with elucidating neniya dentition position to Ca gittalnoy plane. A reference in this regard is mezhreztsovaya line located in Wed dinnoy sagittal plane. Its displacement indicates the reasons for the change in the position of the dentition.

Incisal overlap quantity is determined by the nature of the occlusal surface of remaining teeth (broken line, convex, straight) and position otde lnyh teeth relative to the sagittal curve. Vc tanavlivaetsya supraokklyuzii value has shifted teeth, and their relation to the toothless alveolar otros heel and size of the prosthetic space. On examination, the mutual movement of the teeth is determined with the development of blocking movements of the lower jaw. It is necessary to pay attention to the signs of the primary in trauma cal occlusion (mobility, increased blurring, the slope of the tooth, lengthening the clinical crown).

When violation clamping teeth and in mesio-distal transversal directions may housing Noe or inclination movement of molars in a lumen de defects and distal movement premolar on a particular distance, and has shifted teeth rotate around its axis.

Violation occlusion is detected in the investigation Vania mandibular movements during opening and closing of the mouth. In the presence of blockade disappears melting NOSTA its movements. Instead of straight and smoothly go traffic is detected its first deviation in the direction of the obstacle and then return to the center if Britain and move forward, the trajectory of the lower jaw becomes a zigzag. In assessing the origin of these and other excursions of the mandible should be careful, because this action voltage can occur in the pathology of the masticatory muscles and temporomandibular joint.

II . Study of diagnostic models of jaws presents Xia one of the methods of examination for dia gnostics deformations of dentition.

Reprints dentition removed vysokokachest governmental impression materials (alginate, sili KONOV). The use of thermoplastic masses for this purpose is contraindicated, since they give a delay. Cast models of high-plaster and placed in the articulator, allowing consistently studied chat occlusal relationship with the sagittal and transversal excursions models.

Diagnostic study models to be le cheniya, during and at the end of it. The first is called Xia diagnostic, and the second control. Models need to be numbered and stored throughout the peri ode treatment.

The main objective of the study diagnostic fashion lei patients with partial loss of teeth is to identify the nature of the occlusal relationships. The type of bite, the depth of the incisal overlap, the nature of the closure of the palatine and lingual tubercles, etc., are being clarified, various measurements are taken (the width of the dental arches, the size of the teeth, etc.). When deformations in the diagnostiches FIR model defines:

- depth of dentoalveolar elongation;
- nature of the occlusal curve;
- the ratio of individual teeth to the mucous membrane of the toothless alveolar ridge;
- nature of the medial or distal Move scheniya teeth (cabinet, with a slope);
- the value of the medial or distal Move scheniya;
- points where blockage of the movements of the lower jaw occurs;
- level of shortening of teeth.

III . One of the most common methods The investigations dovaniya for deformations is radiography of the maxillofacial system. The method is accessible, uncomplicated and informative. For these purposes etsya radiography teeth, alveolar, sagittal and axial CT images of the TMJ, orthopantomography, lateral ones lerentgenografiya.

Control s nye questions:

1. Etiology, pathogenesis, classification of deformations of the dentition in the partial absence of teeth.

2. The concept of the functional center, forward and reflected ny traumatic node, non-functioning zve but traumatic occlusion and articulation.

3 .Osobennosti anamnesis and clinical obsl dovaniya patients with partial absence of teeth.
4 . The study of diagnostic models in the articulator.
5 . X-ray research methods in patients with partial absence of teeth.

Practice Lesson 12

Subject: Clinical manifestation of malocclusion. Pathogenesis of distal extension of the lower jaw. Diagnostics. Symptom of the "fan" in the front teeth and deep incisal overlap. The appearance of prognathic bite.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

The most common diseases of hard tissues of teeth are caries and its complications (significant destruction of the crown of the teeth, damage to tooth groups with multiple caries, spalling of the walls, tooth extraction). In case of carious damage, the anatomical shape of the tooth crowns changes, and all surfaces of the tooth can be affected, which leads to the development of the pathological process in the periodontium of teeth and to the deformation of the dentition and occlusion. This is primarily due to insufficient physico-Me-mechanically (strength) properties most races prostranennyh presses novel developing materials (com pozitnye, plastic or cement fillings). Over time, there is their attrition, deteriorating fixation that leads to unstable occlusal contacts violated NIJ contact points, reduce the height of LO him face department, etc. All this is a trigger for the development of de formation of dentition (vertical, horizontal).

Absence of contact points with the stored tooth rows leading to gradual movement of the lateral O tooth in mesial direction. Lateral groups of teeth are focused on significant loads when chewing food. That is they retain the lower height of the face, so the destruction of the occlusal surfaces of posterior crowns as odi night and the whole group of teeth, shifting the antagonist teeth (Popov-Godon phenomenon).

The occlusal curve is broken, which leads to the blocking of the articulation movements of the lower jaw (castle) over time (Fig. 16). Significant SHOCK of occlusal dental caries side groups leads to overloading of the front teeth, which is accompanied by injury of periodontal tooth deformation GOVERNMENTAL series (forward fan-shaped divergence) formed mations diastemata and three.

If you do not conduct timely Orthopedics cal treatment, then later come sagittal Noah displacement of the mandible, reducing the height of LO him face department, a violation of of TMJ function (the head of the lower jaw are displaced backwards and upwards), develop camping Costa syndrome.

In treating deformities dentition and cous associated with damage of hard tissue of the teeth (caries and non-carious lesion), it is necessary to determine the occlusal contacts in the mouth and on the diagnostic models of both jaws, to study, with whole and radiographs and ortopantomogrammu, conduct electric pulp test to determine SEASON that lower face.

II . To more accurately determine the extent of destruction of the occlusal surface of the teeth and selecting cons truktsii prosthesis is advisable to use indices som destruction occlusal surfaces of the teeth (IROPZ) proposed VY Milikevichem. The entire area of the occlusal surface is taken for 1 unit. The author found that IROPZ at 0.55 - 0.6 at seemed the use of tabs to prevent further destruction of the tooth.

When index of 0.6 - 0.8 is shown filling and application of artificial crowns, and in those cases where the index is greater than 0.8, manufacture Stif shown tovyh structures. After the differential Noah diagnosis with other pathologies and based on survey data compiled Orthopedic plan one treatment. When the vertical displacement The necessity mo eliminate distortion, and then replace defects crown part of a tooth or dentition. Removal of the deformation is carried out using various Meto rows depending on its type, degree and form of clinical manifestations. For the purpose of normalization tion occlusal surface and create the correct occlusal relationships during subsequent prosthesis following methods are used Rovani:

- reduction should hard tissue displaced zu CWA;
- a method of sequential deocclusion;
- hardware-surgical;
- surgical.

In cases teeth offset in the horizontal SVOCs bone performed orthodontic treatment. When lowering the height of the lower face, it is necessary to restore the height using temporary mouthguards, and then permanent orthopedic structures.

The second most common pathological process leading to deformation of dentition and occlusion is increased blurring of solid TCA her teeth (localized or generalized odds ma). With increased erasure, violations of the anatomical shape of the teeth, deformation of both the dentition and the bite occur . In generalized form mo Jette occur reducing the height of the bottom of the face: orthognathic bite varies on the line. When not uniform elevated erasing occurs naru shenie occlusal curve (in those areas where there is a rapid erasure of the enamel) and overload of teeth or groups of teeth sustained erasing hard tissue, which leads to an overload of these periodontal teeth. Changing occlusal curve leads to block movements of the mandible and overload pathological changes niyamas TMJ.

I of . Deformations of dentition and occlusion associated with CME scheniem teeth in various directions. Violation ratio dentition are possible if all teeth or due to the loss of their devel ment of pathological processes in the periodontium.

When diagnosing deformation of dentition and occlusion must determine the cause of the defect, the disease, the degree and nature of morphological cal and functional disorders caused by deformations of data. On the basis of diagnosis are composed by the treatment plan and the treatment selected design an Paratov. The aim of treatment is the complete removal and suspension of the pathological process, the revolt Lenie functions dentition.

When deformation of dentition and the bite of the teeth-jaw system should be viewed as finding schuyusya in the pathological condition. There are three of its conditions: compensated, subcompensated and decompensated. **Injury consisting of** characterized by the fact that the emergence of a defect in the dentition in the future does not affect the shape and structure of the tooth GOVERNMENTAL series and periodontitis. **In the** case of a **subcompensated state** , an intrasystem restructuring occurs in the dentition and periodontium, the teeth bend toward the defect, three teeth appear between the teeth of the entire dentition. Teeth without antagonists, shifting beliefs tikalno. According to tooth displacement, periodontal reconstruction occurs. **In a decompensated state, the** noted intrasystemic restructuring is supplemented by inflammatory phenomena in the periodontium and *its* dystrophy, pathological periodontal pockets appear, and atrophic processes in the periodontium are observed. Sub- and decompensated state WHO Nick at jet failure of the body. With such a lack of function of the masticatory apparatus ceases to configure the system and begins her break shat. This state is called **the state of the function tional pathology.**

When violating the integrity of the dentition you ops conventional food processing reflex on the side on which no defect occurs pos been consistent deformation of dentition and occlusion, rearranged musculature varies receptor field of the oral cavity. Signs of functional pathology occur imperceptibly and gradually increase. They're razheny the sharper, the greater the deformation and the more time has passed since its inception. The main features of functional pathology follows blowing assume offset pathologic tooth mobility, the presence of inflammatory-destructive protses cos in the periodontium.

For periodontal diseases caused by common causes (vitamin deficiency, diabetes mellitus and

other disorders of the endocrine system, collagen, diseases of the gastrointestinal tract, cardio vascular and nervous systems, and others.), resistance TKA her periodontal falls. As a result of the weakening of periodontal usual occlusal load begins to exceed the tolerance (ability to carry this load) of its structures and turns of the factors stimulating present development, traumatic violating trophism periodontal. **Traumatic occlusion occurs.**

II . Recovery gistofunktsionalnyh vzaimootno making in periodontal tissues, elimination of pathological Coy mobility and destructive action of mastication function, connection to a compensatory process intact or partially damaged pas rodonta other teeth in order to normalize blood circulation and tissue trophism roofing can be achieved to a prosthetic therapies. When deformations dentition

associated with functional tional periodontal failure, it is necessary to perform complex and ortho periodontal pedicheskoe treatment (Fig. 17).

Selective grinding. Indications for the application of this method is The appearance Leniye premature contact or presence contac comrade only on individual teeth when closing jaws in the central, lateral and anterior occlusions and identify areas occlusive power metal teeth ited to block the movement of the mandible in times GOVERNMENTAL directions.

Temporary splinting. Apply in having developed sheysya stage gene ralizovannogo or focal hroniches who periodontitis in an aggravation, during the entire period of the complex leche Nia before the imposition of a permanent apparatus of a strut. Temporary shini Rovani pozvolyaetustranit traumatic pathologic effect mobility NOSTA chewing -one and functions of the pathogenetic mechanisms maintaining constituents hemodynamic disturbances in periodontitis (Fig. 18,19).

Orthodontic treatment. Indications s treatment in focal and generalized steam Dont I and II degree of deformation are secondary dentition: three or diastema due CME scheniem teeth; decreased VNOL, complicated by deep incisal overlap or distal displacement of the lower jaw; deep bite (Fig. 20).

■ to immobilize a group or all teeth of the dentition in order to eliminate pathological mobility and bring the mobility of teeth closer to physiological norms;

■ evenly chewing pressure between teeth during all cycles of mastication that key wills unload teeth with most infected periodontium and use compensatory WHO Moznosti each tooth and the tooth row as a whole, ■ create unity in dentition system Ustra yarn defects, to restore the function of mastication; ■ prevent tooth overload;

■ eliminate effects on teeth with lesions steam Dont I and II degree horizontal component masticatory pressures, and the presence of functional tional failure with lesions II and III ste fines and a vertical component.

Control s nye questions:

1. The main and additional methods of examination in the treatment of patients with deformation of the dentition as a result of pathology of hard tissues of the teeth.
2. IROPZ (poV.Yu. Milikevichu), its definition zna and chenie for choosing a method of treatment and construction pro thesis.
3. Diagnosis of deformations of the dentition.
4. Orthopedic methods of treating deformations of the dentition in periodontal diseases.
5. Klinika, pathogenesis, classification deformations tooth GOVERNMENTAL series and in the partial absence of occlusion of the teeth.
6. Differential diagnosis of dentition deformities.
7. Obosnovanie management of patients with this pas Tologoi.
8. Methods of treatment of orthopedic deformities tooth GOVERNMENTAL series.

Practice Lesson 13

Subject: Clinical change in pathological abrasion with partial dentition defects with malocclusion. Diagnostics. Orthopedic treatment.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**

Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (10 5 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

The appearance defects dentition not only leads to disruption of morphological unity pn tooth rows, but also to a complex rearrangement occurring VNA Chal near the defect, and then propagates throughout the dentition. Externally, this restructuring is manifested by the movement of teeth, which often leads to a violation of the occlusal surface of the dentition, i.e., to secondary deformations of the bite, complicating the clinic of partial tooth loss, making it difficult to select and conduct orthopedic treatment.

As part of the dental arch dentition is integrally owing to the presence between the tooth and the alveolar bone contact, wherein the fixed tooth roots. The loss of one or several (FIR teeth breaks this unity, and creates a new condition Wii for the functional activity of the masticatory apparatus.

The causes of tooth loss often are ka Ries, periodontitis, traumas, surgery, beriberi and others. The resulting This clinical picture depends on the number of lost teeth, Lok tion of and the defect length, type of occlusion, with standing support apparatus remaining teeth, the time that It has passed since the loss of teeth and the general state of the patient ence.

Two clinical forms are distinguished vertically th tooth movement with the loss of antagonist (VA By nomareva).

In the first form , tooth movement is accompanied by an increase in the alveolar ridge (dentoalveolar elongation, without a visible change in the height of the clinical crown of the tooth). This form of the character on to tooth loss in young age.

In the second clinical form, tooth extension occurs with exposure of a portion of the root, which indicates a later stage of reconstruction.

In the second clinical form is isolated by two groups:

Subgroup 1 - a visible increase in the alveolar otter
sprout with significant periodontal resorption;

2 subgroup - increase in the alveolar process is not

It is noted that periodontal tissue resorption is detected at the level of half or more.

A complication that develops after a part of the teeth is removed can occur at any age.

When the defect caused by the loss os the basic and lateral en tagonistov most often observed change of the position of teeth in the vertical direction lenii. Tooth deprived antagonists, as if part of the tooth defect in a power series; the distance between its occlusion-onnoy surface and alveolar ridge toothless portion protivopo false jaw decreases or teeth relate fusion Zist shell (Fig. 21).

Studies I form deformation (without obna root zheniya) showed that despite an increase in alveolar process, adding cost visible Nogo substance not, rearrangement braid tnyh balochek.

II . The deformations observed in the clinic are based on the process of reconstruction of tooth and jaw tissues due to the loss of their usual functional load. This is an expression of the adaptation of the dentition to new functional conditions. Partial loss of teeth, complicated phenomenon Popova-Godon, should be differentiated Vat:

- with partial loss of teeth complicated by reducing Niemi VNOL and lower distal offset Th Lust;
- with partial loss, complicated by increased abrasion of the hard tissues of the teeth (localized form, decreased VNOL);
- with partial loss of teeth on both jaws, coh and is not preserved audio pairs antagoniruyu- boiling teeth.

To distinguish the phenomenon of Popova-Godon from these forms of partial loss and complications must be about to follow the ratio of dentition at the position of the lower jaw in a state of physiological rest. For this determination, after the central relation Nia diagnostic jaw model is fixed in ar- tikulyatore and examined severity okklyuzionnoi curve in the anterior region and a posterior region, the amount of space between the teeth, deprivation E antagonists and toothless alveolar ridge portion.

In order differential diagnosis and le cheniya recommended therapeutic and diagnostic use iCal caps designed to occlusion recovery Onno height ratios of the elements and normalization of the temporomandibular joint.

Study of diagnostic models of jaws YaV wish to set up one of the main methods of inspection, the objective of which is to identify the nature okklyuzi- onnyh relationships.

Analysis of diagnostic models should Provo dit before treatment, during and at the end.

True phenomenon Popov-Godon should Otley chat the false. For an arbitrary closing of the jaws without considering the height of the bottom of the face creates a false idea that the teeth lacking antagonists sweep were to defect dentition opposite jaw.

In the process of differential dia fore cast to be aware of the possible combination of pheno mena Popova-Godon with other diseases zuboche- lyustnoy system. Thus, as a result of loss of lateral teeth *on* the lower jaw can simultaneously develop following complications Xia: okklyuzionnoi deformation curve, decrease VNOL and distal displacement of the lower jaw.

III . Rational prosthetics is **impossible** without the elimination of occlusal disorders, which, in turn, can cause dysfunction of the temporomandibular joint, chewing muscles, disrupt the movements of the lower jaw, etc.

Eliminating occlusive disorders to prosecution a prophylactic and therapeutic purposes. Prevention is to prevent:

- functional overload of periodontal teeth;
- functional overload of TMJ and chewing muscles;
- impaired function of the masticatory muscles. Therapeutic measures are:
- in the normalization of occlusal abnormalities;
- removing blocking movements of the lower Th Lust;
- elimination of functional overload parodon that the teeth;
- normalize the function of the temporomandibular first joint;
- creating conditions for rational manufacture hydrochloric prosthesis design.

Normalization of occlusal relationships of the dentition is achieved:

- fleshing mounds move zu CWA;
- shortening of the teeth, preventing reconstruction approx klyuzionnoi plane, possibly with their depulpatsiey;
- restoration of the height of the lower part of the face;
- imposition of special prostheses, causing the restructuring of hypertrophic areas al veolyarnogo process (hardware or ortodonti- cal method);

- superposition special prostheses causing restructuring the alveolar ridge with prepainted ritelnoy kompaktosteotomiey (corticotomy) (hardware-surgical method);
- extraction of teeth, if necessary with resection (alveolotomy) of a part of the alveolar bone (surgical method);
- prosthetics.

IV . The choice of method is determined by the nature of the clinical picture, the shape and degree of deformation, age and general condition of the body.

Method of grinding hard tissues. This method is used in the treatment of persons old Shae 35 - 40 years with shifting teeth of the occlusal plane is not more than a half times the vertical tooth measure

Indications for Sanding are WTO paradise shape phenomenon Popov-Godon and unsuccessful application of the method dezokklyuzii.

To determine the degree by grinding study model or diagnostic vneroto- side stems x-rays, determine how mixtures tilsya tooth, on which depends the amount of grinding with the occlusal surface of the fabrics. If necessary , teeth are repulped.

After grinding the non-depressed teeth, it is necessary to conduct a course of rheotherapy. If at Sanding is necessary to remove part of the Dent on, then at the same time it is recommended to make Ronchi.

The method of deocclusion. The method is shown in the first form of the Popov-Godon phenomenon in people no older than 35 - 40 years old. It is based on establishing a discontinuous dis tviya increased pressure on the teeth involved in the process via a fixed bridge or removable prosthesis with therapeutic support-retaining clasps. Deformations that developed in the intact dentition are removed with the help of temporary mouth guards. When simulating the occlusal surface important but create such portions which would act on a board necessary to move the pulling shihsya teeth.

By moving the tooth in the vertical and hori tal planes may also be used orthodontist cal devices. Therapeutic apparatus is an Plate-or clasp prosthesis with bite block PLO schadkoy antagoniruyuschey with offset teeth and razo bschayuschey bite in the remaining areas of dentition. With interdigitation deprived antagonists with bite block area of the lower face height card is installed in each case individually, based on the fact that the gap between the natural teeth

antagoniruyuschimi Dolj to be not more than 2 mm. Action therapeutic appa rata (uncoupling of the plate) continues until, until the natural dentition will not come into contact.

Dezokklyuziya natural dentition 2mm after dentition adjustment does not always provide complete occlusion of alignment in the surface region of the teeth, lacking antagonists of this treatment is carried out in several stages. The second and subsequent stages pass after the device ceases to operate due to the establishment contac that between all teeth. The shape of the occlusal surface is not sufficient and does not fully aligned Stu eliminated tooth displacement. The second and subsequent stages of treatment are that a new layer of quick-hardening plastic with a thickness of 1 - 2 mm is built up on the bite pad . Layer plastic fraction wives ensure uncoupling of natural teeth and not more than 2 mm. Occlusal ratio zu CWA adjusted so long until it is completely eliminated teeth offset. Once you're leveling the occlusal surface of the dental defects of a number of the opposite jaw replaced with a prosthesis, which determine the structure indicated.

Alignment of the occlusal surface prois goes due bone restructuring, rather than by dipping or "Welding of" has shifted teeth. This is evidenced by the fact that the size of the clinical crown does not change, and the volume of the alveolar process is significantly reduced. The adjustment based on the bone tissue is bone rearrangement process balochek spongy substance in accordance with the direction of forces vocative pressure and their zonal thinned set and a decrease in their number. Atrophy occurs against the background of active renewal of bone structures, i.e. the process of bone formation is not inhibited.

The duration of treatment depends not only on the degree fines deformation, but also has shifted number of teeth of periodontal antagonistic teeth and especially on the patient's age.

Appa inversely hee rurgichesky method. In cases of inflammation in the group of teeth has shifted and no phenomena adjustment in alveolar bone within 3-4 weeks from the beginning le cheniya shown the use of other therapies. These include, first of all, hardware-surgical. It can only be used at the first odds IU phenomenon Popova-Godon and in the absence of counter indications for surgical interventions. Treatment **with** this method consists in carrying h cal kompaktosteotomii and therapeutic application an Paratov for dezokklyuzii. Partial compactosteotomy (corticotomy) is performed under local anesthesia.

Surgical method. Tooth extraction as a method to eliminate the strain used in the WTO Swarm form phenomenon and a significant change in occlusion-Zion plane, as well as in severe mobility Nosta tooth or the presence of chronic periapical process, not amenable to conservative treatment.

In case of a sharp hypertrophy of alveolar germ, when the above-described methods do not lead to the desired results or can not be applied, shown extractions, and partial resection of the alveolar ridge or protuberance of the upper jaw. Resection level depends on the location verhneche lyustnoy (maxillary) sinuses, however before surgery must receive lateral sinus ray images to determine the possible volume opera tive intervention.

I of . With a partial absence of teeth, there are violations of the ratio of dentition, malocclusion due to displacement of the lower jaw back,

forward, a decrease in interalveolar height. It may also be associated with multiple brown catfish, increased erasing hard tooth tissues functional overload periodontal medical mi errors.

The prevalence of malocclusion with partial absence of teeth is 62 %.

II . For pathogenesis strain in the absence of lateral teeth characterized by the formation of reflected grass mathic node. Clinically, wherein the mark labial movement of front teeth, the appearance of three and a diastema, the appearance of inflammatory processes at the gingival margin, the presence of atrophic changes in periodontal bone tissue. With an orthognathic type of occlusion, bipognathia, excessive development of the upper jaw, chewing pressure is directed perpendicular to the long axis of the front teeth. Cutting-tubercular contact between the incisors is broken. Teeth, moving labially, obuslavli vayut severity prognathism.

When external examination (facial features) with çäàåò impression truncated upper lip, which partially covers the front teeth. The height of the bottom of the business entity is reduced.

When mesial (progenicheskom) occlusion Labi cial moving teeth of the lower jaw, and there is the same pathological process (atrophy of the bone tissue is more pronounced with the oral side).

Orthopedic treatment directed at the rate tion of ratios dentition sagittal, vertical directions, na'ustranenie secondary deformation bite mezhalveolyarnyh normalization of distance when dentition defects, periodontal-s, elevated erasing hard tooth tissues.

Normalization functional occlusal load promotes selective prishlifovyva-set, held further orthodontic and ortho pedicheskoe treatment.

To fix the position of the front teeth of past orthodontic treatments (application of the plate to the vestibular arc on the upper jaw, permanent of tooth orthodontic appliances, breket- systems) use depulpatsiyu teeth and manufacturing molded pin tabs tilting axis zu CWA. This method is more acceptable for patients older than 40 years - with protrusion.

functionally-adaptive adjustment dentition during deep incisorial ne overlap of a greatest success can be achieved by applying occlusive bus (plastic tray) to fly the mandible dentition or vre variables dentures, which vosstanavli vayut height occlusion. When this plastic bus can also be used in patients with periodontitis leg Coy and moderate without fear of obos friction. It is recommended to use two types of occlusal tires - tooth and gingival. The first of them can be used in small defects lower dentition (1-2 tooth), the second - the presence of pain Shih defects, the missing natural teeth compensate artificial (plastic). Thus, periodontal bus is to fight a temporary prosthesis, whereby Restore navlivayut lower height of the face.

Simultaneously the height of the bottom of the face mo Jette be increased by no more than 2 - 2.5 mm in the hut zhanie occurrence of discomfort and pain in the lower temporomandibular nechelyustnom joints and masticatory muscles.

If necessary, after 1 - 1.5 months chew on body surface can be laminated bus fast- hardening plastic and bring mezhalveolyarnyh distance to a value that in a state of rest between the tire surface and the teeth-oc antagonists Tawa interocclusal free space 2 ~ 2.5 mm

Patients should use the bus in the Techa of 2-3 months until a restructuring myo taticheskogo reflex masticatory muscles and the adaptation of the dental system to a new height lower otde la face.

The basic principles of orthopedic le cheniya patients with deep bite are to stizhenie multiple and uniform contact throughout the entire dentition, correct you boron structures and determining the amount of the abutment teeth.

Patients with deep bite and distal occlusion dentition orthodontic treatment for hanging on the presence or absence of distal displacement of the mandible.

III . Distal displacement of the lower jaw frequently IME is place at the distal (prognathic) bite deep burin overlap complicated defects and deformations of dentition and povy shennoy abrasion hard tooth tissues. In the presence of the distal displacement of the mandible about the usual preparation of the dental system. Req Dimo hold TMJ imaging, accurate diagnosis of distal displacement of the mandible (Fig. 22). When present, the restriction on the tomogram defined by the rear joint space between *the rear* wall of the joint hydrochloric depression and the head of the mandible.

Patients with distal displacement of the mandible is often a decrease mezhal veolyarnogo distance (Fig. 23). Between alveolar E spikes in the posterior teeth of the upper and lower jaws little room for design about tezov.

Is due sagittal displacements of the mandible under control tomogram visoch-but-mandibular joints and then produce op topedicheskie structure (Fig. 24).

The V . Synonyms **of Kosten syndrome [K07.60]:**

muscular-articular dysfunction; occlusal articular syndrome; craniomandibular dysfunction syndrome; pain syndrome dis function TMJ et al.

Symptoms of the disease: pain in the TMJ from one or two sides of varying intensity day and night, radiating to the neck, occiput, temple and crown, less often to the infraorbital region. Sometimes pain spreads along the third branch of the trigeminal nerve.

Pain with movements of the lower jaw, fatigue during chewing, crunch in the joint.

Changing the sensitivity of the skin to Oblas tee joint. These phenomena are associated with attached neuritis of the ear-temporal nerve.

Pain, tinnitus, feeling of pressure, lowering hearing.

Pain, burning, soreness, tingling in the re dnih 7 $_3$ language.

Foreign body sensation on the tongue, dry mouth or an abundance of saliva. The pathological process vovle cheny parasympathetic sensory fibers triple -border nerve innervating mucosa ne Independent user ^{2}/ s tongue and oral vestibule.

Limiting the opening of the mouth due to painful NOSTA in the TMJ.

Common symptoms: lethargy, weakness, sleep disturbance, depression.

In the treatment of Syndrome Costa preobla should give a comprehensive method. Thus consider ethyol Gia, pathogenesis, disease stage, background Patolo Gia. Pay attention to the need for patient exclusion stressful situations parafunction at EMA solid food. It is recommended to massage spastic sections of chewing muscles, Execu Call of physiotherapy treatments zabole vany TMJ.

Undoubtedly, an important role in the complex of therapeutic measures is assigned to orthopedic methods. Meto rows and individual shinoterapii prishlifovyvanie teeth require correction by occlusion Ustra neniya identified superkontaktov on natural and sometimes on artificial teeth.

Carrying out the treatment should be preceded by a careful analysis of the static and dynamic occlusion sion in the mouth and in the articulator.

Sanding the cusp tip and the bottom of the fissure is unacceptable, ie. A. Will reduce the height of the base of the department faces. By selective prishlifovyvanie can begin only after the diagnosis and composition Lenia plan correction of the occlusion. Show but a diagnostic prishlifovyvanie on jaw models.

To restore the height of the lower portion of the face, normalize the situation of the lower jaw and rearrange ki miotaticheskogo reflex masticatory muscles can be, as noted earlier, use *a plastic* mouthguard. When this disease, treatment should Provo ditsya in two stages: first - the restructuring miotatiches-one reflex; the second is the manufacture of orthopedic structures.

The duration of orthodontic treatment is carried out but. Regular visits to patients are necessary for *its* conduct and willingness to overcome difficulties **in** the treatment process.

Control s nye questions:

1.Klinika, pathogenesis, classification deformations tooth GOVERNMENTAL series and in the partial absence of occlusion of the teeth.

2. Differential diagnosis of dentition deformities.

3.Obosnovanie management of patients with this pas Tologoi.

4. Methods of treatment of orthopedic deformities tooth GOVERNMENTAL series.

5. Functional disorders during deformation CIDP ca.

6. Clinical manifestations reflected travmatiches one node.

7. TMJ with distal occlusion sion.

8. Medical devices used in the treatment of pain GOVERNMENTAL with a reduction in height of the lower portion of the face, dis tal occlusion, "fan-shaped" divergence front teeth,

9. pain TMJ dysfunction syndrome (syndrome Coste on).

Practice Lesson 14

Topic: Anomalies of the dentition in adults. Special research methods. Anomalies in the shape, number and location of teeth. Their clinical manifestations. Diagnostic and treatment methods.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . In the clinic of orthopedic dentistry often about raschayutsya patients over the age of 18 years, koto ryh there are anomalies and deformations of dentition. Deformations adversely affect

the function of chewing, breathing, diction and face configuration, which injures the psyche of patients. In addition, deformation of dentition can combine Xia defects dentition. In such cases, to ensure the full function of chewing and satisfies letvorit aesthetic requirements of the patient, fuss repents need for prior orthodontic treatment, i.e., elimination of existing malocclusion.

More often in everyday practice, treatment of dento- maxillary deformities is not carried out, but eliminated by prosthetics, sometimes in combination with orthopedic intervention. In this case, the design of the prosthesis while adjust to the existing bite, although this is not always meets the functional and aesthetic requirements. Indications for orthodontic treatment of adult little studied the literature on the subject of anti -contradictory.

Most authors opposes op todonticheskogo treatment of adults, except that after 18-20 years, due to the completed growth of the jaws, and others. Facial bones and a large compact bone tissue was, orthodontic measures are not sufficiently effective, and the results of treatment mo gut be unreliable. It is supposed to eliminate dentomaxillary deformities in adults by means of prosthetic or surgical measures.

In the literature, there are indications of individual authors on the possibility and expediency of orthodontic treatment of adults using various devices (V.Yu. Kurlyandsky, V.A. Ponomareva, I.I. Uzhumetskene, G. B. Ospanova, Gerlakh, etc.).

The frequency of dentoalveolar anomalies in adults averages 30%. Most of them reveal Lena anomalies of dentition (54%), occlusion anomalies account for 46%.

Questions about the possibility of Orthodontics Cesky treatment solved taking into account the patient's age, type of dental-maxilla-facial disorders, they expressed Nosta and combinations s'obschimi disorders of the body.

Adults can be eliminated anomalies Proposition teeth, some forms of violations of the dental arches and the displacement of the mandible. The greatest success in, adult is achieved using complex le chebnyh events, variety and volume of which is adjusted individually. They include:

1) psychotherapeutic preparation of the patient .

medical gymnastics and massage;

3) orthodontic treatment using removable not removable and combined mechanical action of boiling and functionally guide ortodontiches FIR structures and devices;

4) therapeutic treatment of diseases of the teeth, periodontal, oral mucosa;

5) surgical interventions: removal according to orthodontic indications of individual teeth; plastic shortened frenulum of tongue, moving locations when attaching bridles lips kompaktoosteotomiya; plasti cal and reconstructive operations on the surrounding dentition soft tissues, as well as the jaw, palate and facial skeleton, providing contacts between the dental arches or reduce, and sometimes Tro mentary functional and aesthetic disorders in dental-maxilla-facial region;

6) orthopedic treatment, ensuring the retention of the results of orthodontic treatment, the optimum height of the lower portion of the face, replacing a defect memory CWA and dentition.

II . Classifications of dentoalveolar anomalies: WHO, Persina.

Depending on the principle of building the differences dissolved etiopathogenetical, of morphological and functional -meteorological classification.

Etiopatogenetichesky classification dentoalveolar anomaliypo Kantorovich (1932), H and based etiologic features Proposition Genoux distinguish the following abnormalities groups: endogenous anomalies caused predominantly hereditary E causes (progeny, overbite and diastema); exogenous, caused mainly by external conditions . Compression or bending of the alveolar process, uc krivlenie body jaw, stunting jaws due tooth loss, etc.).; distal bite resulting from the distal position of the lower jaw.

Functional classification of dentofacial anomalies according to Katz (1933). The basis of the classification on the idea formed of Vania dentoalveolar anomalies depending on Fung tional state Chloe muscles. It consists of three classes: class 1 is characterized by changes Stroe Nia dentition front first molars resulting from prevailing vertical (crushing) the movements of the mandible; 2nd class on the morphological structure eniyu similar class 2 Engle and is

characterized by poorly functioning muscles, puts forward the lower jaw; Third class corresponds to the morpho logical structure of III class Angle, which, according to Katz, is explained by the prevalence of muscle function, putting forward the lower jaw.

Morphological classification, ha characterizes the changes in the structure of the teeth, tooth GOVERNMENTAL series of jaw bones, their occlusion (closing) - Engle, Kalvelis; classification of Simon, Kalamkarov (anomalies in the development of teeth, jaws, combined anomalies). The most significant is the classification of Engle, which was based on the principle of closing the first molars (Fig. 24).

The first class is characterized by the normal closure of molars in the sagittal plane. The mesial-buccal tubercle of the first molar of the upper jaw is located in the inter-tubercular fissure of the first molar of the lower jaw. In this case, all changes take DYT front molars. Possible crowded position of the incisors, violation of their closure.

The second class is characterized by impaired smy Kania molars, wherein mezhbugrovaya fissure first molar of the mandible is posture di mesial-buccal protuberance of the first molar of the maxilla. This class is divided into two sub-classes: 1st at the class - the upper incisors in the labial direction inclined Research Institute (protrusion); 2nd Division - upper incisors tilted us palato (retrusion).

The third class is characterized by impaired smy Kania first molars, wherein intertubercular fissure first molar of the mandible is positioned in front mesial-buccal tuber first molar Ver hney jaw.

Angle classification is applied in the early stages of diagnosis.

The dentomaxillary anomalies in **the Courland classification are** fairly well represented **.**

1. Anomalies in the shape and position of the teeth.

1.1. Anomalies in the shape and size of teeth: macrodentia,
microdentia, spike, cuboid teeth, etc.

1.2. Abnormalities position of certain teeth: turn on an axis offset into the vestibular or orally at the board, the displacement in the distal or mesial direction violation height, location of a dentition of the tooth crown.

2. Anomalies of the dentition.

2.1. Violation of the formation and eruption of teeth: teeth and absence of germs (edentia), education of supernumerary teeth.

2..2. Teeth retention.

2.3. Violation of the distance between the teeth (diastema, three).

2.4. Uneven development of the alveolar ridge, underdevelopment or its excessive growth.

2.5. Narrowing or widening of the dentition.

2.6. Abnormal position of several teeth.

Classification of anomalies of the teeth and jaws ka Phaedra orthodontics and prosthetics children MSMSU (1990).

2. **Anomalies of the teeth.**

1.1. Anomalies in the shape of the tooth.

1.2. Anomalies in the structure of hard tissues of the tooth.

1.3. Anomalies in the color of the tooth.

1.4. Abnormalities of tooth size (height, width, thickness of us).

1.4.1. Macrodentia

1.4.2. Microdentia.

1.5. Anomalies in the number of teeth
1.5.1. Hyperodontics (in the presence of supernumerary teeth).
1.5.2. Hypodontia (edentia teeth - or full hour ung).
1.6. Teething abnormalities.
1.6.1. Early teething.
1.6.2. Delayed teething (retention).
1.7. Abnormalities of the teeth (in one, two, three on boards).
1.7.1. Vestibular
1.7.2. Oral.
1.7.3. Mesial.
1.7.4. Distal.
1.7.5. Supraposition.
1.7.6. Infraposition.
1.7.7. Axial rotation (tortoanomaly)
1.7.8. Transposition
2. **Anomalies of the dentition** .
1 Violation of the form. 2 .2. Size violation.
2.2.1- In the transverse direction (narrowing,
expansion).
2.2.2. In the sagittal direction (elongation UCO Rocen).
2.3. Report layout sequence zu CWA.
2.4. Violation of the symmetry of the position of the teeth.
2.5. Violation of contacts between adjacent teeth (DCCH chennoe or rare position).

3. Anomalies jaws and their individual anatomy energy part.
3.1. Violation of the form.
3.2. Size violation.

3.2.1. In the sagittal direction (elongation UCO Rocen).
3.2.2. In the transverse direction (narrowing, expansion).
3.2.3. In the vertical direction (increase, decrease in height).
3.2.4. Combined in two and three directions.

3.3. Violation of the relative position of the parts of the jaws.
3.4. Violation of the position of the jaw bones.

Sagittal anomalies of occlusion.
Distal occlusion (disto occlusion) of the dentition is diagnosed when their closure in the lateral areas is impaired , namely: the upper dentition is displaced forward with respect to the lower or lower dentition is displaced with respect to the upper; closing of a lateral group of teeth according to Engle 's II class. Mesial approx fairleads (meziookklyuziya) dentition - violation of their clamping in the lateral parts, namely upper tooth row is offset backward *relative to the* bottom or lower dentition shifted forward relative to the upper; closing the teeth on the side group III class Eenlya. On Rushen closing of dentition in the front portion of the sagittal incisive dizokklyuziya. When you move the < maxillary incisors forward or lower back WHO arises dizokklyuziya front teeth, for example measures dizokklyuziya resulting protrusion of the upper cut AEC or retrusion of the lower incisors.

II . Vertical occlusion anomalies
Vertical incisal dizokklyuziya - so binds open bite at which no occlusion front teeth group. Deep incisal disocclusion is the so-called deep bite, when the upper incisors overlap the same

lower teeth without closing them. Deep incisive occlusion - the upper incisors overlap the lower teeth with the same name more than have of the height of the crown; closing of incisors saved.

III . Transverse occlusion anomalies.

Cross Occlusion:

1) vestibulookklyuziya - displacement of the bottom or top of the tooth row in the direction of the cheek;
2) palatine occlusion - displacement of the upper dentition in the palatine side;
3) linguooccclusion - displacement of the lower dentition towards the tongue.

L.S. Persian (1990) proposed a classification of abnormalities occlusion dentition, based on false principle presence or absence clamping tooth rows. A new bite formulation has been given. "Bite - a multiple closure of opposing teeth when at commonplace to a static position lower jaw" (Persian LS 1989).

The type of closure of the dentition is evaluated in the lateral sections of the dentition and in the anterior portion. Distinguish between physiological and abnormal occlusion (disocclusion) of the dentition.

Thus, the presence of occlusion determines by the presence clamping dentition, which is the first leading sign.

1. A nominal occlusion of the dentition.

eleven. In the side section.

1.1.1. In sagittal - distal (disto) occlusion, mesial (mesio) occlusion.
1.1.2. Vertical disocclusion.
1.1.3. By transversal - cross occlusion vestibulookklyuziiya, palatinookklyuziya, ling gvookklyuziya.

1.2. In the front section.

1.2.1. According sagittali - sagittal incisive dizok Clusaz incisive reverse occlusion, reverse incisive dizokklyuziya.
1.2.2. Vertical - vertical incisive dizok Clusaz direct incisive occlusion, deep incisive occlusion, deep incisive dizok Clusaz.
1.2.3. According transvesali - front transversal occlusion, anterior transverse dizok Clusaz.

2. Anomalies of the occlusion of pairs of antagonist teeth.

2.1. By sagittali.
2.2. Vertically.
2.3. Transversal.

Test questions:

1. Anomalies of the dentition in adults. Etio logy.
2. Classifications of dentofacial anomalies: WHO; Persina.
3 . Diagnosis of anomalies. Specific methods obsl Research (kefalometricheskie, anthropometric, graphics, radiography).

Practice Lesson 15

Subject: Studies of dentofacial anomalies. Classification of dentofacial anomalies.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Types of tooth abnormalities. Anomalies in the shape, number and position of teeth make up 39%. They cause functional and aesthetic disorders of the dentition.

1. Anomalies in the shape of the tooth (spike teeth, Get-Chinson's teeth, Fournier).
2. Abnormalities structure of dental hard tissues (gipopla Zia, hyperplasia, fluorosis).
3. Anomalies in the color of the tooth (tetracycline teeth).
4. Anomalies tooth size (height, width, thickness us):
   - ■ macrodentia;
   - ■ microdentia.

5 Anomalies in the number of teeth:
- ■ giperodontiya (if supplemental zu CWA);
- ■ hypodontia (edentia teeth - full or partial naya).

6. Anomalies of teething:
- ■ early teething;
- ■ teething delay (retention).

7.Abnormalities of the teeth (in one, two, three on the boards):

- vestibular;
- oral;
- mesial; distal;
- supraposition;
- infraposition;
- rotation along the axis (tortoanomaly);
- transposition.

III . In orthodontics, the diagnosis is established on the basis of a survey of the patient and examination of his appearance, oral cavity, condition of teeth, dentitions and occlusion. In some cases, study models of the jaws, face masks, as well as special research methods used:

- cephalometric;
- anthropometric;
- radiological;
- functional. Anthropometric studies are performed on the upper jaw, motionlessly connected to other bones of the skull. Data relating to the lower chelyus ti, obtained by comparing it to the upper jaw. Diagnostic models of the jaws are studied and measured in three mutually perpendicular directions - transversal, sagittal and vertical.

In the transversal direction determined shi Rina dentition method Pont adjusted Linder and Hart and method Snaginoy.

Pon (France) has established a relationship between the sum of the width of the crown of the upper incisors and the tooth width GOVERNMENTAL rows in the premolars and molars. This method allows you to determine the individual norm of the width of the dental arches.

For practical purposes, Pont made a table of distances between the premolars and molars at once personal width of four maxillary incisors. Ana logical table Pona, Linder and Hart made Tabley zu using other averages (premolar index - 85, molar - 65).

N.G. Snaginoy (1965) established a relationship between the width of the dental arch and the sum of the width mezio- distal diameter 12 of the teeth, t. K. Observations show whether the width of the dentition is largely dependent on the amount of tooth width.

Percentage, or the magnitude of the dental arch N.G. Snaginoj determined by the formulas:

According to the author, the sum of the mesial-distal dia meters of the teeth 12 may vary in the upper jaw of 97 to 85 mm (mean 92.10 <93.18 <94.33 mm) on the lower jaw from 89 to 77 mm. The maximum width of the upper dental arch is 45.5 mm, the lower - 38 mm; the minimum width on the upper jaw is 38 mm, on the lower jaw - 30 mm.

The sagittal on board study clinic anterior segment of the upper dental arch using the method Korkhauza (Fig. 26). He established a certain relationship between the sum of the

transverse dimensions of the incisors and the length of the anterior segment of the upper dental arch, which is indicated by the distance between the labial surface of the upper central incisors and the line passing through the measuring points along the Pont in the region of the first premolars. Measurement data according to Korkhaus are presented in the table. They can be used to establish the length of the anterior segment of the lower dental arch, but reduced by 2-3 mm, respectively, the thickness of the upper incisors. You can use these sizes without correction only with a direct bite.

The Howley Gerber Herbst diagram is based on the anthropometric dependence of the size and shape of the 1st dental arch on the transverse dimensions of the front teeth of the upper jaw. According to this dependence, it is established that the labial surface of the group of frontal teeth of the upper jaw is a segment of a circle, chewing teeth continue it, being elliptical.

To build a diagram, the width of the three teeth of the upper jaw is summarized - the central and lateral incisors and canine, which is the radius AB (Fig. 27). A circle is described from point B, after which, with a radius of AB, points of arcs AC and AD are cut off from one and the other side. The arc SAD is a curve of the location of six front teeth.

To determine the location of the chewing teeth, an auxiliary circle is described. Adjuvant radius of the circle are as follows: from the point E diameters AE ra carried straight through the points C and D to the intersection with the tangent to the circle at point A. Party obtained equilateral triangle EFG is desired ra radius for the construction of auxiliary circle. On the extension of the diameter of lay radius AE AO equal ny side of the equilateral triangle EFG , and describe ik- auxiliary circle. From the point M diameter AM lay radius AO points J and H. By connecting point H to point C and the point J from the point E, curve HCA D J , to Thoraya curve is whole dental arch. On the segments NS and D J should be located chewing teeth.

Herbst supplemented diagram Hauleya replacing bo kovye direct branch arcs CN and DR. Centers for these arcs are the points L and K, which lie on a diameter perpen dikulyarnom diameter AM . The arc CN is described by the radius LC , and the arc by the radius CD. The Herbst Arc N SADR has rounded lateral branches. To determine the deviation Nij in the arrangement of the teeth and the dental arch generally recom mended chart to impose on the dentition.

To determine the shape of the dentition model imposes on the drawing so that its center line, about walking along the palatal suture, coincided with diameter AM , and the sides of an equilateral triangle FEG passed between the canine and premolar. Then, a thinly sharpened pencil is drawn around the contour of the dentition and the existing shape is compared with the curve of the diagram.

To study the structure of the skull and facial Skela one arrangement of jaws and soft tissue ratio of the facial skeleton is used teleroentgenography (TWG). An X-ray photograph is taken at a distance of 1.5 m from the patient] , the exposure time is 0.1-0.2 seconds. On TRG receive a head image in true size. Make about philous pictures as the most informative. For great villa fixation head used kraniostat. TWG on an image of the maxillofacial skeleton and con tours of soft tissue. For a clearer image, a barium sulfate paste is applied to the face in the midline.

On TRG conduct research:

1) craniometrical - studying the structure of the skull and decomposition it jaws; the purpose of these measurements - the study chit ratio jaw to the cranium;
2) gnatometric - study the ratio of the individual parts of the jaws; the purpose of the measurement - to clarify the clinical cal diagnosis;
3) profilometric - examine the degree of influence on the cranio gnatometricheskih and form relationships about Phil face.

Kraniometrich RP G research methods Ba Vanir on the laws of the structure of the facial and brain Vågå skull, proportionality ratio of different parts of the head and their relation to the planes: sagittal mid ear-orbital (Frankfurt) and fro tal. The mid-sagittal plane passes through the central incisors, through the seam of the hard palate, and divides the face into two halves. Frankfurt (ear-orbital - passes through the lowest point on the edge of the bone bits and the upper edge of the auditory openings front orbital plane passes through the point perpendi. Angles to ear-orbital plane.

In relation to the mid-sagittal and fron tal planes can be judged on the asymmetry of the face and anomalies of dental system.

For the analysis of TWG (according to the Schwartz method), the following points and planes are noted (Fig. 28);

S_e is the middle of the Turkish saddle;

N is the bone point of the fronto-nasal suture;

N_{to} - the intersection point of the SN line with the skin contour;

n is the plane of the anterior section of the base of the skull;

R_p - nasal vertical plane (perpendicular to NSen 3 n);

P_0 is the orbital vertical;

A - subspinalnaya point located in a recess in the front wall of the upper base apical chelyus minute;

H - Frankfurt horizontal (runs parallel to the NSe plane): connects the eye and ear points;

G_0 - the most upright point of the lower jaw at her Angle;

Me is the lowest point of the chin;

Sn is the tray fold;

Genus is the point of the chin.

When connecting the points G_0 and Me get the plane MT; MT - tangent to the branch of the lower jaw.

An SNA - re apex days nasal spine *(spi na is nasalis the anterior);*

SNP - rear nose portion *(spina nasalis pos terior);*

SPP - This plane divides the skull on tap cial and gnathic part;

OCP is the occlusal plane.

When connected SRI anthropometric points are formed plane and the angles to be investigated and measured.

When the NSe and NA planes intersect , an angle F (front) is formed. Normally - 85 °. Angle F is characterized by zitsiyu planes relative to the upper jaw , and before it the base of the skull. If the angle is reduced, by knowing the cheat, the upper jaw is in the rear position (ie retroposition..); if the angle is increased, then the upper jaw is in the front position.

When Pn and SpP intersect , an angle J (inclinational) is formed. Its average value is 85 °. This angle on the clone. He characterizes the slope of the upper jaw to the plane of the bone of the anterior skull base. If the angle is increased, then the jaw is inclined anteriorly, if the angle is reduced, then the jaw is inclined posteriorly. Options! position and inclination (inclination) form nine types of face with orthognathic bite.

The plane of the anterior part of the base of the NSe skull is on average 60 - 70 mm. The magnitude of this plane is a stable reference point. In relation thereto determined fissile size

ground plane of the mandible. In the j norm of MT, it is equal to NSe - 3 mm. The length of the upper jaw SpP i is equal to $^{2}/_{3}$ The lengths of the bottom. There is a dependency

a plane lower base jaw and the vertical branch of the mandible (,: MT MT = 5: 7, ie the length of the branch is.. $^{5}/_{7}$ body length).

Determining the true and desired length chelyus Tay helps determine the pathology, its value and you take the most effective method of treatment.

According to the TRG, the maxillary profile field is also studied, it should not be more than 15 mm; it should LAYOUT gatsya upper lip, lower lip and chin. Chelyus deleterious profile field is between per- ramie, lowered dots $N_{к}$ (fore perpendicular Pn) and O (orbital perpendicular P_{0}). Soft tissue profile is defined by about philous corner T. It is formed by the bow line P and a line connecting a point protruding chin bow point Sn . Normally, the angle T is 10 °. Profile face having an angle, a is a full es thetic regard. An increase in it or a decrease adversely affects the profile of the face. The study enables the TWG to determine ka kim should be normal facial profile in accordance with the structure of the skull. It is possible to accurately set the locale of the anomalous area zatsiyu gnathic of the skull and make a correct diagnosis, to develop a plan leche Niya.

II . The etiology of tooth shape anomalies has not been elucidated. Paul gayut that is a pathology of dental germs. In the presence of abnormal forms of teeth if they broke out appearance of the patient, the treatment is carried out orthopedic crowns made of porcelain, ceramic metal or plastic.

Giant teeth (10 and more mm) are referred to tooth size anomalies. The reason for their appearance - pas scientists are developing tooth germs. There may be a fusion of the roots, a fusion of the rudiments of adjacent teeth, a fusion of two ^{3}Ubs (normal and supercomplete). Thus mo Jette be fusion of coronal and root pulp detected or isolated coronal and root pulp. Central incisors on the upper jaw are usually giant. If these teeth violate the aesthetics, they are removed. If the patient does not complain about the size of the tooth crown, then the tooth is left. If teeth giant occupy much space and arranged properly in the dentition, it should expand dentition ortodon matically apparatus or delete some teeth (usually premolars) followed by displacement of the central GOVERNMENTAL cutter unit mechanical action.

Tooth size abnormalities

There are macrodentia and microdentia of teeth. Mikrodentiya - increased softening mesiodistal moat teeth relative to their average statistical indicators. The size of the incisors, mainly the upper ones , may be violated . This anomaly is usually inherent in the central upper incisors. A significant increase in the size detected visually, the degree of magnification is determined by comparing the results of measurement comrade *with* average statistical parameters ramie normal.

Diagnostics. The sharp increase in the size of the memory CWA diagnosed as megalodentiya. Determine follows blowing tooth parameters: the width, thickness and height Ko ronkovoy portion. The width or mesiodistal size of premolars and molars and the mediolateral size of the incisors and canines are measured in the widest part of the tooth crown , the height from the gingival margin of the tooth neck to the cutting edge of the incisors, the hillock of canines of premolars and molars. Thickness is the largest parameter of the crown in the oral-vestibular direction.

Microdentia - a decrease in tooth size compared with the average data. WHO can reduce the size of all the teeth, but, as a rule, this applies only to the individual. Most often meeting etsya anomaly of the upper lateral incisors. Pronounced naya mikrodentiya diagnosed visually.

The anomaly of tooth size is often associated with anomalous Malia their shape (Fig. 30). Compare tooth width in the coronal part and available for his place in the tooth row when anomalies position acquires an existing member vennoe important for prognosis and influences the choice of method of treatment.

Diagnostics. Since the shape parameters and occlusion of dentition sizes depend on the teeth, should be determined sizes interdependence Ver hnih and lower teeth, which is important both in occlusion of deciduous teeth, and during the change of teeth and in the occlusion of the permanent teeth. This follows, in particular, from the established pattern: the sum of the width of the crowns of permanent teeth is greater than those temporary (occlusion of milk teeth) of the upper teeth by an average of 7.1 mm, of the lower ones by 5.3 mm.

On the size of the crowns of the upper and lower second milk molars, their closure largely depends . If these values are equal, then the mesial step is found behind the dentition , due to which the closure of the first permanent molars will be optimal . If the second lower crown dimensions lactic GOVERNMENTAL longer upper molars to *2* mm, their distal surfaces are usually located in the same vertical plane. If the size difference exceeds 2 mm, a distal step may form. Both lead to distal occlusion.

Measurement parameters incisors upper and lower jaws, are proportionality assessment of their large values chenie for predicting clamping dentition in vertical hydrochloric plane. Width amount ratio crowns of the upper incisors and the lower incisors, in Ton is expressed as 4: 3 or index 1.33 at physiological occlusion sion permanent teeth. In the bite of milk teeth , the Dolgopolova index is 1.3.
Treatment of patients with abnormal size Dhu CWA usually orthopedic. When makrodentii in conjunction with abnormal shapes and sizes of tooth pn rows and require pre-occlusion ortodon- cally correction, allowing to restore ana tomicheskuyu shape by manufacturing a synthetic oronki. The exception is the cases of macrodentia and microdentia, which are not sharply expressed individually , when the range of differences *in* tooth *sizes* is not large, there are certain discrepancies with the sizes of the bases of the jaws and the type of face. In other words, these are rare cases when you can do only orthodontic correction or correction with the removal of individual teeth.

Anomalies in the number of teeth. Edentulous causes may be a violation of mineral metabolism in vnut riutrobnom period and after the birth due to illness in early childhood; has a value of heredity, developmental disorder of the ectoderm, wasps teomielity jaw, leading to the death of dental conceived Cove.

More common edentia upper lateral cut AEC and lower second premolars. Thus between the tooth E observed intervals. With an adentia of permanent teeth, the resorption of the roots of milk teeth is delayed, and they persist for a long time, remaining stable for [1]mi. These teeth are removed only for strict indications. With full and multiple partial adentia, a violation of appearance and speech is noted.

Edentulous diagnosis is based on clinical examination data, confirmed by x- diffraction patterns of the jaws.

With complete adentia at any age, prosthetics are indicated. In the case of a partially edentulous presence eat diastema, treatment is reduced to three convergence otde lnyh teeth mechanical action aids and pos leduyuschemu prosthetics.

Retention is a delay in teething. Most often, there is a retention of permanent teeth: upper canines, second premolars and wisdom teeth. Impacted teeth can cause incorrect by decomposition of adjacent teeth (slope degree three).

The reason for retention are common Zabolev Organism, premature removal of deciduous teeth, trauma, heredity, poor dentition or deep rudiments, mechanical obstacles (delayed baby teeth). Retention of teeth is diagnosed by radiographs.

With the horizontal position of the retained teeth, orthodontic treatment is not carried out. Such teeth remain in the jaw if they do not bother the patient. If they are located correctly in the jaw, then they recommend massage of this area (if there is a place for them). Can be derived and set in dentition vertically standing impacted teeth pos le remove any remaining milk teeth, surgical th bit outcrops in combination with massage art orthodontic apparatus or (crowns with hooks and rubber thrust plate to the hook).

Anomalies in the number of teeth include an increase in their number - hypertension. Supernumerary teeth are more often observed in a permanent bite (these are

incisors, fangs, premolars, molars). Usually imeyutanomalnuyu shape and are located in the upper jaw between the price tral incisors. They may be impacted , and detected by X-ray studies Research Institute, (Fig. 29)

The cause of supernumerary teeth YaV wish to set up embryo splitting tional dental plate at greater than normal, if honors tooth germs. In addition , their origin svya coupled to the phenomena of atavism and heredity.

If sverhkomplekt nye teeth violate correct of constructing a dental Series, then they are removed. If the supernumerary teeth do not violate the aesthetic standards and the shape of the dentition, then such teeth are left.

For hard tissue structure abnormalities of teeth are worn hypoplasia, hyperplasia enamel and fluorosis.

Hypoplasia of the enamel is the result of metabolic disorders in the body, appears Naru sheniem structure of dentin, pulp, and is often combined with anomaliyami malocclusion (open bite, progeny). Once guish hypoplasia hard dental tissue: systemic (formed on all teeth simultaneously); focal (affected by several adjacent teeth) and local (single tooth).

Fluorosis - chronic disease obuslov Retained excessive intake of fluorine, e.g., at a content in drinking water more than 1.5 mg / l. Violation of mineral metabolism is shown in \ shape pigmentation mottle enamels, chalk-like stains on the progression of the process pur PETA dark brown.

Hyperplasia enamel is rare and clinical ically shown in the form of enamel droplets located schihsya in the neck of the tooth. Enamel drop presented by a portion hyperplasia dentin, enamel coated.

In case of anomalies in the structure of the hard tissues of the teeth, if the pathology is significantly expressed and the patient's appearance is disturbed , prosthetics with aesthetic crowns are recommended .

Anomalies in the position of the teeth are considered in three planes:

- in the sagittal direction:
  - Proposition and retroposition of the front teeth;
  - disto- and mesioposition of the posterior teeth;
- in the vertical direction:
  - supra and infraposition;
- in the transversal direction:
  - lateral, distal, medial. Treatment for incorrect dental position depends

from the presence of space in the dentition. Location for traveling Mykh teeth is created:

1)increase the size of the alveolar bone or separately by expanding the jaw portion of the jaw;

2) the removal of individual teeth. Indications for the choice of treatment method depend on:

1) on the age of the patient;
2) type of deformation;
3) from clinical conditions.

The position or displacement of the anterior teeth outside the dentition leads to an elongation of the anterior segment of the dental arch, the appearance of three between the teeth, closing of the lips, functional and aesthetic disorders . Reason: The abnormal position of germs zu CWA bad habits, difficulty in nasal breathing, trauma, tumors. In order to eliminate protrusion, separate front teeth use removable and non-removable orthodontic appliances. Removable devices - plas roughcast retruzionnoy vestibular arc hooks in the vicinity of first premolars and rubber rings. Of non-removable devices, a bracket system is more often used.

After correcting the vestibular position of the teeth, a long retention is required.

Retroposition of the front teeth - the inclination of the teeth inward from the dentition. Is more common PET ropozitsiya permanent central and lateral incisors of the upper jaw. At the same dental arch acquires tra petsievidnuyu shape, which leads to a shortening of its ne Independent user segment, closely spaced cutters zabole ments periodontal retraction of the lips, a violation of diction. Etiology: incorrect position primordia teeth of the upper jaw, deciduous teeth lingering, auxiliary jaws disease, their injury races extension palate.

Treatment methods depend on the location of the upper and lower front teeth, the degree of wear of the teeth, the depths us incisal overlap, the space available in the dentition.

With slight reverse incisorial re covered, at the front teeth dizokklyuzii The direct or my occlusion to eliminate retroposition front teeth are used devices with removable laminar protragiruyuschimi springs, screws and sectoral cut. According to indications, the bite is disconnected using occlusal overlays on the posterior teeth. Of non-removable devices use a bracket system.

In the case of deep incisive overlap ICs use this product brückl, mouthguards Schwartz Bynina. If the patient does not agree to orthodontic treatment, then eliminate the anomaly with the help of orthopedic treatment , although this is undesirable.

When a sufficient overlap after treatment retention devices are not applicable (D tentsiyu create antagonists teeth). In the absence ne overlap of the base plate is manufactured with plastic to snugly palatal surface Move by thallium teeth.

Meziopozitsiya posterior teeth - or corpus inclination shift teeth on the dental arch nper di.

Treatment of the mesial position of the teeth is carried out individually. With early removal of the second deciduous molars or primary edentulous second pre-molar of the maxilla is observed mesial ne remeschenie first molar. In this regard, are you breaking? the closure of one pair of antagonist teeth, namely, the mesial-buccal tubercle of the first molar of the upper jaw, is located in front of the inter-tuber fissure of the first molar of the lower jaw. In this case, you can save the position of the mesial of the first molar and then Celes figuratively move ahead of the second molar.

If the doctor decided to move the first molar in
the distal direction in order to achieve good
its clamping teeth antagonists, vospol can call of
the plate to the upper jaw with sektoral nym
sawed apparatus Kalamkarova, Engle arc.
Facial arc particularly effectively with application necks hydrochloric
traction. For the first molars, rings with
tubes for the front arc are made. On the side of the movable
distal of the first molar on the arc makes a bend, koto ing
rests on the tube and on the opposite side of the
end of the arc does not stop and is available in tubes ke.
In the anterior section, the facial arch is separated from the front
teeth. When applying cervical traction the whole force of the front
arc is aimed at first molar, which should ne remestit
distally. For distal

movement of both first molars, the front arch has stops in front of the tubes on both sides, and both teeth will move in the distal direction (Fig. 31).

After moving the first molars in dichalo- prefecture direction restore the integrity of the tooth row at the second premolar only by prostheses tion or pre-implantation. In the clinic , the mesial position of the posterior teeth is often found. This may be due to the early removal of milk canine, high position germ supernumerary teeth makrodentiey lateral teeth, changing the order of eruption of canine and premolar second (first about rezyvaetsya second premolar). In this case, the form Smyk Nia lateral teeth corresponds II class Engle. In order to create space for the canine must move bo kovye teeth distally. To do this, you can use plate devices (Fig. 32).

The position of the posterior teeth is a distal inclination or body displacement along the dental arch. Moving teeth mesial performed using the removable plate with the bite block playground apparatus Coy at the front portion, springs, clasps and pressure on the teeth to be moved.

Mezialno- move distally or finding schiesya teeth when it is dictated by functional GOVERNMENTAL and aesthetic considerations, or whether a bridge to create space for the prosthesis.

Supra- and infrapozitsiyu teeth, t. E. Their anomaliy- dispositions of the vertical direction defined fissile relative to the occlusal plane,

The supraposition of the teeth of the upper jaw, the infraposition of the teeth of the lower jaw is one of the varieties of such an anomaly. Teeth that do not reach the occlusal plane in the upper jaw are in supraposition (most often incisors and fangs), and in the lower - in infraposition , which leads to disocclusion of the dentition. After creating space in the tooth row on the teeth to be ne remescheniyu strengthen crown or ring with a hook bar and provide dentoalveolar elongation with a removable unit of the plate with the spring and the rubber rods, or non-removable devices - breket- tooth system.

Infrapozitsiya teeth of the upper jaw, the super position of the lower jaw teeth - Ver front teeth hney and mandibular cross occlusal plane incisal overlap depth exceeds normal (deep overlap). In order zuboalveolyar- Nogo shortening used apparatuses, the reinforcing pressure in the vertical direction improperly positioned tooth: plate springs or IU -metallic ribbon resting on the cutting edge of the movable tooth; kryuchky7 ~ I cut the overlying conductive edge soldered to the ring on the movable tooth; also effective plate with bite block area (for the opposing jaw), but better use of Vat bracket system.

Tortopozitsiya - Rotate from the teeth around about longitudinal axis. More often this is observed in incisors and fangs. The rotation of the teeth can be from several degrees to 180 °. Reason: lack of space in the dentition, incorrect position of the tooth germ, supernumerary teeth.

To establish a rotated axis of the tooth in the right- Villeneuve position removable or nesem nye orthodontic appliances, creating a counter acting forces. For this purpose, a vestibular retraction arch and a lingual traction spring are installed in removable plate apparatuses . In the presence of close contact of the moved tooth with the antagonists, the separation of the dentition with

the help of the bite pad is provided. On moving the emom tooth ring fixed hook soldered respectively with oral and buccal sides. The tooth is rotated using rubber traction. Of non-removable devices, a bracket system is more often used.

Under the influence of orthodontic appliances occurs tension periodontal fibers and mezhzub GOVERNMENTAL cords, and striving to reduce the return of the tooth in the same position. Therefore, fastening the results Tats treatment is achieved prolonged retention displaced tooth (up to 2 years). Premature SAEs term retention device may be the cause of re tsidiva anomalies.

Carrying out compact osteotomy in the area of the moved tooth before orthodontic treatment ensures the movement of the tooth for 2-3 months.

Transposition teeth - exchange places pn collocated teeth (e.g., the location of the canine first premolar on site). Reason: atypical position of primordia, trauma. Treatment is depend ing on the functional and aesthetic disorders, as well as the possibility of achieving the positive PE [3]Ultatov. Plan the treatment should be after obsledo Bani patient and X-ray study of the wrong position of teeth. The choice of treatment method (removal or movement of individual teeth) depends on topography and the degree of tooth displacement and the inclination of its roots. Teeth located outside the dentition and rotated along the axis are most often removed. With distal transposition of the canine and the presence of space in the dental arch in front of the first premolar, the premolar can be moved mesial, and the canine can be moved between the premolars. This method of treatment is effective for mesial tilt of the root of the first premolar under the age of 40 years. For le cheniya use removable plate with springs and removable appliances bracket system.

Orthopedic treatment is to change SRI anatomically shaped dental crowns by Prote , if needed.

III . Diastema - the gap between the central cut Tsami formed as a result of the lateral displacement of both cutters or one of them, or wasp Vågå rotation. Distinguish diastema symmetric and asymmetric. By etiology isolated diastema true (due to the low attachment frenulum of the upper lip and the wider interdental septum) and false (due edentulous or retention lateral incisors, or axial rotation, as well as Nali PIR supernumerary teeth or tumors between the central incisors - cyst epulid). In vozniknit venii diastema plays the role of mismatch of the teeth to the dental arch sizes, excessive dimensions upper Th Lust or its frontal portion.

Depending on the inclination of the central axial cutters are three clinical variety dia tem.

1) The parallel arrangement of the central incisors (central crown lateral deviation Res ATCs at the correct location in the tops of the armature therein). This type diastema arises under the influence of IU -mechanical factors. Diastema eliminated using removable or non-removable devices with mechanically acting devices for the right of unilateral or medial incisor inclination. From removable devices use different plates: *a* rukoobraznymi springs (by Kalvelis), with F carotid vestibular arc (with the central loop) extending between the side and central cut Tsami. Of non-removable structures, the Korkhaus apparatus is used - rings or crowns for central incisors with vertical rods soldered closer to their medial surface and rubber traction.

2) The second kind is connected with the case diastema and latte eral offset cutters (results from low attachment of the frenulum of the upper lip). She often forehand etsya inherited and is called true diastema.

3) lateral deviation crowns central incisors and medial Noe offset their roots. Diast ma has the form of a triangle vertices bus upwardly (Fig. 33).

The medial inclination of the crowns of the central incisors and the lateral deviation of their roots. Dijtema in the form of a triangle with the top down. Diastema Treatment should start after the radiography of domain the central incisor with a view to identifying and impacted over complete teeth, and tumors.

Depending on kliniches one species in the apparatus diastema Kor- khauza changes location D Zinov rings: the lateral deflection ring crowns wearing out the lower end of the rod, and conversely the mouth (Fig. 34). With asymmetric Diastema, only one tooth is moved b. For this, one crown with a vertical bar for a moved tooth and two welded crowns or mouth guards with a hook for two teeth on the opposite side are made. Between do they provide a rubber traction.

Auxiliary Operations vmeshatels tvāṁ the treatment diastema include removal ultrashort plektnyh teeth located between the central incisors, upper bridles moving lips, disrupting of the bone hole walls between the central incisors.

Pronounced diastema may be Ustra Nena after kompaktoosteotomii teeth in area under lying movement and the subsequent application of orthodontic appliances. This combined the methods le cheniya shows the presence of a wide diastema. When at lichii gap between the central incisors more than 7 mm in combination with multiple edentulous or loss of teeth shown orthopedic treatment.

In cases where after the removal of diastema we lateral incisors are set close to the cent eral - recurrence of the anomalies observed. In edentulous lateral incisors early their loss or, after correcting the position of the central incisors, lack guides lateral incisors replace artificial.

I of . Anomalies of dentition in relation to the three mutual but perpendicular to the plane:

a) in the transversal direction - extension and contraction renie dental arches;

Yu b) in the sagittal - lengthening and shortening of the dental arches;

c) in the vertical, dentoalveolar shortening and elongation in individual segments of the dental arches.

The narrowing of the dental arches - frequent ano Malia. It is characterized by a change in the shape of the dental d y g as a result of a decrease in the distance between the median plane and the teeth located laterally from it .

Early tooth decay due to caries but process and promote the loss of movement of the side teeth in the mesial direction so on. E. At Stora well narrower part of the dental arch. There are narrowing: dental arch, alveolar, basal and combined forms.

Deformation of the shape of the dentition can be varied (Fig. 35):

a) flattened;
b) elongated;
c) saddle-shaped;
d) triangular;
e) trapezoidal;
e) asymmetric.

Narrowing may be unilateral or dvusto -sided, symmetrical or asymmetrical, on one or both jaws; without breaking the dentition or with a violation.

There are narrowing of the dental arch: with protrusion of the front teeth (without three); with protrusion and crowded front teeth; with protrusion of the front teeth with itrems.

Most closely observe the location of the front teeth, certain teeth turns axially displacement of one or more teeth of a dentition lead bulyarnom or oral direction retention otde lnyh teeth.

Clarify the width of the dental arch in the area of premolars and molars (according to Pont, Snagina). Comparison of the floor data obtained are individually norm to determine the severity of the restriction and choose the method of le cheniya. At the same time take into account:

1) closing of the posterior teeth (normal, distal, mesial);

2) narrowing of the arch (dental, alveolar, basal);

3) .. The position of the lateral teeth, ie, on whether the close decomposition front teeth consequence hypoplasia basis of jaws or other causes;

4) the possibility of eliminating anomalies ortodonticheski- methods, which as well as the need for auxiliary methods of treatment, including hee rurgicheskih.

Treatment consists in expanding the dental arches, setting the teeth in the correct position, as well as in determining orthodontic indications for the removal of individual teeth or other surgical operations (compact osteotomy, plastic of a shortened frenum of the tongue).

Dental arch expansion is achieved using removable or non-removable orthodontic appliances with screws or springs. Most use a plate with a screw for uniform expansion of the dentition, screw mounted in the premolar area (place on the upper dentition great- est

For simultaneous expansion and shortening of the dentition, a plate with a vestibular arch and an expanding screw is used. Unilateral races extension of the upper dentition is achieved by plates with sectoral cut. In the area of the lateral O teeth odlezhaschih vestibular re displacements, uncouple tooth rows of slops schyu occlusal side plates on teeth. Screw unwinding stand for '/ ₄turnover 1 times a week (Fig. 36).

Instead of a screw To expand the top of the dentition, you can apply a Coffin spring - an ordinary or double. Activated by straightening spring Nia.

The design for the lower plate spreading her jaw applied with significant narrowing of the dentition and lingual inclination of the lateral teeth, has features: its bottom edges must be thickened (it maintains the strength after soldered cutworm).

To expand the use of dentition and IU mechanically acting fixed orthodontic devices (braces system (Fig. 37)).

Narrowing or widening part of the dental arch (one or both) produces perekres deleterious occlusion, and shortening or lengthening one of the dental arches (or both) - to form *a sagittal* gap between the incisors and often the development sagittal malocclusions. Dentoalveolar lengthening or shortening of the individual segments in the dental arches Obus lavlivaet vertical development anomalies occlusion.

Each of the varieties of the anomalies of the dental arches can be combined with different types of malocclusion that need to take into account when treating.

In addition to the anomalies of the dental arches in the direction one SRI ~~ transversal, sagittal or vertical SG, there are varieties of anomalies, for le cheniya that require both expansion and extension of the dentition. This is achieved using plates with screws and sectoral cuts. Depending on the direction of cuts, a directional change in the shape of the upper dentition is achieved .

To correct dental arch forms applying dissolved bracket system. Currently set up and change highly versatile systems in different countries. Thus, the bracket system comprises supports GOVERNMENTAL, locking and operating elements: bearings GOVERNMENTAL elements are metal ring fixing - horizontal tubes and locking devices (braces) that reinforce na me -metallic rings worn on the support and re commoners teeth. Tubes and locks are fixed using adhesive composite materials on the enamel of tooth crowns . The active element of a non-removable device is a round or tetrahedral arc having springy bends of various shapes. Additional , but using standard or individually Izgi Bai spring and thrust by elastic chains or wire ligatures. Braces should be uk replays in the center of the tooth.

Currently, many treatment methods have been proposed involving the use of braces. They differ in size and shape brackets, Schlitz direction and angle of inclination of the in relative grounds locking devices on lichiem additional support to strengthen the platform-le Niya on the tooth enamel.

Four-sided arch may be of different lengths .. The full arc located on all teeth - molars from one reference to one nominal molar on proti- | the opposite side of the dental arch. Partial arcs are pieces of wire superimposed between two teeth or a large number of them. Activation is carried etsya arc straightening and pru zhinyaschih loops. Shortening or lengthening of the arch, its expansion or contraction, as well as changing its vertical position allows you to change the position of the teeth and their groups, as well as the shape of the dentition in three mutually perpendicular directions. With the aim of convergence or distancing of their teeth apart using stan dard coil springs worn on the arc, and traction by means of rubber or plastic rings (single or multiple) imposes Mykh braces on several or all teeth. Clamping correction is performed using one and mezhchelyus tnoj thrust.

To expand the upper dentition Execu form a hinge also four clasp that vypus repents industry. The ends of the clasp are fixed in the locking devices located on the palatine side of the dentition (Fig. 38). Recent soldered horizontally to the ends, which fic xed on the first model. In recent years, instead of locking devices, they use the Adamika lock, one part of which is glued to the clasp, and the second to the ring.

For a more significant expansion of the upper dentition companies produce special expansion nye locks, which can significantly and in a short time to extend the set of teeth (Fig. 39).

The Kalamkarov's apparatus is an intraoral, single-jawed, non-removable apparatus of mechanical

go action. It is intended for the distal movement of molars and premolars in children aged 10 years and older. An Paratov represents on-tooth plastic mouthguard to the teeth row, and for change by thallium tooth fabricated plastic or metal ical crown. Between the cap Sing and crown disposed (with vestibular and oral side) elements arches Angle: the end of the arc with a threaded nut, which is located in a tube fixed to the crown.

When activated, the nuts on both sides of the crown proish dit distal movement of the tooth. With a few that FIR sections can consistently move the staring-distoyaschie teeth.

Test questions:

1. Types of tooth abnormalities.
2. Ethiology, pathogenesis, clinic, diagnostics, treatment methods.
3.Diastema. The etiology, clinical forms, diagnos tic treatment.
4. Etiology. Pathogenesis of abnormalities of the dentition.
5. Diagnostics. Clinical forms. 6. Prevention and treatment methods.

7. Anomalies of the dentition in combination with the pathology of the hard tissues of the teeth and their partial absence.

Practice Lesson 16

Topic: Pathological bite.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Distal occlusion (distal occlusion) can develop under the influence of various etiologies iCal factors. It can occur as a result of genetically determined to blur the discrepancies moat and position of teeth and jaws. Functional disorders resulting voltage amplification buccal and genial muscles, weakened Lenia and changes the tone of the circular muscles of the mouth. Ex krivlenie nasal septal hypertrophy LO them turbinates increase velopharyngeal tonsils, and other chronic diseases of the upper respiratory tract is a mechanical impediment to *nasal* breathing. As a result, Ro tovogo breathing and nesmykaniya lips, disappears from her -negative pressure. The position of the tongue changes, it sinks, does not fit the sky. This violation leads to a narrowing of the upper dentition and secure wish to set up the distal position of the mandible. After

tvie violations of respiratory function, inconsistencies dental arch dimensions in the sagittal direction of the lower lip falls into the gap between the upper and lower two front teeth. Under its pressure, the upper incisors deviate vestibularly, the lower ones orally, which exacerbates the violation of the closure of the lips and their shape.

II .Distalnaya occlusion - the most common ano Malia bite. Most often this is due to the rear of false mandible. Should distinguish the back of the lower jaw relative to the base of the skull, the maxilla with respect to the base, and the rear head position of the bottom of the TMJ and the development anomalies affect the magnitude of the jaws. Anomalous ratio dentition when dis tal occlusion may be due to the projecting portion of the front-em maxillary vestibular tilt axes of the upper anterior teeth and on steep false bottom, front shift upper tooth row relative to the base jaw.

Ill . To establish the diagnosis "distal occlusion" ADULT have mated in patients with intact dental arches not before stavlyaet great difficulties. Most of them expressed facial features anomaly: the protrusion of the middle of the face and upper lip retraction under the beard, short upper lip, from under which views us front teeth and alveolar bone, eg voltage soft tissue surrounding the mouth slit.

The main features of toothbrushes are anomalies are rezhuschebugorkovogo absence of contact of the front teeth (sagittal incisal dizokklyuziya) and closing the lateral teeth on the II class Engle, characteristic dis tal occlusion (Fig. 40). By the position of the anterior [3]Ubs, a form of distal occlusion is judged. For I form is characterized Protrusion upper front position them teeth, narrowing of the upper dentition, or a vertical normal position of the front teeth of the mandible. For distal occlusion of the second form, sheer is characteristic

or retruzionnoe position of the front teeth of the upper chelyus minute. The lower incisors and canines for Nima sheer or normal Noah position. If the front teeth of both jaws are in retrusion , then we can say that the lower jaw is in the correct position. In these patients, identify minimum Noah sagittal mezhreztsovoe distance and deep incisive occlusion (Fig. 41).

Difficulties in dia gnostics anomalies in adults occur in cases where it is combined with a partial from the absence of teeth, especially Bo postglacial, even *on* one of the jaw. The magnitude of the sagittal gap and lack of cutting-papulose of contact can no longer SLN live reliable sign

of abnormality, because BO postglacial absence of teeth may be at cause of distal displacement of the mandible.

The position of the front teeth in adult patients in the absence of posterior teeth should be evaluated carefully. Protrusion position the upper teeth and a diastema three mo Jette be due to systemic disease steam Dont or functional overload. In the diagnosis of anomalies, the facet erasure also matters, by which it is possible to judge the occlusion that exists before tooth loss.

In addition to signs of anomaly, characterized by a change in the position of the teeth, the shape of the dentition and their closure, there are characteristic features of the development of the jaws and facial skeleton, which an experienced doctor can detect during a clinical examination of a patient and the study of diagnostic models. When viewed from the alveolar processes can detect their protrusion, measured value apical basis, suggesting a lower maldevelopment chelyus minute or excessive development of the maxilla.

However, it is impossible to accurately establish the diagnosis of anomalies in adult patients with a partial absence of teeth; it is impossible to determine its pathogenesis without an X-ray cephalometric analysis of the facial skeleton. Individual cial analysis of the TWG is of paramount importance for the establishment of developmental abnormalities of the mechanisms of its odds , we, the possibility of orthodontic treatment.

In the study of TRH doctor discovers characterized Terna signs of anomalies: an increase in sagittal slit; an increase in the interapical angle; increasing the angle of inclination to the base of the occlusal plane Th turnip. Unstable distal occlusion features are the forward position of the upper jaw, through its dimensional development; back position of the lower jaw, its underdevelopment.

After finishing TWG analysis, you can answer the following conductive questions:

1) to what extent dentition Prevalence system nyaetsya anomaly, ie there dentoalveolar or.. Skeletal abnormalities form;
2) what is the mechanism for the development of distal occlusion;
3) what is the development of the facial skeleton.

In accordance with the answers, make a plan leche Nia anomalies.

In the event of displacement of the distal bottom jaw has a value combination of two factors: naru sheniya occlusal relationships and temporal -type chewing. Diagnosis distal displacement of the mandible based on anamnesis data, re results of the study occlusal relationships in the oral cavity and diagnostic models, and the results tatah teleroentgenography radiography and temporomandibular joint. It should clarify whether the distal position of the mandible or the distal occlusion symptom is associated with a second time and on Rushen occlusion in patients without lateral teeth. Distal displacement of the lower jaw at the distal occlusion may occur as a consequence acquired pathology dentition.

From history we can establish a complaints patsien comrade on the fatigue of the masticatory muscles, the feeling is not the usual position of the lower jaw, pain in the temporomandibular joint. These symptoms, identified in adults, are characteristic of acquired displacement of the lower jaw. When the distal movement of the lower jaw is marked reduction in the height of the lower face and interalveolar height increase freedoms Foot interocclusal space.

The distal position of the mandible can be set during the determination of free mezhok klyuzionnogo distance by comparing the results comrade TRG analysis obtained by the conventional closing of dentition and relative saline alone mandible. A sign of distal displacement of the lower jaw is its anterior movement in a state of "rest".

Clinical examination, study of diagnostic iCal rentgenotsefalometrichesky models and analysis of the facial skeleton allow to distinguish between different forms of anomalies according to their pathogenesis. The division of time -sighted anomalies on this principle helps pla nirovat and conduct pathogenetic therapy and re shat the possibility of orthodontic treatment.

IV . It is necessary to distinguish between dentoalveolar and skeletal forms of distal occlusion. The appearance of the first form is due to a violation of the shape and size of the dentition. Dental rows can have a different shape:

- a protrusion upper front teeth is combined with the restriction Niemi upper and lower dentition;

- uniform narrowing of the dental arches with the anterior position
lower upper dentition or posterior position of the lower dentition.

The skeletal form of distal occlusion associated with the anterior position of the upper jaw is characterized by the following features. Most OFTEN, THIS FORM OF anomaly is noted when the ratio of the front teeth is according to the second subclass of the third class of Engle. The closure of the posterior teeth corresponds to distal occlusion.

When analyzing rentgenotsefalometricheskom face Vågå skeleton reveals:

1) an increase in the sagittal interdental state;
2) an increase in the interapical angle;
3) increase the angle of inclination of the occlusal plane from in relative base of the skull;
4) broken jaw sizes;
5) the correct position of the lower or distal Th Lust.

Distal occlusion resulting from the distal position of the lower jaw can have two varieties. In some cases it is due to the distal position when the mandible nor mally developed and situated maxilla. In other cases, distal occlusion may occur due to a forced displacement of the lower jaw distally. The height of the lower third of the face is often reduced. Tooth loss signs anomaly characterized by cutting-Bugorkova contact between the front tooth E, the large sagittal mezhreztsovogo distance and closing side of the teeth II class Engle. On radiographs of the temporomandibular joints, the expansion of the joint gap in the anterior and its narrowing in the posterior is determined. Rentgenotsefalometri cal analysis facial skeleton to determine in advance the position of the mandible with respect to Ba Bani skull increase sagittal mezhreztsovogo distances increase mezhapikalnogo angle normal hydrochloric magnitude and position of the upper jaw. Distal occlusion due to excessive development of the upper jaw is maxillary macrognathia. The height of the lower part of the face in most of the patients did not change on. On diagnostic models can be found Uwe lichenie dentition of the upper jaw due to three or makrodentii. Increased By combining upper jaw body is a C diastema and three determined increase apical basis. When X-ray cephalometric analysis of the facial skeleton reveals:

1) excessive development of the upper jaw in absolute numbers and in relation to the lower jaw;
2) correct position relative to the jaws Ba Bani skull;
3) a significant increase in the interapical angle;
4) an increase in the sagittal interdental distance.

Distal occlusion due to misunderstanding we vitiem mandible - nizhnyayaya micrognathia. The height of the lower part of the face in most patients is reduced due to the underdevelopment of the branches of the lower jaw and ALVE olyarnyh processes in the molar area. On diagnostiches FIR models determined reduction in the length of the lower dentition, crowding position of the front teeth. On radiographs of the temporomandibular joints do not show deviations from the norm. When rentgenotse falometricheskom analysis of the facial skeleton reveals:

1) an increase in the sagittal interdental distance;
2) underdevelopment of the lower jaw;
3) shortening of the branch of the lower jaw;
4) a decrease in the intermaxillary angle.

In adults, "pure" forms of the anomaly are rarely observed . Long-existing pathology otsuts tvie the teeth complicate the clinical picture and You are a ʲ-binding system restructuring. The anomaly creates a background on which other pathological factors have a damaging effect. Thus, the distal occlusion combined with deep burin overlap Obus lavlivaet development of diseases mucosa of the hard palate and gums in the lower front zu CWA, there are imprints of teeth on the hard palate, edema and hyperemia of the incisive papilla, hypertrophic gingivitis in the anterior

region; function causes tional overload periodontal - primary injury cally occlusion. In this form occurs ver locally erase the palatal surface of the front teeth ve rhney jaw. In the absence of lateral teeth ha rakteru abrasion hard tissue anterior teeth can judge the position of the mandible to the loss of teeth. The absence of facets erased on the front top of their teeth shows that up to the loss of teeth was not cutting-Bugorkova contact. In patients with II form, there is a vertical abrasion of the palatine surface of the upper anterior teeth and the vestibular surface of the lower.

The main functional irregularities in the dis- tal occlusion caused views clamping tooth rows, which is characterized by the absence of plural Foot clamping teeth and molars papulose contact and premolars.

The pattern of changes in the dentition in patients with distal occlusion in which no part of the teeth depends on the size and topography of the defects comrade dentition, condition remaining periodontal zu CWA and severity of the anomaly itself.

Some patients with distal occlusion and significant lack of teeth height of the lower tre five persons remained unchanged. Apparently, in this case, all changes dentition proish system DYT slowly, and hypertrophy of the alveolar processes compensate for reducing the height of the lower third of the face. As a result, the patient is moving the remaining teeth increases the overlap depth of incisors and decreases mezhalveolyarnyh height when on in relative constant height of the face. These changes wasps complicates the clinical picture and complicate treatment.

1) V . Treatment of distal occlusion in adults osuschest vlyayut orthodontic, orthopedic surgeons cal and combined methods. In this treatment goals are: to provide a cutting-Bugorkova contact between re ne teeth;
2) correction of occlusion disorders;
3) elimination of the causes of injury to the mucous hull ki palate;
4) the elimination of functional overload of periodontal teeth;
5) normalization of the function of the masticatory muscles and temporomandibular joints;
6) restoration of continuity of the dentition;
7) improving the aesthetics of the patient's face.

Orthodontic treatment of adult patients with distal occlusion is carried out in accordance with at ntsipami treatment of this anomaly and its form. However, there are certain age-related features. Le chenie adult patients is carried out in a few this dressing. 1st — normalization of the position of individual teeth and the shape of the dentition; 2nd — restructuring of vertical relationships; 3rd - a change in the position of the lower jaw in the sagittal direction.

When the distal occlusion I form having yuscheysya protrusion front teeth, presence diast-we three, narrowing dentition, treatment is initiated with correction forms the upper dentition. For Ustra neniya protrusion with the presence of three diastema and applying by removable devices with vestibular arc. Narrowing of the dental arch, combined with the front protrusion zu CWA obviate via spreading devices. For this purpose it is necessary to use great forces. If teeth protrusion combined with alveolar protrusion of the appendix, the adults up to 30 years it is advisable to imposes extraoral devices at night. The combination of orthodontic corticotomy treatment significantly reduces the duration of treatment . An orthodontic appliance is placed on the jaw on the 7th day after surgery.

After changing the shape of the dentition and Tro neniya protrusion decreases mismatch front teeth in the sagittal direction, decreases Saghit Talnoe mezhreztsovoe distance. The next stage of orthodontic treatment is to normalize sa gittalnogo ratio jaws. Only the distal position of the lower jaw should be changed. Mesial movement of the jaw is carried out under the control of radiography of the temporomandibular joint. In adult patients with morphological rearrangement vie juicy temporomandibular joint does not occur, so fixing the mandible in a forced position after removal of the device is performed prosthetic tooth rows. The movement of the jaw is carried out using special orthodontic appliances with a monoblock of Andresen, Goaply, Frenkel, Persina (Fig. 42.). About the duration of treatment 6-15 months.

Orthopedic treatment of patients with distal occlusion consists in leveling the occlusal surface of the dentition by grinding hard tooth tissues and prosthetics with various prosthetic designs. Sanding intended purpose of reducing congestion at the interior of the front teeth lump incisorial overlap, especially when biting food, provides a smooth gliding occlusion. But it is more correct to align the occlusal plane using a bracket system. Proteti- cal treatment of this group of patients with a reduced height of the face and the intact tooth rows is to increase the height by interalveolar prosthetic Bani removable dentures with occlusal loser kami. Changes in the interalveolar height must be carried out under x-ray control of the temporomandibular joints.

One of the indications for use of removable about tezov with cast basis is the presence of deep cut tsovogo overlap. The minimum thickness of the base about a thesis (0.3 - 0.5 mm), high strength and the ability to introduce it at the splinting elements allows to change the design on the upper jaw at untill STATCOM place due supraokklyuzii front LO their teeth under restriction dentition, functional periodontal overload.

When the defects of crowns of incisors and canines Tro thread their anomalous position and deep incisive ne overlap of possible prosthetic cast combi nirovannymi crowns.

Prosthesis included defects before it maxilla is performed after descended-fovyvaniya lower front teeth. The preference of the given solid-cast bridges and removable dentures.

Thus, as a method of prosthesis le cheniya distal occlusion does not eliminate the anomaly, but reduces the pathologic effect on zubo- jaw system and save the remaining teeth.

Combination treatment

Methods of combination treatment determine etsya age of the patient, tyazhestyuanomalii, size and topography defects of the dentition. Orthodontic treatment has some features. Thus, in patients with bilateral end or significant including The chennymi defects of the dentition of the upper jaw at the age of 16-30 years can make an attempt to eliminate the protrusion of the front teeth with an extraoral Paraty. At older ages have this refuse, so in these patients correct odds mu lower dentition alter vertical interac MOO elations front teeth, and is carried mezial- Noe ne remeschenie mandible, if indicated. In a subsequent upper prosthetic carried chelyus five denture, which create contact pad for the lower front teeth.

Since the treatment of adults ortodontichekoe long, then for replacing lost teeth, RESET tained in some degree a function of mastication and improve the appearance of the patient on a removable orthodontic apparatus can be put artificial teeth.

Another feature in treating patients with dis tal occlusion in which no part of the teeth caused by vertical movement of the teeth whether shennyh antagonists, which leads to blocking of the mandible, and even more significant disruption occlusal relationship. In this regard, in whom the complex treatment of patients included eliminating deformation tion occlusal surface arising due to movement of the teeth. In some cases it is necessary Snachev la eliminate vertical movement of the teeth, and thereafter orthodontic correction of anomalies, t. K. Nominated teeth are an obstacle to mezi- cial move the lower jaw. When treating patients with distal occlusion who complain of aesthetic defects due to abnormal polo teeth zheniya solve the problem of removing the upper cut AEC and sometimes canines with resection of part of the alveolar ridge and of immediate and follow conductive distal prosthesis.

The advantage of the surgical technique is the possibility of achieving fast and aesthetic ef fect. The use of the surgical method does not exclude the subsequent orthodontic correction. At present, this treatment method is the method of choice

I of . Reasons mesial occlusion (mesial occlusion sion):

- an inherent feature of the structure of the facial bones of the skeleton, particularly the lower jaw;
- partial or multiple adentia in the upper jaw;
- the presence of supernumerary teeth in LO it dentition;
- multiple retention of upper teeth or their early loss;
- disorders of calcium metabolism resulting ra hit or other diseases;
- macroglossia;
- hypertrophy of the palatine pharyngeal tonsils;
- bad habits of sucking the upper lip, tongue, fingers;
- uneven change of milk teeth on the upper and lower jaws;
- infringement of physiological balance chew -negative muscle;
- mouth breathing;
- improper swallowing;
- improper articulation of the tongue;
- hyperthyroidism, acromegaly and pituitary, when to the Torah, the face, especially its lower part, including the lower jaw, tongue.

||. The pathogenesis of the anomaly. In the first month they are developmental disorders of jaws increase in all parameters of the lower jaw and dentition. When this upper jaw may be normal, under- developed or occupy the distal position. Cro IU, the mesial occlusion appears in the results Tate underdevelopment of the maxilla during normal lower due mesial offset lower jaw.

III . In adult patients dia prognosis "mesial occlusion" without some form of anomaly can be tiring twist on the 'basis of the dental signs. Closure re dnih teeth characterized reflux ratio in the sagittal plane. The depth of the reverse re covering of incisors varies widely. Closing lateral teeth soot sponds III class of Engl. (Fig. 43).

Facial signs of the anomaly are determined by its shape and severity. The concavity of the face profile, the protrusion of the chin and its massiveness, retraction of the upper lip, increased face height and the unfolded angle of the lower jaw indicate a mesial bite associated with excessive development of the lower jaw.

IV . F.Ya. Khoroshilkina (1980) distinguishes the dentoalveolar and gnatic forms of the mesial bite. Isolation of adult mezialnoi occlusion mustache Karlovna because over a long period of ano Malia there is a change in the entire dentition system. Thus, when mezialnoi occlusion caused anterior displacement of the mandible, maxilla flattened and is marked by a vertical or retruzionnoe decomposition front teeth. This is due to blocking the lower jaw of the upper. When excessive development of the lower jaw large lower jaw is su voltage of the upper jaw and lingual education ne rekrestnogo bite.

X-ray cephalometric characteristic

Most patients with mesial occlusion have an excessively concave type of face.

The position of the upper jaw is different. In Saghit tal plane with respect to the skull base it can take normal, front and rear polo voltage. The lower jaw relative to the base of the skull most often occupies an anterior position.

An increase in the angle of the lower jaw causes a displacement of the base of the lower jaw in the sagittal direction, the lower part of the face lengthens.

In the analysis part gnathic most patients revealed an increase rostral angle, a significant increase of the jaw body shortened of jaw branches.

In adult patients rentgenotsefalometriches kaya picture becomes more complicated when a anomaly joined acquired pathology of the dental system. In this case it is necessary to differentiate changes dentition associated with Anomen Leah, from secondary changes due to partial loss of teeth, increased abrasion of teeth.

By decreasing the interalveolar you cell which is fixed teeth antagonists decreases the height of the front face. As a result of this , the depth of the reverse overlap of the incisors increases, the lower jaw moves forward. In addition, with traumatic occlusion and other periodontal diseases , the position of the front teeth changes. An increase of the sagittal mezhreztsovogo distance leads to the "uncoupling anterior teeth and increase the load on the molars and premolars functional overload. Manifested increased abrasion hard tissues of the teeth, however, face height does not change:. Happens compensation lack dental tissues due to vertical Nogo alveolar bone growth.

When combined with mezialnoi occlusion otsuts tviem deformation of the teeth occurs occlusal surface of the dentition. As a result of traumatic occlusion occurs teeth slope restraint IU zhalveolyarnuyu height. In this group of patients Decrease the creases height of the lower face.

Differential diagnosis raznovidnos Tay mezialnoi occlusion presents certain difficulties.

A crucial role in establishing the diagnosis plays a study rentgenotsefalometrii results, ie. A. Differential differential diagnosis is based on the determination of the value of the jaws and their position in the facial skeleton.

Lower macrognathia is due to overdevelopment of the lower jaw. Most often it is genetics cally conditioned. The upper front teeth occupying dissolved Protrusion position, and the lower bend orally - compensatory rearrangement dentition, aimed at improving occlusion.

Most patients face height increased, ie. To. The body of the mandible increases not only about Dolny direction but also vertically. Mesial occlusion may be due to the underdevelopment of the upper jaw and its distal position at normal sizes. The ratio of the lateral teeth on III class Znglya. The front teeth are in reverse closure, but contact can be maintained. The upper dentition has a trapezoid ciform shape, the length of the front part is reduced, the retrusive position of the incisors and canines is noted.

Mesial occlusion associated with mesial movement of the lower jaw is less common than in children. This is due to the fact that while moving the lower jaw changes the direction of mutual influence of the jaws against each other, it is possible through dimensional development mandibular hypoplasia ne Independent user maxilla.

For this form is characterized by: the forward position of the mandible with respect to the skull base, re dnee head position of the mandible in nizhneche lyustnoy fossa, the possibility of clamping the front teeth.

The V . **Treatment of mesial occlusion.** Nij NJ macrognathia associated with excessive development of the mandible or the mandibular increasing angle, is subject to surgical therapy.

When planning orthodontic treatment mesial occlusion should consider the following factors:

1) the value of the reverse incisive disocclusion;
2) the position of the front teeth relative to the base of the jaws;
3) The size of the apical bases of the upper and lower Th Lust;
4) the position of the upper jaw relative to the base of the skull;
5) The position of the lower jaw in the sagittal PLANE minute;
6) the state of periodontal teeth;
7) comorbidities (loss of teeth, increased Nye erasability).

Retruzionnoe position the upper teeth and protru- Zeon allows the position of the lower part by moving them to eliminate sagittal mezhrez tsovoe distance within 10 mm. If not eliminate matching dentition by moving the lower jaw distally, without changing the position of the front teeth, the head displacement of the mandible in the temporomandibular mandibular joint in sagittal direction n of the permissible extent of in the range of 2-3 mm.

The depth of the incisal overlap determines the choice of the medical device and the possibility of orthodontic treatment. In patients who have increased the height of the person, and it is impossible to change the vertical position of the pen dnih teeth even prosthetic method should be of sound from orthodontic treatment. In the distal position of the upper jaw relative to the base of the skull, intervention on the upper jaw is required. Changing the position of the lower jaw and reducing its dentition will lead to a change in the profile of the face, but the appearance of the patient will not improve. In patients of this group, sagittal mismatch can be eliminated by changing the position of the front upper teeth or using prosthetics.

With an increase in the size of the tongue (macroglossia), the intervention of the surgeon is required. If the operation in the language is not possible, orthodontic treatment or surgery in the mandible demon sages.

Treatment mesial occlusion caused IU zialnym displacement of the mandible. Treatment of this form of anomaly in adults is carried out in a certain sequence.

The first stage is the normalization of the functions of the tongue and swallowing. The second stage is the elimination of deformation of the dentition and premature occlusal contacts. The presence of premature occlusal contacts may contribute to lower jaw displacement or interfere with orthodontic treatment. Correction of occlusion is carried out by the method of selective come-tooth shaping.

In adults, mesial occlusion due to mesial displacement of the lower jaw is combined with underdevelopment of the anterior portion of the upper jaw. With this deformation, we can use the apparatus shown in Fig. 44.

Test questions:

1. Etiology, pathogenesis of the clinic and diagnosis of distal bite.
2. Clinical forms and methods of complex treatment of a distal bite.
3. Etiology, pathogenesis of the clinic and diagnosis of mesial occlusion.
4. Clinical forms and methods of complex treatment of the mesial bite.
5. Etiology, pathogenesis of the clinic and diagnosis of deep incisal disclusion.
6. Clinical forms and methods of complex treatment of deep incisal disclusion.
7. Etiology, pathogenesis of the clinic and diagnosis of vertical incisal disclusion.
8. Clinical forms and methods of complex treatment of vertical incisive disclusion.
9. Etiology, pathogenesis of the clinic and diagnosis of cross bite.
10. Clinical forms and methods of complex treatment of cross bite.

Practice Lesson 17

Subject: TMJ Diseases. Classification.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:**	Listen and record

	1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Temporomandibular joint (TMJ) - *articulatio temporomandibularis* is paired and belongs to the type of block.

TMJ is formed by the following elements (Figure 1.) Of aration mandible *(caput mandibule),* mandibular fossa of the temporal bone *(fossa mandibularis),* articular disc *(discus articularis),* the articular tubercle *(tuberculum ar* - f ' cu / are), the capsule of joints *(capsula articularis).*

Age TMJ evolution begins with a 14-Ned ceiling elements age of the fetus, when the foundations of its elements you. Drive location with female horizontally and comprises thickened rear gap of the share narrowed hydrochloric part (isthmus) and the anterior lobe. For days of the disc (syn. Meniscus) *depart* fib discord strands that fall like a fan in the "Glazerovu" slot *(U sura petrotympanica)* and are attached to the bones, where it is important to space -"bila- laminar" zone (zadis kovoe-space) ,
penetrated by vessels and nerve endings. Spe mong into the disc includes the upper beams of the lateral wing of prominent muscles.

1. Oval hole, *foramen ovale* .

2 Spinous *foramen spinosum* . 3. Capsule of the joint, *capsula articularis* .

4. The medial ligament, *lig* . *mediate* . Thickening medial hydrochloric joint capsule wall.

5. Shilomandibular ligament, *stylomandibular* . It goes from the front surface of the styloid process to the angle of the lower jaw.

6. Sphenoid-mandibular ligament, *lig* . *sphenoman* - *dibulare* . Connects the axis of the sphenoid bone with the tongue of the lower jaw.

7. The lateral plate pterygoid process, *Lami na is lateralis the processus pterygoidei* .

8. Pterygo-spinous ligament, *lig . pterygospinale* . Shi roky connective cord, guided from the upper part of the lateral plate krylovid Foot to sprout sphenoid axis. Glenoid fossa formed thin bone lastinkoy separating joint cavity of the average Th Repnev fossa.

Articular bag consisting of an outer dies grained tissue and the synovial membrane inside, being attached around the edges of the bone and articular cartilage cells disc forms two articular cavity (Ver hnyuyu and lower).

TMJ function is associated with movements of the lower jaw. Distinguish: vertical, sagittal and transverse movements of the lower jaw.

Opening the mouth by reducing proiskhoditza group of muscles *(m . Digastricus , m . Genioglossus , m . Genio - hyoideus).* Thus articular head disk moves camping on glenoid fossa to the top articular tubercle, with a being the rear portion of the disc is located at the posterior slope of the articular tubercle closer to the top, and the head of the mandible, slipping the disc by its central surface with the tapered portion comes to the top cyc tavnogo tubercle.

Since the start of mandibular movement occurs in the rotational movement of the lower floor of the TMJ, and then translatory motion of holo articular application meniscus mandibular fossa of the joint posterior it ramp *articular* tubercle. In the lower floor of the *joint* during movement there is a combined movement (rotational and translational). At the top of the articular of tubercle again prevails rotation.

Closing of the mouth occurs due to contraction of the muscle group *(m . Masseter , m . Temporalis , m . Pterygoideus medialis).* With the reduction of the aforementioned muscles vnacha le rotational movement occurs holo articular application of the mandible relative to the lower surface of the meniscus then articular head mandibular posterior meniscus slides along the ramp to the middle of the articular tubercle glenoid fossa. At this moment, the translational movement in the joint prevails. By the moment of closure of the dentition in the position of central occlusion, rotational movements in the lower floor of the joint prevail.

Sagittal movements include protrusion (i.e., extension of the lower jaw) and zik retra :) in the distal direction. When protrusion articular head to the disk moves along the articular fossa posterior mu ramp articular tubercle to its top. The movement is carried out by the bilateral reduction latte eral pterygoid muscles and synergist - anterior temporal muscle bundles. When sagittal motion Rep prevail translational movement. Joint heads carry out the sagittal articular path. Retrusion is carried out by reducing *T. digastri - cus , geniohyoideus , m . genioglossus* and synergist - posterior bundles of *T. temporalis* . The movement of the joint members about proceeds in the reverse direction.

Transversal (lateral) movement prois go due to the unilateral reduction of the lateral pterygoid muscle. With a one-sided contraction, the lower jaw moves in the opposite direction. On the side of muscle contraction (balancing) cyc tavnaya disk head moves the posterior slope cyc tavnogo protuberance forward, downward and inward, carrying lateral articular path on the opposite side (working) articular head produces a rotational movement with a certain bias upwards.

The total length of forward movement joint hydrochloric head of mandible relative to the temporal bone of 15 mm, and the maximum movement cyc tavnoy head of mandible with respect to the disk represented in the average of 8 mm.

II . Etiology and pathogenesis of TMJ diseases. The cause of TMJ disorders may function tional points, leading to pererastyazhe-niju musculo-ligamentous apparatus - is excessively wide dehiscence mouth when yawning, crying, laughing, grimace singing nibble from a large piece of the introduction of a large piece in the mouth, endotracheal nar goat, sensing the stomach, removing foreign bodies from the airway attacks, bronchial asthma, production of intraoral X- CH ck, hyperextension of the professional nature of muscles in training in the vocal department of the muse -local schools.

Etiological factors may be one Moment makrotravma, compression of the skull, microtia-pavma, prosthetics errors coarse manipulation by removing the lower posterior teeth, epileptiches Kie seizures, occupational factors at the creaking someone, submariners, nestershiesya milk teeth, taking solid food, raskusyvanie nut.

Often, TMJ disorders arise in the results Tate common infectious diseases (angina, influenza, mumps, purulent otitis media), with poliart ritah (rheumatic, rheumatoid, exchangeable), under specific infectious diseases.

The one-sided type of chewing leads to re fire rate masticatory muscles (especially the lateral fitment lovidnoy) and the development of the phenomenon of spasm and atony.

The main pathogenetic link in vozniknove Britain and the development of TMJ pathology are three factors:

1. Impaired function of the neuromuscular complex.
2. Violation of occlusive and articulation inter relationship of dentition and jaws.
3. Congenital and acquired abnormalities in the structure of the TMJ.

In addition to these basic factors in the pathogenesis of bolevany play a role: the general condition of the body, changes in the endocrine system, the constitutional CCA singularity.

III . In 1995 he was offered the international class fication of the TMJ.

K07.6. Temporomandibular joint diseases

K07.60. Pain syndrome of the temporomandibular joint (Costen syndrome).
Excluded:
the current case of dislocation (S 03.0) and extension of the temporomandibular joint (S 03.4); the diseases described in the class of cartilage.
K07.61. "Clicking" jaw.
K07.62. Recurrent dislocation and subluxation of the temporomandibular joint.
Excluded:
current case of dislocation (S 03.0).
K07.63. Pain in the temporomandibular joint, not elsewhere classified Rubra kah. *Excluded:*
syndrome of pain dysfunction of the temporomandibular joint (Kosten syndrome) (K07.60).
K07.64. Stiffness of the temporomandibular joint, not classified elsewhere.
K07.65. Osteophyte temporomandibular sus tava.
K07.68. Other specified diseases of temporomandibular LO nechelyustnogo joint.
K07.69. Disease temporomandibular Soest wa unspecified.

Yu.A. Petrosov and H.A. Kalamkarovym (1982) proposed a classification where a separate group of functionally-conditioned (not inflame -negative) disease.
According to the proposed classification of all sic tional disorders and diseases of the TMJ Div lyayutsya into 5 groups: Dysfunctional state TMJ:

1) neuromuscular dysfunctional syndrome;
2) occlusal-articulatory dysfunctional syndrome;
3) habitual dislocations in the joint (jaw, meniscus);

II . Arthritis:

1) acute infectious (specific, nespetsifi cal);
2) acute traumatic;
3) chronic rheumatic, rheumatoid and infectious-allergic;

|||. Arthrosis:

1)post-infectious (neoarthrosis);
2) post-traumatic (deforming) osteoarthritis;
3) myogenic osteoarthritis;
4) metabolic arthrosis;
5) ankyloses (fibrous, bone);

IV. Combined forms;

V. neoplasms (benign and zlokachest governmental) and dysplastic (tumor) processes.

Test questions:

1. The structure and functions of the TMJ.
2. Ethiology and pathogenesis.
3. Classification of TMJ diseases. Methodology obsl dovaniya patients with TMJ disorders.
4. Additional research methods for TMJ diseases (survey R- graphy, tomography, orthopantomography, X-ray cinematography, two-contrast arthrography, computed tomography, magnetic resonance imaging, electromyography).

Practice Lesson 18

Subject: Research Methods for TMJ.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.

	5. Assessment of actively participating students.	
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Temporomandibular Joint Dysfunction Syndrome (TMJ)

I. Etiology

1. Violation of the occlusal relationship of the teeth.
2. Psycho-emotional stress.
3. Osteochondrosis of the spine.
4. Immediate injury to the TMJ.
5. Violation of the atlanto-occipital articulation.

III . Clinic

1. Pain in the parotid-temporal region.
2. Limitation of the movements of the lower jaw to the sides.
3. Limit the degree of opening of the mouth, less than 4 cm (3.8 cm).
4. Excessive opening of the mouth, more than 5 cm.
5. Asymmetric opening of the mouth (deviation, defective CII).
6. Sound effects in the joint.
7. Dizziness with a sharp change in body position.
8. Headache.
9. Pain in the masticatory muscles, muscles of the neck, trapezoid prominent muscle.
10. Tinnitus.
11. A combination of two or more complaints.

IV . Diagnosis Clinical Examination

I .. Inquiry (history taking)

Preliminary examination (need to answer to questions)

1) Is the opening of the mouth asymmetric?
2) Is the opening of the mouth sharply limited or too large?
3) Are intraarticular murmurs detected?
4) Is asynchronous occlusal sound?
5) Is palpation of the masticatory muscles painful?
6) Is occlusion of the teeth traumatic during movements of the lower jaw?

3. Detailed functional clinical obsledova of

3.1. Examination of the face. Cephalometry

3.2. Assessment of the mobility of the lower jaw:

- opening the mouth;
- protrusion;
- laterotrusion;
- retrusion.

3.3. TMJ examination:

- survey of articular poverhnos Tei, capsules and ligaments;

■ study of articular sounds.

3.4. Palpation isometry and chewable and SUB gatelnyh muscles (chewing, temporal, and occipital sub-occipital, trapezoidal, GRU-dinoklyuchichnosostsevidnaya, and subhyoid suprahyoid, the inner and outer wing prominent, rear belly of the digastric).

3.5. Clinical examination dental occlusion pn rows (for sagittali, vertically, transverzali): ■ at the front teeth (overbayt, overdzhet);

■ in the area of the posterior teeth. 3.b.Definition of VNOL

4. Selective examination of the spine:

a) posture studies;

b) study of joint elasticity;

c) study of the rotational function of the cervical spine cases.

II . paraclinical examination

1 orthopantomography.

2 radiography of the TMJ.

3 tomography of the TMJ.

4 x-ray computed tomography of the TMJ.

5 Magnetic resonance imaging of the TMJ.

6 Axiography (if possible - electronic).

7 Telegraphy in direct and lateral projection.

8. Electromyography of the masticatory muscles.

9. Recording articular sounds and their computer analysis.

III . Instrumental analysis of gypsum models in an articulator

1. Production of accurate dental stone models convent rows.

2. Register the back of the contact position (RCP) and you're cell lower portion of the face.

3. Register the front position of the upper arc of the tooth a power series with respect to the cranial landmarks.

4. Installing plaster models in the articulator:

■ maxillary model of the front arc skull frame of reference of the TMJ:

■ mandibular model of central registers of the radio.

5. Adjusting mechanism articular articulator yn dividual function (preferably - according aksiografii).

6. Analysis of static occlusion (center) occlusion sion.

7. Analysis of dynamic occlusion during mandibular movements.

IV . When X-ray study Applying these methods are: Survey R- graphy is performed by a dental X-ray apparatus. The dental surg Coy practice used for laying procedure Shyullera and Parma. These stacking do not give a clear display of the joint elements of the other layers of the skull bones (zygomatic arch, spinous from germs vertebrae, rocky body, ie *pars re Trosa).* This method allows the study reveal only gross changes in the joint (fracture, vyvi hee). To study the most subtle changes in the joint, tomography is used.

Tomographic study both visoch-but-mandibular joints, while unilateral and bilateral lesions, carried out in the position of prices tral occlusion and maximum open mouth. The need for both tomography cyc tavov is because patients often sting are one joint, but the pathology is detected in the other joint.

Study of tomograms obtained with closed
dentition in the position of central occlusion,
carried out by a combined method N.A. Rabukhina.
On tomograms produced in position
central occlusion, study:

a) the width of the joint space to the front, top and day divisions glenoid fossa;
b) the location of the heads of the lower jaw relative to the articular fossa and articular tubercles;
c) symmetry violation and forms joint element cops;
g) the type of transition elements of TMJ;
d) the slope of the elements of the TMJ;
e) the size of the articular elements.

In fig. 3 shows a circuit for measuring elements comrade TMJ.

On the tomograms, the ratio of the elements, a tour of the heads, sizes of the anterior, *upper* and posterior joint spaces, the presence of flaws, deformation of the articular surfaces, etc. are clearly visible . This method is widely used in dental practice . **Ortopantomogra raphy** performed on special nom X-ray machine. On ortopantomografy available from X-ray Images expressions of all the teeth of the upper and lower jaw, periodontal condition of the teeth, and one time, both the joint.

C o m p u t e d t o m o g r a p h y (CT) poses Wola install localization tion and prevalence of pathological process in the TMJ and the tissues surrounding the joint, follow the dynamics of the various patofiziolo cal processes, to evaluate the results of treatment.

High resolution computer GOVERNMENTAL tomographs fourth and fifth generations allows to evaluate topographical anatomical relationships in the TMJ, determine the height of the joint space, the position ' olovki mandible detect degenerative dis trophic changes of the head and the glenoid cavity that allows for selection of the optimal method of treatment and control of its effectiveness.

The advantage of CT compared with conventional the mografiey - reducing the radiation dose.

CT is shown at neuromuscular occlusion-and-tionally temporomandibular articulation syndromes nizhneche- lyustnogo joint sagittal and latte burdened eral shifts the lower jaw; with chronic dislocations of the intraarticular disk; arthrosis; ankylosis; benign and malignant tumors Soest va. The study of patients is carried out on a computer tomograph (Fig. 5).

The principle of the method com computed tomography with stands in multiple Regis tration system sensors kollinirovannogo beam ren tgenovskogo radiation proho dyaschego through region The investigations dovaniya during rotation of the x-ray tube around the subject's patient. Information is broadcast etsya on the screen in the form of cross-tomography Cesky cut and transferred *to* photographic film or magnetic media. To carry out computer tomography of the temporomandibular joint there is no necessity in the preliminary preparation of the patient. Examination of joints, regardless of the disease, unilateral or bilateral TMJ carried out with both of their sides into the position of central occlusion in three mutually perpendicular planes: sagittal, frontal and at the maximum axial and open mouth (with spacer in posterior teeth on the side of lesion). Upon receipt of information on the monitor, performs machining and analysis results IMAGE zheny and measuring articular slits (front, top and back). The data of the study of TMJ are entered into the computed tomography protocol . Example subluxation of the joint head of the temporomandibular nizhneche lyustnogo joint

D i a g n o s t i c errors may be the result of eating a dynamic blur caused by movement of the patient during the studies Niya.

X-ray cinematography of temporomandibular joints

The method is based on filming an x-ray image. The advantage roentgenocinematography, over conventional radiography, is that it allows us to study the functional changes in the temporomandibular joint in the dynamics (marked limitation of mouth opening, asynchronous movements of the lower jaw heads, you move the heads of the lower jaw of the articular pits otsuts tvie movement in one or both of the TMJ etc.).

Research carried out on the X-ray Appa rate (for example, « Challenge », « the Panasonic the RX - 70»). In order to obtain identical cineradiogram Prima nyaetsya apparatus for fixing a head at rentgenokine matografii

In order to install the patient's head in the same position during repeated examination (before, during treatment and at a long time after treatment), the device's design includes lead deposits of the same diameter at the ends of the ear olives and a sighting device of two in parallel lead disposed Provo lock within the plastic strap nose. Another part appa rata is periodontal tire with extraoral rods. When you eat ke in the profile of the mouth of the patient's head for impact direction is a team of doctors, so that the two lead balls br GOVERNMENTAL olive merged. When combined lead inserts handle-lock rigidly blocks ruetsya patient's head. According to team doctor patient produces zhevatel motions at maximum opening and closed Vania mouth of the position of central occlusion. On ki nosemke fixed four chewing movement, in profile and Equ

Magnetic resonance tomogra FFL (MRI), temporomandibular joint is one of the safest methods of diagnosis. Its basis is the phenomenon of nuclear magnetic Lakes Nancy.

In fig. 9 shows the appearance of a device with a horizontal magnetic field oriented parallel to the long axis of the patient's body. The inner part of the magnet made in the form of a tunnel for taken Nia inside the patient via the movable table. There is also radio transmission coil placed at emnaya radiofrequency coil, the gradient coil. Computer for research and information processing A satellite placed in the console otde linen room.

In MRI, there is considerably greater possibility NOSTA image measuring contrast than other diagnostic methods, e.g., ultra sound.

The main advantages of the method of MRI include camping: noninvasiveness, the lack of beam loading, WHO possibility to obtain images in any plane and perform three - dimensional *(spatial)* rekons design and provides no artifacts of bone structures, high Allow yuschaya ability to visualize various tissues (e.g., IU meniscus TMJ), almost complete baa zopasnost method.

Limitations of MRI are: high cost method to a sufficiently long period of time The investigations dovaniya and need nepod patient mobility is no possibility of MRI in patients with metal implants (clip on the aneurysm, carotid artery clamps for dental prostheses, heart valves, vnutrisosudistyo coil, auditory and ocular implants, catheters); with intrauterine contraceptive devices with prosthetic joints and limbs, with foreign ones Lamy with pacemakers; streets with neuro-psihiches kimi diseases and claustrophobia; relative contraindication is pregnancy.

At the same time, the method is improved, and many of these restrictions may be times GOVERNMENTAL.

The study by magnetic resonance imaging (MRI) makes it possible to identify not only put of the TMJ disk relative to the head of the mandible, but histologic changes in the disc in the form of Vyshen wear, as well as changes in the coating fib discord plate head mandibular articular tubercle and less commonly the fibrous integumentary fossa integument. Abnormalities of the TMJ disk position dislocation at the time a picture MRI denoted cheny square maximized and this portion image including the preservation of image sharpness

Chewing muscle electromyography

To study the function of the neuromotor system and assess coordination and synchronicity pa bots muscles before, during and after the treatment of diseases of the TMJ is used electromyography actually chew -negative, the temporal muscle. Electromyography is a method for studying the functional state of *skeletal* muscles, based on the registration of electrical biopotentials arising in them .

Before production electromyography records take into account all the factors leading to the increase we antiplaque tone. Take into account: psychological factors (stress, fear), hormonal disorders (IU nopauza) and others. Preparing the patient for an electricity graphic study begins with confidential conversation, explaining the essence, painless and harmless Nosta all manipulations.

Recording electromyogram performed using multichannel electromyograph, which does not require spe Hoc picturized chamber .

Lead biopotentials carried epicutaneous E silver bipolar electrodes. The distance between the electrodes must be always constant and equal to 15 mm, as they are fixed plastmas soi. Reinforcing electrodes in the center of motor points: vi juicy (anterior belly) and actually chewing muscles with a rubber band, adhesive tape . Motor points are determined by palpation. Skin hydrochloric surface

given GOVERNMENTAL portions carefully treated with ethanol and ether. To achieve better contact "electron relatives skin" and reduce the interelectrode accompanied resistivity electrodes dormancy discontinuity thin layer of the koprovodyaschego gel. The electrodes are fixed with a rubber tape in the area of the temporal muscles and with an adhesive plaster - in the area of motor point-chewing muscles. With proper application of the electrode in a state of in relative physiological dormancy mandible electromyogram it has the form isoelectric line. Electromyographic studies of the temporal and proper chewing muscles are carried out:

a) in a state of relative physiological Koya;

b) with arbitrary chewing;

c) for a given chewing right and left with swallowing phase Nia;

d) with maximum compression of the jaws in the position of central occlusion

To adapt the patient to receiving the stimulus and in order to obtain reliable data, at least three entries are made in each experiment. The third and last post taken in processing, ie. A. By the time summer residence of the third stimulus patient adapts to the environment of the Settings. At the same time, with the chewing muscles Sneem are reflex and emotional impact. This leads to a relative stabilization of the function of the masticatory muscles without extra layers.

When recording the act of chewing, 1 cm ^{3} ^{of} brown bread is used as a food irritant . The entire cycle of a chewing act consists of a series of alternating bursts of Electrical Activity (BEA) and a segment of a straight line — bioelectric muscle rest (BEP). The sum of BEA and BEP is a dynamic cycle (DC). The entire cycle of the act of chewing consists of several dynamic cycles and ends with the act of swallowing.

Bi contrasts I arthrography

TMJ. This type of research can be carried out on a tomograph and an apparatus for X-ray cinematography. Before the X-ray examination, a contrast substance “Iodognost” and air are introduced into the joint cavity. Air atomizes the contrast agent for all mu joint and further held imaging or X-ray nokinematografiya.

Test questions:

1. Method obsl dovaniya patients with TMJ disorders.

2 .. Additional methods for the study of TMJ diseases (survey R- graph, tomography, orthopantomography, X-ray cinematography, two-contrast arthrography, computed tomography, magnetic resonance imaging, electromyography).

Practical lesson-19

Topic: Orthopedic devices and dentures used in the treatment of TMJ diseases .

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic	1. Preparation of the educational complex on this topic.	Listen and record

(10 minutes)	2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Habitual dislocations and subluxations of the lower jaw

I of. Etiology and pathogenesis. The reason originated novena habitual dislocation and subluxation is camping functional aspects: excessively wide mouth opening at yawning, crying, laughing, grimace, fright, introduction of a large object in the mouth, bite off Vania from a large piece of endotracheal anesthesia, gastric intubation, in the manufacture vnutriro-tovyh x-rays of molars, with macrot-Ravma, prosthetics errors, gross manipulations during the removal of lower chewing teeth, epileptic seizures, asthma attacks, whooping cough, scarlet fever, and cries during childbirth. They are also found in rheumatism, gout of endocrine disorders, tonsillitis, flu.

Under the influence of the above factors about coming hyperextension of the musculo-ligamentous apparatus of joints and relax them.

Clinic. The main symptom of habitual dislocation is **the crack** in the joints of varying inten sivnosti. It may be: a) surrounding the audible as a loud clap, b) patient feels a click, not audible others, ie blind crack, c) pain.. Hydrochloric crack does not perceive, when a doctor determines its digital examination. Clicking is the top of the le, in the middle and with the full uncovering of the mouth. Lye Nye TMJ may be accompanied by jerky and zigzag movements of the lower jaw. There may be a shift in the lower jaw towards arthrogenic (with unilateral dislocation) and myogenic (with unilateral spasm of the lateral pterygoid muscle) origin.

Zigzag movements are observed in individuals with the usual asynchronous dislocation of the lower jaw. When the breakdown of one head sharply lower jaw moves in the opposite direction, then at vyvi heh other head lower jaw moves in a counter opposite direction and is In reverse disagreement Wann joining heads mandibular articular fossa also observed zigzag motion.

Another symptom is pain of a different nature and intensity. More often dull constant yannye pain, which intensified during the wide mouth opening. Often there are severe pains radiating to the ear, temple, occipital region, neck, behind-the-ear region. The pain is often local. At the time of dislocation, the articular disc can be compressed between the head and the anterior slope of the articular tubercle. Pain mo Jette arise as a result of compression and infringement of statutory bags rich in nerve receptors. In case of typical movements of the heads of the lower jaw trigger or "trigger zones" can be pressed and then reflected pains disappear. For example, the trigger zone gobstvenno masseter muscle pain gives reflected in vtschS, trigger zone digastric - in language and Lateral Noah pterygoid muscle - in the throat. Often pain sus tave occurs when one-sided type of chewing, when the functional overload.

Palpation temporomandibular cyc tavov front of the tragus of the ear at the time of maximum kryvaniya mouth fingers fail to empty articular fossa clearly felt output articular heads.

Diagnostics. On tomograms with mouth open when dislocation mandible head is ahead of the articular tubercle, it extends beyond the top of it, and when there are several usual subluxation nper di top articular tubercle, without going to the front ramp. When the mouth is closed in the central position of occlusion sion mandible head at the center of the joint GOVERNMENTAL pits. The bone structure of the articular surfaces is not changed, the surfaces are even, smooth.

Based on the data computed tomography and magnetic resonance imaging revealed various Noe TMJ disk position in the glenoid fossa when dislocation: an upper (normal), forward, medial, latte eral, posteriomedial, anterolateral and rear (Figure 15.).

Orthopedic treatment of patients with the usual dislocation and subluxation of the lower jaw

Orthopedic treatment with the usual dislocations and subluxations of the lower jaw consists in immobilizing the jaw for a more or less long period after the dislocation is repaired; in creating an obstacle to wide opening of the mouth and, thus, eliminating the possibility of a repeat dislocation; in strengthening the musculo-ligamentous apparatus of the joint. For the treatment of habitual dislocation and rootstock vihov mandibular dis functional syndromes, habitual dislocation inside articular TMJ disk when changing nonremovable restriction Chiva bus (Fig. 16).

Limiting an Paratov fixed to two orthodontic soldered crowns to the top and two Ronchi antagonists of the lower jaw in the area of the second premolar and the first molar. This construction firstly restricts motion Nia mandible in three mutually perpendicular planes (vertical, sagittal and transversal); secondly limiting function preserves motion Nia necessary joints and muscles to maintain their normal circulation; thirdly, did not cause any nyaet pain and causes no gross violations of the external view of a patient. Patients use the device from 4 to 6 months. During this time, all pathological symptoms in the joints are eliminated , the musculo-ligamentous apparatus is strengthened, and the synchronism of contraction of paired masticatory muscles is restored. As clinically indicated pits appointed physiotherapy.

II . Habitual dislocations of the intraarticular disk (meniscus) of the TMJ

TMJ meniscus dislocation is an independent disease. Compared with other diseases, TMJ is much less common.

Etiology. Dysfunction temporomandibular nizhneche- lyustnogo joint and meniscal dislocation may occur co- couple, as a result of injuries or blows to LO her jaw joint; for gross dental manipulations during treatment or removal of the top of the lower posterior teeth due to excessive re stretching the muscle-ligament apparatus of the joints. With prosthetics errors, microtrauma of the articular surfaces occurs , especially when determining central occlusion.

An important pathogenetic factor in the devel TII TMJ is discoordination ML nomomentnom reduction of like chewing muscles and spasmodic contraction. Large values for sign this mechanism is attached to a spasm of the lateral pterygoid muscle, especially the top of the head. Increased activity of this muscle and spasmodic contraction lead to pain syndrome, and as Development - pathological processes (offset Me-N claim TMJ tensile capsules occurrence Cyc tavnyh noise).

From the anamnesis of the disease in patients with mild dislocation of the TMJ meniscus, it turns out that the initial symptom was a click in the temporomandibular joint. Clicking occurred with a wide opening of the oral cavity, at the beginning of closing the mouth when eating and at the time of closing the mouth.

Mechanism of occurrence of the clicking of a temporo mandibular *joint* due to the fact that patients with bilateral habitual dislocation of the mandible due to distension of the muscular-ligamentous an Paratov TMJ, excessive mobility of the meniscus ANS when opening the mouth is lost strong bond vnutrisus tavnogo meniscus mandible head. At the moment of opening the mouth head of the lower jaw, overcoming the articular tubercle exits the glenoid fossa and pulls over *a* meniscus. In turn, the meniscus of the TMJ bending etsya and went out of the articular tubercle, again rectifies smiling, making a clicking sound. At the start of the closing head oral mandibular articular overcoming the buoy slides, comes into the joint hole and again pulls the meniscus of TMJ which bending enters into the joint hole and the rectification produces a click. When odnosto ronnem dislocation mandible patients complain of clicking in the TMJ healthy. This is due to the fact that the excessive excursions of the mandible head hundred Rhone dislocation, opposite the head of the mandible produces rotation in the horizontal plane, at which the meniscus of the temporomandibular joint, from gibayas, emits a clicking sound.

When sinking bite and distal shift of the mandible occurs when clicking Smyk Nia jaws and is deaf. This is due to the fact that when shifting the distal mandibular rear abdomen meniscus TMJ remained in the joint cavity, and the head of the mandible, skipping over a thickened edge rear abdominal meniscus TMJ and curving it, emits Glu Hoe clicking.

Pain in the temporomandibular joint, as a rule, occurs in the later stages. If there is not vralgicheskih pain radiating to the ear, the temple, zaty mammary region and the neck region should be differentiable Rowan arthrogenic neuralgia and trigeminal neuralgia, temporal arteritis ear nerve pulpitis and exacerbation of chronic periodontitis mol trench upper jaw.

With dysfunctions, overstretching of the musculo-ligamentous apparatus and rupture of the meniscus- condylar ligaments occur. An excessively mobile meniscus of the TMJ easily moves from the surface of the head of the lower jaw and, wedged between the bone elements of the joint, leads to blocking the movements of the lower jaw. There is a short block, with koto rum TMJ meniscus

legkovpravim and long, when to torus TMJ meniscus trudnovpravim. The patient required several *hours* to reposition independent you vihnutogo meniscus. When severe cases, the patient can not open his mouth alone, t. To. Dislocated in the unusual position of the meniscus of the TMJ is fused with elements of the joint cops, and formed nevpravimy or getting old dislocation of the meniscus of the TMJ.

All patients with dislocation of the meniscus legkovpravimym ka TMJ, trying to get rid of blocking phenomena and pain, attempting to dislocate the reposition of the meniscus of the TMJ to its normal position. Bolshins TBO patients jam your fingers in the area of the joint, and the other hand is shifted lower jaw in a hundred different Rhone before the lightness and freedom of movement in the joint. Other patients, pushing his fingers in the region of the incisors of the upper and lower jaw, violently races kryvayut mouth before the loud clicks and its Boda movements. Some patients with ME sprained meniscus TMJ independently reduce a the normal position when talking or eating. In patsien comrade, whose block is rare, but the continued zhitelnym, reduction accompanied by sharp pain and a loud clacking in the joint. Repeated vyvi hee, pain and clicking exhausting patients and adversely affects yayut on their psyche.

The main etiological factors for the occurrence of a difficult and irreversible dislocation of the TMJ meniscus are: a long course of the pathology of the temporomandibular joint; prosthetics errors ; declining bite malocclusion; trauma (bump, bruise); rough tomatologicheskie manipu lyatsii when removing lower molars in the treatment of faiths hnih molars; solid food intake; previous common infectious diseases.

Differential diagnosis of meniscus dislocation

Dislocations of the meniscus to be distinguished from bilateral these front, rear dislocations and subluxations lower jaw, ie. A. For all of these diseases can be originated pull the sudden blocking of the joint. Blocking with bilateral mandibular dislocation occurs due to a sharp masticatory muscle spasm, raising the constituent lower jaw.

Blocking with posterior dislocation or subluxation of the mandible occurs as a result of the transition joint GOVERNMENTAL heads through the auditory tubercle in *fosse tympanomo - stoidea* and a sharp spasm of back beams of the temporal muscle and the digastric. Most often occurs with a sharp shift of the mandible back during determination meziodis-ratio experimentally jaws Enforced Meto house, especially in women, because they have *fossa tympanomas - toidea* much wider and the auditory tubercle is less pronounced than in men.

Classification of the dislocation of the meniscus of the temporomandibular joint

Dislocation of the meniscus of the TMJ has a symptom characteristic of this pathology - sudden blockage in the joint. Clinical observations confirmed by magnetic resonance imaging have shown that most often blocking in the TMJ occurs when the meniscus is in an anterior position. Clinically it is confirmed is given by the fact that when the lower jaw is pulled down with simultaneous extension forward head LO her jaw overcome the barrier and there is freedom of movement, and at dense closing dentition blocking occurs again in the joint. Somewhat less on observe a shift of the meniscus of the TMJ laterally and copper -trivial in relation to the head of the lower jaw. Kleene Th ski this kind of disease is often diagnosed by palpation. When pressed a finger to sus tava, sprained meniscus reduce a short time in the normal position.

Meniscus Dislocation Clinic

Legkovpravimye dislocation of the meniscus of the TMJ meeting are more likely than trudnovpravimye and nevpravimye (stagnation relye).

Noteworthy is that patients with a light kovpravimym dislocation of the meniscus of the TMJ during The duration Nogo time (12/06/24 months) medical Pomo not seek schyu and independently elaborated movements reduce a sprained meniscus in normal Noah position. Only when blocking often occurs 8-10 times a day during a conversation or eating, patients are forced to seek medical help.

At the external examination, special changes, as a rule, were not observed. The opening of the mouth is free. Blocking in the temporomandibular joint pro comes often and during a clinical examination. At the mo ment block with unilateral legkovpravi- IOM dislocation of the meniscus of the TMJ lower jaw shifts to the affected side. With self reposition worked out reception occurs once freedom motion zheny in the temporomandibular joint, the mouth opening is 42 mm. In some patients, an easily resolved TMJ meniscus dislocation is combined with a habitual bilateral dislocation of the lower jaw. Asynchronous breakdown of articular heads of the lower jaw are accompanied nied by jerky, zigzag motion niyami. At the time of dislocation of the articular heads lower Th Lust fingers sink into the empty glenoid fossa. The intercavity distance at the maximum open pt e is 60 - 65 mm. In these patients, sometimes there is a short-term blockage in the temporomandibular joint.

In patients with unilateral easily rectifiable. dislocation of the meniscus of the TMJ on palpation in vie juicy temporomandibular joint on the affected side head mandible produces a slight forward movement, and on the healthy side of the former courses of the joint head of the lower jaw is much more. When opening the mouth in these patients rebounds docking mandible shifts toward dislocated meniscus TMJ. Mezhreztsovoe distance of 18 - 20 mm, *for* through increased joint tour of agile mandible on the healthy side. When Pal patsii vyyavletsya lateral pterygoid muscle pain in patients with dislocation of the meniscus of the TMJ legkovpravimym Tenderness to palpation muscle indicates hypertonia of the muscles.

Clinic of difficult and irreparable (inveterate) dislocation of the meniscus of the temporomandibular joint

Legkovpravimy meniscus TMJ dislocation due oshi side in diagnosis often becomes trudnovpravimy or nevpravimy (chronic) TMJ meniscal dislocation.

In difficult-to-correct dislocation of the meniscus of the TMJ, unlike easily dislocated, patients complain of pain in the temporomandibular joint at the time of opening the mouth and limiting the opening of the mouth. Peep Kanye usually not observed, it occurs only at the time reposition the meniscus of the TMJ in normal by decomposition. When trudnovpravimom meniscal dislocation TMJ patients trying to straighten meniscus TMJ worked out reception, but it is possible not *immediately*, *but* over the length Tel'nykh time (B, 12 hours or more). But then the patient independently adjusts the meniscus of the TMJ to a normal position.

In that case, when you can not straighten a dislocated mentioned TMJ meniscus more than a week, a month, six months or a year - this pathology refer to nevpravimomu (zastare scrap) luxation of the TMJ meniscus.

Most often, the dislocation of the meniscus trudnovpravimy VNCH C in people who have a mismatch of the head of the mandible and glenoid fossa (small head of the mandible and glenoid fossa is wide), most of these patients with a history of a period of not how many years there has been a dislocation of the mandible. For IU ditsinskoy *help*, *they* do not address long until there are symptoms of blockage in the temporomandibular joint. However, their appearance does not encourage patients to rapid treatment to a stoma Tologoi, t. K. They manage independently worked out reception, to reduce a meniscus in a normal position.

If the patient does not seek medical help, and blocking in the temporomandibular joint continues for several days, kneading ant, years - a dislocation of the meniscus of the temporomandibular nizhnechelyust- Foot joint called **nevpravimym** or **zastare lym.** Meniscus irreversible dislocations are less common than easily dislocated and difficult to correct.

Most patients with nevpravimym vyvi rats TMJ meniscus long treated by dentists with other diagnoses (arthritis, arthrosis, ankylosis, and so on. D.). They conducted symptomatic treatment, that gives for positively effect in the treatment, but rather leads to permanent contracture of the jaws, the formation of fibrosis GOVERNMENTAL adhesions between the meniscus position and the offset in the elements of the temporomandibular joint.

During external examination the person in these patients usual but symmetrical. The height of the lower third of the face is reduced only in some patients with a declining bite.

Trudnovpravimye and irreducible dislocation meniscus ka TMJ are more often unilateral than bilateral. With unilateral, difficult and irreparable dislocation of the TMJ meniscus in some cases, the lower jaw moves to the affected side. On palpation in the temporomandibular *joint, the* excursion of the head of the lower jaw on the healthy side is much larger than on the side of the dislocation of the menstrual TMJ. The interdental distance when opening the oral cavity on average corresponds to 18 - 22 mm. On palpation visoch but temporomandibular joint in patients with trudnovpravi- mymi and irreducible dislocation of the meniscus indicated a slight excursion of the head of the lower jaw. From kryvanie mouth limited. On palpation is not defined wish to set up the pain and clicking in the joints. Pain occurs when forcibly opening the mouth locally in the area of the affected temporomandibular joint. Pal patsiya actual masseter and temporalis muscle is usually painless.

When examining the vestibule and the oral cavity, the mucous membrane is without pathological changes, in some patients fingerprints were revealed on the cheeks and tongue. In the dental arches is a partial loss of teeth lo delocalized form raised teeth erasure.

Diagnostics. When diagnosing legkovpravi- forward dislocation TMJ meniscus can then be used mograficheskoe study which allows anali ized forms and ratios TMJ elements. However , this technique is not informative at trudnovpravi- Mykh nevpravimyh and (chronic) sprains meniscus TMJ t. K. A meniscus, fibrotic articulating plate over NOSTA and fibrotic adhesions radiolucent.

Tomographic study of both temporomandibular joints with unilateral and dvusto ronnem lesion is carried out in the position of central occlusion and maximum open mouth. The necessity bridge in both joints conducting tomography Obus lavlivaetsya fact that often the patient complains of a joint, a pathology is detected in the other joint.

Patients with legkovpravimym dislocation of the meniscus of the TMJ, with frequent blocking is necessary to do mografiyu before treatment (at the time of locking in the joint) , and after the reduction of the meniscus to develop methods. However, it should be noted that most of the pain GOVERNMENTAL mouth opening occurs due to greater ekskur these heads of the lower jaw of a healthy TMJ.

To establish the localization and spread Nosta pathological process in the temporomandibular joint and tissues, okra w lev els and joint research in the dynamics of the various pathological processes necessary to carry out a computer tomography.

This technique enables the study of the joints in three mutually perpendicular planes - sagittal hydrochloric, frontal and axial. When the lateral shift of the mandible of the lower jaw heads are clearly identified in the joint in the pits at the same time about their temporomandibular joints.

The pictures MRTchetko determined front you vortices left TMJ meniscus. The posterior abdomen of the TMJ meniscus is located in front of the articular head of the lower jaw. When opening the mouth articular head the lower jaw abuts the rear abdomen TMJ meniscus that appears sharp in the joint and blocking restriction cheniem mouth opening.

Analyzing the data of the sagittal images magician cally resonance imaging, can be seen again diversity of positions of the meniscus position relative to the elements of the temporomandibular joint. The top position of the meniscus of the TMJ - a meniscus located Sverre xy over the head of the lower jaw. The front position of the TMJ meniscus - the meniscus is located in front of the head of the lower jaw. In this case, a blockage in the joint is observed and an irreparable meniscus dislocation is diagnosed. Anterior-medial position of the meniscus of the TMJ - IU meniscus is located medial to the head of the lower jaw. Anterolateral position IU Niska TMJ - the meniscus is located laterally from the respect to the Lateral (Lateral Noe) position of the meniscus TMJ - meniscus is located on the side of the articular head of the mandible. The posterior position of the TMJ meniscus - the meniscus is located behind the head of the lower jaw.

Treatment

When legkovpravimom dislocation of the meniscus of the TMJ les chenie directed at strengthening the musculo-ligamentous apparatus, restore synchrony reduction *pair* of the masticatory muscles, the elimination of all pathologists iCal symptoms in the joint. To achieve this objective should be used a modified limiting yuschy apparatus Yu.A. Petrosova. In contrast to the treatment of dysfunctions of the

TMJ, habitual dislocation and subluxation of the mandible - hinge limiter, in this apparatus, it is put on the shaft and fixed only when the meniscus TMJ takes normal put of over the head of the mandible, there freedom of motion and comfort in the joint. Further, the guide present the ring is made *of* size *less flattened and* the maximum limit for more sagittal and transversal movements, in order to avoid the displacement of the meniscus. Patients use the device 4 to b kneading ant. According to clinical indications, physiotherapeutic treatment is necessary .

When trudnovpravimom meniscal dislocation TMJ scheme ma treatment includes: elimination of the etiological factors miogimnasticheskie exercise, the use of orthopedic and orthodontic devices in a computer Lex physiotherapy.

The essence of the proposed prosthetic Meto yes treatment trudnovpravimogo and irreducible dislocation meniscus TMJ is that prolonged, full joint block, manually, by at Enforced redressatsii performed gap fib discord adhesions and fibrous tissue in the muscle fibers, and ground spikes meniscus elements TMJ . After clinical, radiographic examination and data MRI patient under anesthesia by Berchet and oak produce nasils idents dehiscence oral cavity. In this case, a partial rupture of fibrous adhesions is achieved . Req To do this, Dimo set the index fingers of both hands on the cutting edge of the lower incisors, and thumbs up on the cutting edge of the upper incisors. If the cross-sectional ma nualnoe forcible oral disclosure not Dae desired effect, produced by mechano with power side gag Trudnovlravimy meniscal dislocation TMJ manages straighten gradually over 6-8 days. At break adhesions, temporomandibular meniscus returns to the surface cyc tavnoy head to the normal position by mechanical therapy and exercise miogimnasticheskih increasing IU zhreztsovoe distance to physiological norm (40 - 42 mm). To consolidate the obtained results and the maximum degree of opening of the mouth via thermo plastic mass "Wall" is made strut to posterior dislocation of the meniscus on the side of ka. Then, in the laboratory, the formed thermomass, being gypsum in the cell, is replaced by a plastic spacer. The patient is recommended to Myogit nasticheskie exercises and the first three days to sleep with a plastic spacer in posterior teeth. This is because when the wide from kryvaniya oral method mechanotherapy per night and there is a sharp reduction in masticatory muscles, and dehiscence of mouth can go back to the original level. Miogimnastika helps to restore symmetry ary function of masticatory muscles. When dislocation IU Niska TMJ miogimnastiki purpose is to eliminate lateral displacement of the mandible at mouth opening and the achievement of sagittal jaw movements when the half open mouth. Patients prescribed vypol nenie miogimnasticheskih special exercises. With a unilateral dislocation of the meniscus, the lower jaw, with maximum opening of the mouth, shifts to the side of the lesion, therefore, the thrust of all those muscles that move the jaw in this direction prevails . Training of antagonists of these muscles is necessary. For this chin rests on the palm of the hand, elbow KOTO SWARM is set on the table. Lips and dentitions slightly open. The pressure of the lower jaw is produced in the opposite direction. If a patient with left-sided and dislocation of the TMJ meniscus and has a displacement of the lower jaw to the right, then the palm rests on the left ° jaw, pressure of the jaw is applied to Don, mouth opening exercises without extending the lower jaw and lateral displacements are aimed at restoring the coordinated function chewing muscles. Myogymnastics is prescribed 10 times 8 days for 10-15 days lasting 10 minutes. The patients continue myogymnastic exercises until the mouth is fully opened within 40 - 42 mm.

To relax the masticatory muscles Paci tomers selectively prescribe medication

During this time, the synchronism and strength of contraction of the paired masticatory muscles is restored. TMJ meniscus by partial adhesion is strengthened by at surface of the head of the lower jaw, and fortified we antiplaque-ligament- *replacement device* presses the lower jaw with the meniscus to the glenoid fossa, which prevents the emergence of recurrent dislocation of the meniscus. Some patients after oral disclosure is not produced og restricts the apparatus, ie. K. The motion of the mandible heads Reserved smooth, synchronous slots without kanya and joint pain. These patients are under constant medical supervision.

Treatment of patients with nevpravimym (stale), temporomandibular joint dislocation meniscus carried age- pas patient's, etiology, pathogenesis and disease duration. When irreducible dislocation meniscus TMJ functional but-diagnostic tests are not acceptable, ie. K. Displaced ny meniscus causes blocking of the joint. Irreducible dislocation of the meniscus

trudnovpravimyh differ from that in long-term wrong position IU Niska TMJ and the severe restriction of mobility in Soest 've produced partial or complete fibrous adhesions throughout the meniscus. In such cases, eds ressatsiyu and tear fibrous adhesions is not always possible to produce manually.

Patients with nevpravimym (stale) vyvi rats TMJ meniscus can not simultaneously produce manually redressatsiyu and tear fibrous adhesions. The opening of the oral cavity in these patients is performed under stationary conditions under general anesthesia *with the* use of a lateral conservator. To fasten flax tions result obtained maximize races covering of the mouth by means of thermo-pla -terrorist mass izgotav Lebanon spacer to posterior teeth on the side of dislocation of the meniscus (Fig. 17).

Then, within 7-10 days produced gradual Nye redressatsiya and spa gap nuts, followed by laminating it on plastic achieved *degree* uncovering the mouth. This is due to the fact that when up stizhenii wide open Niya oral method fur noterapii night comes *a sharp reduction* zhevatel muscle activation and dehiscence of the mouth can return to the original level. Spacer before Laga day use 5-6 times an hour with an hour break. During the break, perform myogymnastic exercises for 15 minutes.

To relax the masticatory muscles Paci tomers selectively prescribe medication.

Inspection is carried out after 10 days. Then, for a month, patients are outpatiently monitored. Only after reaching a freedom of movement in the temporomandibular joint patients apply orthopedic apparatus according to at Kazan (restricting unit, the base plate on the upper jaw with the oral inclined plane and segmental saw cut, a modified detachable [3]Ubonadesnevaya tire on the lower jaw with the inclined plane of the base plate with the oral inclined plane and with a segmental cut).

In addition to hardware treatment of patients at about Met affected joint is assigned Physiotherapeutic matic treatment.

Test questions:

1.Privychnye dislocation and subluxation of the mandible (etiology, pathogenesis, clinical, diagnosis and ortho pedicheskoe treatment).
2.Privychnye sprains disc (meniscus) TMJ (Ethyol Gia, pathogenesis, clinical manifestations, diagnosis and Orthopedic some treatment).

Practice lesson-20

Subject: Criteria for the restoration of occlusal surfaces and the occlusal ratio of zune rows. Finding contact surfaces blocking the movements of the lower jaw. Occlusiography Method

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson.	Listen and record

	3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Neiromuscular dysfunctional syndrome Etiology. The cause of neyromy- antiplaque dysfunction is psychogenic factors (stress, hysterical crises, faces), functionally -functional and organic changes in various of affairs of the central and peripheral nervous ICI topics prosthesis error (premature contact on individual teeth). The most common etiology logical factor is muscle spasm, at Rushen coordination of muscle contractions.

Spasm of the lateral pterygoid muscle can lead to sharp pain in the TMJ. Spasm of the masticatory muscle and temporal muscle leads to the face pain with radiating to the joint, because nerve windows

Chania masseters are part of the joint. Compression of the shock zone of the chewing muscle itself gives reflected pain in the joint.

Clinic. Common symptoms are: muscle pain, headaches, neuralgic pains, glossalgia.

Typical symptoms of this disease are: pain in the masticatory muscles, neurological arthrogenic pain arising from the breach of a coordinate -ordination of muscle contractions from atypical motion Nij mandible. Thus there is a compression of the individual portions of the meniscus between the bone element E joint pinching rear and posterolateral parts of the joint capsule, rich in nerve receptors. Pain also arises from overstretching of the musculo-ligamentous apparatus. Joint pain may in atypical motion niyah heads mandible occur from compression sprigs *n. Chorda thympani , n . auriculotemporalis ,* from SIS ma lateral pterygoid muscle.

Another symptom is the crack in Soest vah. With atypical movements and spasms of the lateral pterygoid muscle, the strong connection of the meniscus with the condyle is lost. The meniscus becomes excessively mobile and makes a clicking sound when bent and straightened.

Asynchronous contractions of the paired masticatory muscles lead to jerky, zigzag and circular movements of the lower jaw.

X-ray picture. On the mogrammah in centric occlusion position head mandibular joint located in the middle holes. Changes in the bone structure of the joint is not marked surfaces. When the maximum open mouth head of the lower jaw are on top sus tavnyh tubercles.

Treatment of neuromuscular dysfunctional TMJ syndrome

Treatment of patients with neuromuscular syndrome is aimed at eliminating the cause that caused

Clinic. Patients complain of a crunch, u fir Kanye, the pain, the displacement of the jaw, facial asymmetry, a partial blockage in the joint. Noise symptoms are in the form of a scratching sound, the sound of parchment. Clicking is observed with a slight opening of the mouth, lateral movements of the lower jaw during the act of chewing, with a wide opening of the mouth and when the jaws are closed. The latter arises when reduced at Kusa and deep traumatic occlusion.

Another common symptom is camping pain. The pain is of different nature and intensity Nost. It can be dull, aching, in other cases acute with radiation to the ear, temple, occipital region, neck region. Dull aching pain are at decreasing schemsya bite, sharp, radiating - with atypical GOVERNMENTAL movements of the lower jaw.

The symptom of the lower jaw moving to the side occurs with uneven increased tooth erasure, with errors during prosthetics. Distal shift mandible occurs when otsuts tvii distal support and accompanied clacking and pain in the joint at the time of clamping jaws. When squeezing region bilaminarnoy zone enriched from the courts may be stagnation which leads to an increase in pressure intratimpanicheskogo. A similar thing is observed when squeezing the Eustachian tube. In atypical condylar movements can be squeezed IU meniscus, back and side parts of the joint capsule, god of the nerve receptors. There is a close relationship between the neuromuscular and occlusal-articulatory dysfunctional syndrome. They are interrelated and mutually obuslavli vayut each other.

X-ray picture. On the mogrammah contours articular surfaces are not measurable Nena generally flat, smooth, rounded formy-

A number of patients the erasure of individual sections, RMS shennost the rear edge of the articular tubercle, with a deep and reduces schemsya bite, with serried teeth GOVERNMENTAL ranks of the back and upper joint nye gap narrowed. Asymmetric position condyles observed predominantly in patients with latte eral shear mandible. At the maximum open mouth of agile lower jaw reach the top of the articular tubercle.

Treatment is aimed at eliminating the cause of the disease, leveling occlusion. When CNI zhayuschemsya occlusion applied bite block plate; when distal-prefecture shift of the mandible - E ogimnastika, palatal plate with an inclined plane in fron Talnoye department, while **periodontitis** - plastic kappa MANUFACTURING Retained constructive occlusion, and segmentar plane . With the combination of bite cut anomalies and TMJ pathology, both pathologies are treated. When to combination with neuromuscular syndrome - removable limiting tire. When lateroposition bottom Th Lust - miogimnastika and tire lateral inclined plane . For relaxation of the masticatory muscles, Pa cient selectively assigned medication. Patients are under constant preamble Thorne supervision. To establish the bottom chelyus minute in the mid-sagittal position (the reverse claim erekrytii posterior teeth), the base plate is applied to the oral inclined plane and with segmental tare saw cut .

Clarification of occlusal contacts may be about to carry on with the help of okklyuziogramm and diagnostic models. **Occlusiography** *is a* method of obtaining occlusal contacts on thin plates of wax (clasp wax can be used) when closing dentitions. Normally, when a orthognathic CIDP meat on the strip of wax is defined in line contact ob- mouth and the front teeth point in the area of the side, but in these areas is stored a thin layer of wax . In the presence of excessive contacts on a particular site in the wax, holes are formed (in the absence of contacts, a

fingerprint in the wax is not observed). Superimposing plate wax to diagnos cally model using pencil transferred lan ki excessive contacts to determine the model of the teeth and areas with shlifovyvaniya.

Also in the definition Nia superkontaktov ispol'uet form a occlusal paper of different thicknesses (from 8 to 200 microns). First occlusion onnye contact with study of power occlusal paper 200 microns thick; after from biratelnogo prishlifovy- Bani adjusted until a line contact in the area of the front teeth and mnozhes Twain contact point in the posterior region (with approx klyuzionnoy paper thickness hydrochloric 8-12 microns) .If parodon titah due to significant under VIZH NOSTA teeth obtaining of occlusiograms and, especially, interpretation are difficult, therefore V.N. Kopeikin suggested that selective grinding of teeth be carried out in two stages. The first step is to conduct pre preliminarily prishlifovyvenie teeth in superkontaktov pronounced. The second step is carried out after the immobilisation of the various teeth shiniruyuschi mi therapeutic constructs (Fig. 1).

Selective grinding is carried out using high-speed machines and centered shaped heads by an intermittent, gentle method. Sanding preceded completed application or infiltration anesthesia, and if necessary - about the maintenance of sedation. It should be remembered that grinding only changes the configuration of the dental tubercles and their slopes, while the tubercles themselves, as a rule, are not polished, since a decrease in the interalveolar height should not be allowed . To do this, grinding is carried out using the ShchVYAN formula . This means that with shlifovyvayutsya buccal (W) hillocks upper (B) and Yazichi N s (I) hillocks lower (H s ubov. Since these protuberance ki determine the direction transversal movements of the mandible, then this mozh but hillocks upper teeth and the buccal cusps lower to reliably fix mezhalveolyarnyh height (Figure 2)

Test questions:

1. Non-neuromuscular dysfunctional TMJ syndrome . Etiology, pathogenesis, clinical features, diagnosis and orthopedic treatment.
2. Occlusion-articulatory dysfunctional TMJ syndrome. Etiology, pathogenesis, clinical, dia gnostic and orthopedic treatment.
3. The method of occlusiography.

Practice Lesson 21

Subject: Orthopedic treatment of TMJ diseases with combination designs. Applications of locking and telescopic crowns that are fixed on the denture.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . **Arthritis** - is inflammation of the tissue structures of the temporomandibular joint, which may be an infectious-allergic, traumatic and less - Spec cal.

Etiology, Infection joint proish dit by contact with osteomyelitis branch and joint Nogo process of the mandible, purulent otitis, Furuno kulah external auditory meatus, hematogenous and lymphogenous by at carbuncles face distant from GOVERNMENTAL suppurative lesions, abscesses, phlegmon. Inflame Tel'nykh processes TMJ may be caused on the conductive infectious diseases (influenza, angina, mumps, purulent otitis, measles, scarlet fever , and so on. D.).

Acute traumatic arthritis often occurs with simultaneous macrotrauma in the joint. In trauma, hemorrhage occurs in the joint cavity with the formation of hematomas.

Inflammation of the TMJ may be at an exacerbation poly rheumatic and rheumatoid arthritis.

Clinic. Clinically been swelled lethargy, congestion in the joint area, marked limitation of mouth opening, palpation sharply painful. When DWI zhenii jaw pain increases dramatically. In some patients the pain radiates to the ear and temple, behind the ear of the domain, a number of patients the pain is local, but it is usually just cast.

The general condition of the patients is satisfactory. Body temperature reaches 38.2-38.5 °. Celebrated mustache indigenous ESR.

Diagnostics. On TMJ radiographs, no particular changes are observed. There may be an extension of the articular cavity due to enhanced ekssuda tion. Occasionally, *bone osteoporosis.*

Clinic. Infectious-allergic chro nical arthritis arise in the supercooling op - organisms, exposed to drafts, at microtraumas error prosthesis, after an infectious tional diseases. Available dormant infectious tion in the joint as a result of initiating a cart factors acting on the joint synovial membrane.

Patients complain of constant aching pain in the joint, difficulty eating. The pain intensifies Xia the motion of the mandible. Occasionally, clicking, crackling in the joint.

At an external examination, asymmetry is not observed in patients. The movement of the jaw is not limited.

Body temperature in most cases nor mally, occasionally comes to 37,5 ° C. The X-ray no significant changes observed, sometimes marked wasps teoporoz bones, and in some cases hardening Site bone.

The main method in the complex treatment of Daubney patients is anti-inflammatory ones rapiya, which is complemented by orthopedic treatment. One anti-inflammatory therapy for acute and subacute arthritis of any etiology is not enough. With defects in the dentition, especially the end, a decrease in VNOL, overload of the joint develops. In such cases, the absence of inflammation distrofiches Kie changes in the joint gradually develop into the Techa of many years, in some cases, these changes will not come out as a result of large compensatory capacity of activity of the masticatory muscles and the gradual re construction of the joint. In acute inflammation occurs razvoloknenie, destruction of joint tissues and the resorption of elements, even physiological LOAD ka becomes pathological, and increased load as a result of defects dentition and malocclusions leads to rapid destructive changes in sus tave. Therefore, therapy should be carried out in conjunction with orthopedic measures. Orthopedic leche of the aims of creating diastasis between the joint of surfaces by means of "pulling" heads lower chelyus minute down via shinoterapii - plastic caps fabricated on posterior teeth on both sides, or plastic or cast tray for the entire dentition, or with removable plates with occlusal lining in the field of chewing teeth with intact dentition. Uncoupling occlusion achieved in Oblas whith first molars 2.5 mm. When defects dentition after discharge treatment therapy need reassurance stitching complete reduction dentition and VNOL.

Apparatus restricting movement chelyus minute, acute inflammation TMJ **contraindicated** due to the risk of ankilozirovaniya in the joint. Despite the fact that the

majority of patients the inflammation eliminated during kneading tsa, orthopedic devices it is advisable to continue treatment for 2-3 months to Restore ment of the functions of the masticatory muscles.

To combat inflammation, corticosteroids should be used with caution, only with acute purulent arthritis in the initial stage of the disease, and in chronic they are contraindicated.

Orthopedic treatment of chronic iCal arthritis. Patients with chronic yn-infectious-allergic arthritis in step obos friction in the presence of motion in the joints limit carried unloading (orthopedic) therapy in combination with anti-inflammatory. Made a record with occlusal pad or plas tmassovye tray on posterior teeth.

From medications: inside - butadione, rheopyrin, methindole, brufen. Locally, in the region Soest Islands - electrophoresis with 10% solution of salicylic at Tria, slidazoy, UHF, and at the end of treatment - massage.

II. **Osteoarthritis** - dystrophic (degenerative) for bolevanie joints, characterized by a long asymptomatic without inflammatory phenomena Nij. In the literature the terms "deforming yuschy arthrosis", "deforming osteoarthritis", "axes teoartroz" etc. arthrosis deformans called.. Because gradual degenerative processes result in deformation of the bone structure TMJ elements.

Etiology and pathogenesis. Arthrosis result from simultaneous injury (stroke, injury, Comp RESS) at which can be damaged sochlenovannye surface in the form of cracks, erosion, fracture myschel ka and condyle process with subsequent incorrect coalescence. After two, three or more months after the herbs we having peripheral bony growths. When moving jaws bone growths injure the meniscus and the articular fossa, resulting in increased wear of the meniscus and of inadequate DC but enhanced irritation of osteophyte growth.

When combined with arthrosis deformans dis functional syndromes treatment should nachi nat to normalize movements of the mandible on at power miogimnasticheskih special exercise and physical therapy. After this, therapeutic measures are sent to normalize
Nia mandible head in the articular fossa, the rate tion of relationships in the dental arches.

In cases where patients complain of pain crunch, clicking in the joint and deformation combined with excessive excursion of heads (one-sided, two-sided dislocation, subluxation of the mandible) or asynchronous contraction paired masticatory muscles appropriate to use a non-removable restrict conductive bus. By limiting the vertical, transversal and sagittal movements and normal tion ratio dentition to create a function -regional peace in the joint, eliminates traumatic factors reducible functional leader Nosta chewing muscles and joints as a whole, with stops further growth or osteophyte de form part of the condyle.

If there are defects in tooth rows and deformation tion occlusal surface, as well as reducing VNOL treatment should be carried out in two stages. Initially expression NIWA occlusal relationship of dentition and the jaws orthodontic appliances or Provo ditsya output miototicheskih reflexes *of* ruby with via bite block plate (in adults) with subsequent prosthetics and simultaneous with Menenius orthopedic devices.

When treating patients with deforming art roses except orthopedic surgery assigns Xia appropriate medical and physiotherapy matic treatment.

After orthopedic and physiotherapy of treating pain, crunch, snap in the joints and the displacement of the mandible disappear even with deformed Rowan condyle. This again points to the importance of orthopedic treatment to normal zatsiyu function of the masticatory muscles and the position of the condyles in the articular fossa.

For patients with unilateral arthrosis deformans with the presence of displacement of the mandible hundred Ron when opening the mouth and at the bottom side shifts
chelyu STI without dislocation condyles after course miogimnas-tiktki (1-2 months) is made removable crown Single tire with a spring or an inclined plane mo difitsirovannaya Weber tire with an inclined plane.

Orthopedic treatment of patients with myogenic osteoarthritis does not differ from the treatment postin infectious, post-traumatic arthritis. The goal of treatment is to normalize the situation as we are by clicking inside the articular pits, removal of muscle spasm, Restore ment of synchronicity muscle contraction and normal tion and smooth combination of movement of the condyles, the restoration of neuromuscular function of the complex. In cases where myogenic osteoarthritis occurs against the background of neuromuscular syndrome, or in combination with dislocations and subluxations of the lower jaw, the treatment is carried out by a fixed limiting splint. In these cases, restriction of movements in three mutually perpendicular planes is shown. Orthopedic The equipment you should be used in conjunction with physical therapy.

When excessive increase and deformation of the condyle when the limited movement in the joint, necessary to carry out complex treatment - hirur gical and orthopedic. Surgical treatment for consists in the resection of the deformed head (concentration dilektomiya) and orthopedic aims to offset the lower jaw and hold it in the midline facial orthopedic devices for a long time (5-6 months), while maintaining the movement in the joint. Treatment ends with prosthetics. If rapid deformation occlusion Producing patients are dentures to the jaw with duplicate conductive nearby, and with a slight breach okklyuzi- onnyh relationship dentition orthopedic treatment is completed functional prishlifovyva- Niemi dentition or prosthesis. Observations Petrosova JA (1982) have shown that even with a significant deformation of the condyle can do without surgical intervention, especially if bone overgrowth is to ne front surface of the condyle. Treatment is carried out pu the normalization of the situation in the heads of the condyles sus tavnyh pits, the normalization of the masticatory muscles and the ratio of dentition and jaws. Surgical treatment in combination with orthopedic should be carried out only with excessive growth of the head, with expansive growth of the condyle or localization of the osteophyte on the upper lateral part of the joint, when conservative treatment obviously cannot give a positive result.

Test questions:

1. Arthritis (acute and chronic). The etiology, pathogen Nez, clinical features, diagnosis and orthopedic treatment.
2. Arthrosis. Etiology, pathogenesis, clinical features, diagnosis and orthopedic treatment.

Practical lesson-22

Subject: Direct method of orthopedic treatment of non-carious generation of hard dental tissue by photocomposite crowns (veneers).

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin	Listen and record

	"Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

The name veneer comes from the English word veneer , meaning facing. In dentistry vini- rum called restoration, restoring, OS novnom, vestibular part of the tooth crown.

Classification

It is customary to distinguish between direct and indirect veneers. Their difference lies in the fact that the lines of veneers gotavlivayut directly into the patient's mouth. Indirect veneers are created on a model obtained from a vice, and then adhesively fixed in the oral cavity. Mo del can be conventional, while the veneer izgotavli INDICATES dental technician in the laboratory or virtual hydrochloric constructed in the computer, then the dentist can independently produce indirect veneer from e. milling method, for example, on a CEREC device .

According to the material, veneers are divided into composite and ceramic. In this case, direct veneers can only be composite, t. To., In fact, are to fight the seal covering the vestibular surface of the tooth.

Ceramic veneers can be made using various technologies.

When the slip for forming the dental technician meshivaet ceramic mass on the liquid and causes the resulting paste on a refractory model. Then about plagued firing in a furnace. For this purpose, appropriate pain shinstvo masses for ceramic dentures.

During hot pressing, the veneer is modeled from wax and packaged in a molding material. Then wax produced and digested razo pressing a heated ceramic preform resulting in shape. This technology resembles metal casting. The difference is that the ceramic does not heat up until it melts, otherwise it would lose its aesthetics and become dull and overly white. Most known system hot pressing ceramics - this IPS Empress , obtained by such veneer technology then individuate either by staining with the outer surface or by *lamination*, when the top is applied additional nye ceramic mass.

When milling technology veneer vytachiva etsya of baked in advance at the factory ke ramicheskogo block. With this technology, almost always using a virtual three-dimensional model, which is modeled by computer-veneer to create a virtual model of a conventional model is

scanned, or receive an optical impression spe Hoc camera. This technology requires a specially of equipment, such as the CEREC .

II . Advantages and disadvantages

The advantages and disadvantages of various types of veneers, fillings and crowns in comparison with them are given in table. 2.

Table 2. Advantages and disadvantages of veneers, fillings and crowns

Indications

Veneers are made on the front teeth, less often on premolars in cases:

1. Impaired tooth shape:
   - because of the anomaly shape, trauma, hypoplastic ema whether erasure, wedge-shaped defects, caries.
2. Violations of the position of the tooth:
   - including with trams and diastems.
3. Disorders of tooth color:
   - due to devitalization, trauma, fluorosis, with tetracycline teeth.

Dental treatment in violation of the form, polo zheniya or color using veneers far vseg but the method of choice. So, for example, violations of the tooth position in many cases it is possible to correct or- todonticheskimi methods, some violations of the CEE is the teeth well to bleach, and violations of forms are adjusted less invasive composite GOVERNMENTAL restorations. However, in the case of the failure, it is impossible or inappropriate conduct these methods manufacture of veneers is the most restrictive of orthopedic solutions to the problems we have, moreover, and more durable.

Contraindications

1. Functionally overloaded teeth:
   - with bruxism;
   - with a significantly reduced number of teeth.
2. Very deep subgingival preparation.

These contraindications are from in relative, t. K. Is possible to produce veneers after neurological bruxism correction and after reconstitution dentition using implants or removable dentures.

Very deep, subgingival preparations is a contraindication because veneers no necessity to fix the adhesive, and this implies a thoroughly dried operating field which is impossible can be achieved with such a dissection. But this contra -.. Relative, that is possible to pre preliminarily correction of the gingival margin.

IV. Clinical manufacturing steps

In most clinical manufacturing steps vi Ner include 8 points:

1. Determination of tooth color.
2. Preliminary impression.
3. Preparation.
4. Definition of color of a stump.
5. Working impression and determination of occlusion.
5. Production / fixing of temporary veneer.
7. Fitting.
8. Permanent fixation.

Tooth color determination

Selection of colors should be carried out according to the recommendations given in the appropriate time is. It is preferable to do it at the beginning of sescheniya, t. To. Have the opportunity to focus on the color has not yet been prepared tooth (if color is not changed), and a tooth is naturally moist. When drying from a long opening of the mouth, especially when using

rabberdam, the teeth become lighter and more matte, which can lead to errors in the selection of color.

It is important to determine the color of a tooth for the coloring, at which the dental technician will work (in the case Labora iterated manufacturing). None transfer from one race flowers to another (e.g., from *Vitapan* in *Chromascop)* is not exact, ie. K. In each of the colors is uni locally recurring color.

Preliminary print

Pre-print needs to izgo tovleniya temporary veneer.

If the tooth form is not broken or is not changed significantly, this impression can be used for the manufacture of clinical temporary restoration, and then sufficient to obtain its partial spoon.

In the case involving laboratory for MANUFACTURING Lenia temporary veneer must be received from all impression of the dentition and the second imprint with dentition antagonists.

To pre-print often ICs old- alginate mass, t. To. They allow better brighten the cervical area in one step and more eco nomical.

At the time of alginate impression storage req Dimo put in a sealed plastic
package without adding anything to it. Such storage
storage is preferable to water, because it will prevent
the vice is not only from excessive shrinkage, but also from the occurrence of porosity as a result of leaching of particles of the mass. It is worth noting that impressions from modern alginate materials, when properly stored, do not shrink for 100 hours.

Preparation

Wrongly assume that under the veneer preparation meets dissection for ceramic to Ronchi, but only from the vestibular side. Indeed but the shape is similar, but the veneer under minimum depth of ledge preparation may be only 0.6 mm as opposed to bits, to be at that location is not thinner than 1.0 mm. On the cutting edge, the veneer should not be thinner than 1.0 mm, and the crown should be 2.0 mm.

When preparing teeth for veneer, doctors often use special sets of burs. These kits include, at a minimum, marker boron, boron for basic preparation, and boron for finishing.

Marker boron may be in the form of rotate of boron or represents strung axle Th Res equal intervals of a certain diameter wheels. This boron is applied to the depth guidance preparirova Niya. And then, with the main boron, the hard tissues of the tooth are ground to the bottom of the resulting marker grooves. Acceptable preparation without using marker GOVERNMENTAL hog, but their use can accurately races assume preparation depth, given the small thickness of the veneers, and are urged nachi huge capacity doctors.

Basic preparation is usually produ DYT boron in a cone shape with a rounded top. In this case boron positioned parallel to the tooth axis and con snip boron kept at future ledge, repeating ⁿRi motion contours gums. Particular attention has been paid to a transition from the vestibular surface at the contact ᴴᵇ|e. If the natural contact point is not broken, then the preparation is carried out in such a way as not to affect it.

There are two main options preparirova into the region of the cutting edge (or vertex tusk) - with overlapping and without. The choice depends on the occlusal teeth of the patient relationships and preferences Vera ca. The main thing that the transition zone with the veneer on the tooth tissue does not reach the occlusal contact in the central app Clusaz that checked with articulating paper. Therefore, preparation with overlapping of the incisal edge is preferable, in which a step is formed on the oral side.

Preparation finish smoothing east ryh transitions and Finishing surface. For these purposes the best forest of the same shape as the boron to the basic preparation, but shallow zernis Tosti or carbide. Such smoothing q.s. Dimo not only for a more accurate representation of the relief in the print and accordingly on the model, but also for pro galaxies, ceramic chips, t. K. A sharp transitions con centered voltage.

Stump Color Definition

T. k. Veneer can be very thin, on the finality tion color restoration of a significant effect turns out to Vaeth fixing material itself stump. Dental the nickname should take this into account in its work by producing an artificial stump of special composites soot sponding shade. When determining color, the clinic uses generally accepted rules and special colors.

Working print and definition approx Clusaz

In the manufacture of veneer laboratory by the clinic must be obtained with impression of a dentition comprising a prepared tooth, auxiliary ny dentition impression to identify antagonists and usual patient occlusion.

Desktop imprint well Podhom DYT precision polyvinylsiloxane (silicones-A) ma materials under. When dissection with a ledge on the gums is carried out at or below the gingival retraction give ply or two-stage one-step imprint Meto wild depending on preference.

An alginate mass is used for the auxiliary impression. A registration for occlusion - again spe cially silicones. The advantage of these special materials over waxes is that they are more rigid and allow registration material to be added after closing the dentition and controlling occlusion. The base layer of the impression material, as well as the base wax th dyatsya for recording occlusion, t. K. Insufficiently zhes tkie and can lead to significant errors.

Manufacturing / Hold Time Foot veneer

Temporary veneer produced by preliminary telnomu-print or a pattern made in the tooth-technical laboratory. To do this, undercuts are cut off in the print and material is introduced into it for temporary restorations. After this, the impression together with the material is introduced into the oral cavity and squeezed. After curing restoration is removed from the print, is treated Frey Zami and polished.

Sometimes, temporary veneers are made napodo Bie direct veneers made of composite filling material, but always without using adhesive GOVERNMENTAL systems to be able to remove it entirely.

Before fixing a provisional veneer recom mended treat tooth stump desensitayzery (e.g., "BV" pictures). It is necessary for SNI zheniya risk of increased sensitivity Nosta tooth. The principle of action of these funds is to seal the tubules of naked dentin. When it is necessary to use it desensitayzery and not, for example, composite adhesives, unlike that of any practically do not create a film on the surface of the de quarantine without disturbing the accuracy of fit, and at the same time, which is very important, do not impair the strength of the subsequent inferno adhesive fixation. Therefore, desensitizers can used repeatedly as to produce prints and after, without fear of infringement of the regional adjoining Niya.

To be used for temporary fixation bezevgenolnye temporary cements, such as, Systemp . link , t. To. They do not cause inhibition of hell gezivnyh systems for permanent fixation. In difficult cases, the fixation is carried out on the bond, by etching the point or, in general, not etching the surface of the stump.

Fitting

At step for fitting check edge adjoining set, occlusal contacts, shape and color of the veneer.

The accuracy of the marginal fit is evaluated using the corrective layer of the impression mass. In the months max, where the mass is pressed veneer is ground off with diamonds.

Then spend the occlusal correction on as possible. Due to the insufficient fixation of the veneer during fitting, the final occlusal correction can be carried out after cementing.

Match the shape of the veneer with the patient. If necessary, make corrections.

The color of the veneer is evaluated by placing it on the cult using special glycerin dressing gels. Color gel is fully consistent with fixing the color -material, so focusing on it is possible to accurately select from an assortment of adhesive tse ment. In this case, you can correct inaccurate soot sponding color.

Permanent fix

It is difficult to hold the veneers with your fingers, so when fixing them, it is convenient to use special holding devices, such as VivaStick , which is a stick with a sticky mass on the end that holds the veneer securely.

Due to the small thickness and shape peculiarities, veneers should be fixed only adhesively, i.e. on special composite cements, for example *Vari - olink* II . Depending on the cement, the fixation procedure is -

It can be different. But no material is necessary mo first inner surface of the veneer etched by hydrofluoric acid, which is rinsed in a plastic cup with a neutralizing solution (sodium carbonate solution) - When flushing sink or directly into the spittoon may remain matt stains.

Next, in the veneer silane primer is applied (for example, *Monobond 5)* distribute air and vyder alive for one minute. After this, an adhesive is applied, distributed with a stream of air and in no case polymerized (otherwise the veneer will not fall into place), and placed under a protective orange glass.

At the same time prepared for fixation outbox fend off tooth. Removing the temporary restoration, purified using tooth brushes with paste contains no zhaschey fluoro. It is highly recommended to install rabbers. Enamel and dentin are etched with 37% phosphoric acid, washed and dried. Then apply adhesive and again do not polymerize.

Thereafter kneaded resin cement (if it is dual-curing), it is applied to restorations tion, and the veneer placed on the prepared tooth stump. The main surplus is removed immediately and polymerized by a lamp.

In order to avoid the formation of an inhibited layer in the thickness of the fixing suture, cover the preparation boundary with glycerin gel (for example, *Liquid Strip)* and polymerize again.

Thereafter, processing is carried out finegrained E strip and burs (yellow marking) fix present seam. If necessary, a final occlusal correction is performed, carefully polishing the treated areas with polishes with diamond paste or social polishes.

Rounding fixation border transitions coating and a fluorine-containing varnish
(e.g., *Fluor Protector)* Ala secondary caries prevention

Test questions:

1. Veneers: definition, classification.
2. Advantages and disadvantages of veneers compared to fillings and crowns.
3.Pokazaniya and contraindications for manufacturing blame pit.
4. Clinical manufacturing steps

Practice Lesson 23

Subject: Features of orthopedic treatment with full adentia. Articulators with clasps (Arcon system)

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen

Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Purpose of the lesson:

familiarize students with the basic provisions of Zuko new articulation and possibilities of their use in the design of dentures with full of teeth tere.

I of . Biomechanics is the science of the movements of humans and animals. It studies the movement from the point of view of the Konov mechanics, common to all, without exception, the mechanical motion of material bodies. Biome tantly exploring objective laws identified emye in the study.

The study of the movements of the lower jaw allows you to get an idea of their norm, as well as identify violations and their manifestation on the activity of muscles, popping tavas, closing of teeth and the state of periodontium. The laws of the mandible movements used in Constr ation devices - occluder and articulators. The lower jaw is involved in many functions - chew Research Institute, speech, swallowing, laughing, etc., but for the orthopedic. Dentistry are the most important of its zhevatel motions. Mastication can be accomplished normally only in the case where the teeth of the lower and upper Th l loc Tei will come in contact (occlusion). Closure tooth GOVERNMENTAL series is the primary manifestation zhevatel GOVERNMENTAL d in izheny.

The lower jaw makes human motion Nia in three directions: **vertical** (up and down), which corresponds to the opening and closing of the mouth, **the sagittal** (forward and backward), **transversal knitting** (right and left). Each movement of the lower jaw occurs while gliding and rotating the heads of the lower jaw. The differences are only etsya in that when one kind of motion in Soest vah predominate pivot movement, while the other - the sliding.

II . The vertical movement of the lower Th Lust. Vertical movement committed blah Godard toggle action of the muscles, lowering and raising the lower jaw. Lowering of the lower jaw occurs with the active reduction of *m mylohyoideus , m . Geniohyoideus and m . digastricus* under the condition Wii fixing muscles of the hyoid bone, les zhaschey below it. When closing the mouth, the lower jaw is lifted by reducing *m . Temporalis , m . Masseter and m . Pterygoideus medialis* at Village Degree of muscle relaxation, lowering the lower jaw.

When opening the mouth simultaneously with the rotation of the lower jaw about an axis passing through its second dexterous in the transverse direction, the head slide over the slope of the articular tubercle downward and forward. If the maximum rated opening the mouth, joint head mounted at the front edge of the articular tubercle. At the same time, different movements take place in different parts of the joint. In the upper section, the disk glides along with the head down and forward, in the lower - the head rotates in the recess of the lower surface of the disk, which for it is a movable articular fossa. The distance between the upper and lower dentition in an adult with maximum opening is on average 4 cm .

When opening the mouth, each tooth of the mandible is lowered and moved backwards describes concentra -parameter curve with a common center in the joint head. Since the lower jaw with the mouth opening lowers Xia and down shifts back curves in space will move simultaneously and will move the axis of rotation of the head of the mandible. If we divide the path traveled by the head of the lower jaw relative to the slope of the articular tubercle (articular path), into separate segments, then each segment will have its own curve. Thus, the entire path traversed kakoy- or a point that is located, e.g., the rebounds zling ledge is not correct Cree -hand and a broken line consisting of a plurality of curves.

Gysi tried to determine the center of rotation LO her jaw during its vertical movements. In various nye phase of its movement moves the center of rotation (Fig. 22).

(Fig. 22) Moving the lower jaw when opening the mouth.

III . Sagittal movements of the lower Th Lust. The movement of the lower jaw forward wasp fected bilateral reduction of the lateral pterygoid muscle, fixed in the pits the wing eminent shoots and attached to the joint capsule and articular disc. Movement in the joint made one temporarily on the right and the left. On the great- est distance that can go head forward and down the articular tubercle, equal to 0.75-1, Osam. When chewed SRI, this distance is 2 to 3 mm .

The distance, which goes head motion when the Research Institute of the lower jaw forward is called the **sagittal Foot joint path.**

The sagittal articular path is characterized by a certain angle. It is formed ne intersection line lying on the continuation sagittal Nogo articular path with the occlusal plane. The latter means a plane that passes through the cutting edges of the first incisors of the lower jaw and the distal buccal tubercles of the second molars. **The angle of the articular sagittal pathway,** according to Gizi, averages 33 ^{0}(Fig. 23). Path, performed LO them incisors when extended lower jaw im- eds called **sagittal burin by.** When crossing path lines sagittal incisal occlusal plane angle is formed, which is called the angle **sagittal incisal path** Its value is individual and depends on the nature ne overlap of. According to Gizi, it is equal to an average of 40-50 ° (Fig. 24).

At the front of the occlusion may contact Dhu CWA in three points: one of them is located on the front teeth, the other two - in the rear bumps last mo lyarov. This phenomenon was first described by Bonville and was called Bonville's three-point contact.

Since the mandibular motion holo Application slides down and forward, then naturally it drops down and forward the rear portion of the lower jaw by the amount of incisal slip. Consequently, during lowering of the lower jaw must be formed a distance between bokovymii teeth equal magnitude burin of overlap. This is possible due to the location of the lateral teeth on the sagittal curve received **on the title of the occlusal** curve of **Spee,** which is the set Gie-called compensation, and (Fig. 25).

Fig. 25. *Occlusion curves: a - sagittal Spee, b - Wilson's transversal*

The surface passing through chewing PLO schadki teeth and cutting edges is called occlusion. In the field of dental occlusal surface side IME is curvature, its convexity is directed downward and dubbed sagittal occlusal Cree howling. When the lower jaw moves forward, its posterior section falls and a lumen should appear between the last molars of the upper and lower jaw. Due to the presence of the sagittal curve of the lumen when vydvizhe SRI lower jaw is closed (compensated), POE addition she called compensation curve.

In addition to the sagittal curve, a transversal curve is distinguished. It passes through chewing on surface of molars of the right and left sides in the transverse direction. Different levels location buccal and palatal cusps of the teeth due to tilt toward cheek causes n Alice side (transversal) occlusive curves - curves with different Wilson RA radius of curvature of each pair of symmetrical teeth.

IV . Transversal movements of the lower jaw. The lateral movement of the mandible WHO Nick as a result of unilateral reductions la teralnoy pterygoid muscle. For example, when moving the jaw to the right decreases the left lateral fitment lovidnaya muscle when displaced to the left - right. In this mandibular head on one side Vera schaetsya around an axis extending almost vertically through the articular process of the mandible. At the same time, the head of the other side, together with the disk, slides along the articular surface of the tubercle. If, for example, LO NJ jaw moves to the right, then on the left side of the head moves down and forward, and on the right - physicians schaetsya around a vertical axis.

fig. 26. and. Bennett's angle. The lines connecting the incisal point with the mandibular heads and the heads themselves form a Bonville triangle. b. transversal lateral path angle (gothic angle)

The angle of the **transversal articular** path **(Bennett angle**) (Fig. 26). On the side of the contracted muscle, the head is shifted downward, forward, and several movement buttons are at an angle to the sagittal line of the articular path, or, as it is otherwise called, the **angle of the lateral articular** tract . On average, he ra veins 17 °. On the opposite side, the ascending branch of the lower jaw is shifted outward, thus becoming at an angle to its original position.

Transverzal nye movements are characterized by op -determination changes and occlusal contacts of teeth. Since the lower jaw is shifted to the right and left teeth describe curves intersecting at the pym angle . The farther the tooth is from the articular head, the dumber the angle. Most obtuse angle is obtained by re - sectional curve formed by the movement of the central incisors. This angle is called the **transversal incisal** angle **, or the Gothic** angle. He determined wish to set up sweep and lateral movements of cutters is 100-110 °. Thus, when the lateral movement of the mandible Bennett angle is the smallest, at goticheskiy- great- est; any point located on the remaining zu boom between these values, makes a displacement by an angle more than 15-17 °, but less than 100-110 °

When the lateral movements of the jaw is accepted Various chat two sides - working and balancing. In pa bochey side teeth are set against each other homonymous tubercles, and balancing - time n oimennymi, .. Ie buccal lower setting hillocks are against the palatine (Figure 27.).

The greatest practical cal interest for orthopedics cal dentistry have chewing movements. When chewing food, the lower jaw performs a cycle of movements. Gizi introduced the cyclical movements of the lower jaw in the form of a diagram

Fig. 27. ratio of lateral teeth with lateral occlusion (shift to the right): a - working side; b- balancing side
Fig. 28. Movement of the lower jaw when chewing food. Cross section, front view (Gizi scheme): a, d - central occlusion; b - shift down and to the left; left lateral occlusion.

The initial moment of movement is the position of the central occlusion. Then four phases follow one after another continuously. In the first phase, the jaw drops and you move forward, in the second - the displacement of the lower jaw to the side. In the third phase the teeth interlock in pa b eyes of the same name dimples , and the balancer boiling - p aznoimennymi. In the fourth phase, the teeth return to the central occlusion position . After graduation
chewing jaw installing etsya in floor dix relative calm.

The connection between the sagittal burin and joint nym-way occlusion and nature studied by many authors.

The V . Bonwill on the basis of their research you conducted the laws, which were the basis for the construction anatomy iCal articulators (Fig. 29). The most important of them are:

1) an equilateral triangle Bonwill with side equal hydrochloric 10cm ;
2) the nature of the tubercles of the posterior teeth is directly dependent on the size of the incisal overlap;
3) Line side clamping teeth curved in Saghit Talnoye direction;
4) when moving the lower jaw to the side on the working side of the closure is carried homonymous buoy slides on balancing - oppositely.

VI . **Ganau** expanded and deepened these concepts, substantiating them biologically and emphasizing the regular, directly proportional relationship between the elements:

1. sagittal articular path;
2. incisal overlap;

3. the height of the chewing tubercles;

4. the severity of the Spee curve;
5. occlusal plane.

Fig. 30. Links of the articulation chain according to Ganau.

This complex entered the literature under the name of al tikulyatsionnoy five Hanau (Fig. 30).

The only criterion it, determining the correct articulation artificial zu CWA is the presence mnozhes Twain and unimpeded sliding phase tooth chewing movements. This feature, on the one hand ensures a uniform distribution of masticatory pressure resistance dentures raising their prices functional NOSTA, but On the other - prevents the occurrence of patho logical changes in the tissues of prosthetic bed.

I of . Creating the right articulation dentures impossible without elements which fiziologiches FIR conditions provide dynamic contact between the teeth. The most widely used Do the methods of constructing artificial tooth rows on the theories of balance and spherical.

The theory of balancing (joint consistent theory). The main requirement of the classical theory ba lansirovaniya, prominent Representat Applicant E which are Gisi and Hanau, - saving the set Divine contact between the upper dental arches lower jaw in a phase of chewing movements. According to Gizi, chewing movements occur cyclically, along a parallelogram. Saving Bugorkova and incisive contacts is the most important factor of this theory and its supporters believe that the slope of the articular way gives the direction of movement of the mandible, and this motion voltage, in turn, affect the size and shape sus tavnogo tubercle. According to the Gizi theory, it is necessary:
- precise definition of the articular path;
- record of the incisal path;
- definition sagiialnoy compensation Cree howling;
- determination of the transversal compensation curve;
- taking into account the height of the tubercles of the posterior teeth.

Bonwill 3-noted punktny contact as Cardy tional feature physiological articulation tooth rows. At the front of the occlusion may contact Dhu CWA in three points: one of them is located on the front teeth, and the other two - at the distal tubercles last molars. Some authors consider the full successive unit only from the point of view of the contact both in qualitative and in quantitative terms. Others believe that the prosthetic toothless chelyus Tey need to follow exactly the principles Articulating Foot equilibrium and the laws of the plurality of contacts to maximize the effectiveness of prostheses. Hanau analyzed articulation system and particularly handwriting shaft difference between the position of the prosthesis in the articulator and the mouth, due the absence of tissue elasticity.

All of these factors are subject to change. In this case, Su exists an inverse correlation values. So, for example, increasing the depth of the compensation curve changes the incline of the incisors and vice versa.

AI Peezner (1934) idrugieavtory criticized the theory of Gysi and Ghana, considering that the bolus between Dhu Bami when biting and chewing separates the tooth rows, and this violates the balancing act just at the moment when the need for it is greatest. The main drawback of this technique lies Konstr ation artificial dentition in accordance *with the* balancing theory.

Designing rational prostheses for toothless jaw is complicated biomehani ical problem and its solution should be constructed in accordance with the laws of mechanics. This means that the wasps nova setting artificial teeth should be lozheny requirements that satisfy the existing principles of biodynamics biostatiki and masticatory apparatus.

Anatomical setting teeth of Teri is to set all upper teeth her jaw within prosthetic plane paral lel Camper line extending at a distance of 2 mm n izhe upper lip.

In its second modification, so-called stepwise formulation Teri proposes considering uc krivlenie alveolar part of the mandible in Saghit Talnoye direction to change the inclination of the lower teeth, placing each of them in parallel planes soot sponding jaw portions. Applying step setting, Gysi was aimed to increase the stable Nosta denture for the lower jaw.

Third, The setting of the most common ka teeth on Gisi, is to establish the lateral teeth on the so-called equalizing plane. The equalization plane is the average value with respect to the horizontal plane and the plane of the alveolar process. According to this method, the lateral stems teeth of the upper jaw are set as follows: As for the first molar plane only buccal protuberance com, remaining lumps and all bumps second molar not relate equalizing plane. The lower teeth are placed in close contact with the upper. Given that the teeth on hodyatsya cornering Gysi recommended to install them without any contact with the antagonists.

Principles of setting the teeth of hectares of NAU . Method Hanau constructed in accordance with the principles of articulation Gisi forth in theory, the main of which is that of defining a dominant role temporomandibular Soest va in the motion of the mandible.

Established relationship between Hanau in arti kulyatsionnymi factors summarized them in the form of 10 laws.

1 . With an increase in the inclination of the articular tubercles, the depth (severity) of the sagittal occlusal curve increases .

2. With the increase in inclination of the articular tubercle Expand INDICATES inclination occlusion plane.

3. With increasing inclination articular hillocks reducing etsya angle cutters.

4. With the increase in the slope of the articular tubercle Expand INDICATES height of bumps.

5. With increasing depth sagittal occlusal curve slope decreases occlusion plane about thesis.

6. With increasing degree of curvature of the sagittal approx klyuzionnoy curve increases angle Res ATCs.

7. With an increase in the inclination of the occlusion plane of the prosthesis , the height of the tubercles decreases.

8. With increasing inclination okklyueionnoy plane Uwe lichivaetsya slope incisors.

9. With the increase in inclination of the plane of occlusion Decrease the creases height hillocks.

10. As the incline of the incisors increases, the height of the tubercles increases .

To ensure all these things in their interconnection is necessary, as I thought Hanau, when changing individual articulator.

Following the procedure of Hanau, when installing the side of the tooth must check the degree of individual re covering of the teeth and ensure tight uniform con cycles between teeth able central occlusion (creation equilibrated occlusion), and the smooth gliding bumps teeth and their multiple contact on the working and balancing side (creating equation noveshennoy balanced articulation teeth).

II . Spherical theory. A common requirement in many theories articulation is OJEC baking plural sliding contact between artificial tooth rows in phase chewing movements. In terms of implementation of the general of the requirements should be the most appropriate to take a spherical articulation of the theory developed in 1918 g . Mo nson and based on Spee 's position on sagittal curvature of the dentition. According to the theory Mo nson , buccal cusps of the teeth LAYOUT gayutsya within the spherical surface and whether SRI conducted through the long axis of the side teeth are directed upwardly and converge at a specific point of the skull - in crista galli . The author constructed a special articulator, with which we can but there to stage artificial teeth on said spherical surface (Fig. 31).

The spherical theory of articulation most fully reflects the spherical properties of the structure of the dento- maxillary system and the entire skull, as well as the complex three-dimensional rotational movements of the lower jaw. Prosthetics on a spherical surface secu Chiva:

- articulatory balance in the phase of chewing movements (Gizi) ;
- freedom of movement (Ganau, Hyltebrandt),

- position of the central fixation with occlusion od neous yield of functional vise under pressure chewing (Gisi, Keller, Tiller);
- education bezbugorkovoy chewing over Nost, which excludes the formation of discharging points, breaking the fixation and stability of the prosthesis.

Fig. 31. Sagittal curvature of the dentition

Therefore prosthesis in spherical power metal ited rationally prosthetic toothless Th Lust, the use of partial dentures in the presence of natural single tooth, the manufacture of tires with periodontitis, to correct occlusal poverhnos ti natural tooth in order to create the correct ap tikulyatsionnyh relationship with artificial teeth on the opposite jaw and focused leche ny with diseases of the joints. Supporters spherical Coy theory, first of all, note that in spherical surfaces easier to produce artificial setting GOVERNMENTAL teeth.

As a result of clinical explores vany found that the contacting surface between the bite block triturated with different boiling mandibular movements possible if occlusion onnym surfaces of the spherical rollers impart odds mu, and for each patient there are a number of ranges of spherical surfaces, ensuring contact between the rollers. As a medium definition on the spherical surface of radius equal to 9 cm .

To obtain occlusal surfaces on wax cylinders and determine the correct prosthetic spherical surface requested spe cial device consisting of extraoral facial Arc-line and intraoral removable forming plates, the front portion of which is flat and dis tal parts of a spherical surface of times personal radii.

Fig. 32. A device for determining a spherical plane when setting teeth along a sphere: 1- lateral part of the intraoral plate; 2- front part of the intraoral plate; 3- extraoral arch.

Due to the PLO schadki in frontal ESTATE heel forming plate can be formed to produce vanie rollers in accordance with the direction of claim roteticheskoy plane.

Application bite template with spherical approx klyuzionnymi surfaces allows to check the contacts between rollers at centric relation determination step jaw and curves to unscrew ispozovat cons truirovaniya artificial dentition not require boiling correction (Fig. 32).

Methodology of setting. Defining you cell bottom third quiescent conventional spo sobom to the occlusal surface of the upper prikus- Nogo adhered spherical roller staging plate. The lower bite of the roller is cut to the thickness of the plate and a production plate is also mounted on it . The balance of the upper artificial teeth produced in such a way that they all its knobs and cutting edges touching the plate (IP exception is the The teeth must be placed exactly in the center of the alveolar ridge and taking into account the direction of the alveolar lines. The placement of the lower artificial teeth is performed on the upper teeth (Fig. 33-35).

To improve the quality of prosthesis pain GOVERNMENTAL in the absence of teeth required individualistic dual parameters masticatory apparatus and, above all, the recording mandibular movements, in which can be designed artificial series with okklyuei-onnymi surfaces corresponding functional tional features temporomandibular cyc tavov and muscles.

Fig. 34. *Lower teeth set on a spherical plate*

Fig. 35. *Setting the teeth on a spherical plate:*
3 - dismountable hinge spherical plas Tink arrow-pointers; b- installing dismountable hinge spherical plate in ertikulyatore (front roller preserves Nena, and lateral cut)

I II . Staging on individual occlusal surfaces. Anatomical kai setting teeth on Ephron-Katsu-Gelfaidu establishes individual occlusion Zeon surface using the phenomenon Christensen (Fig. 36). Said phenomenon we conclude etsya as follows: after determining if the usual way centric relation jaws patient pushes the lower jaw forward, in the successive teeth wedge-shaped clearance is formed. This is a sagittal phenomenon. When displacements SRI mandible towards the lumen that arises Coy same shape between the rollers on the opposite side. This separation is called the transversal phenomenon of Christensen.

IV . Anatomical staging of teeth according to Vasiliev. When staging artificial teeth, the occlusal curve can be reproduced not only in the articulator, but also in the occluder .

Fig. 36. Teeth staging according to Z.P. Gelfand and A.Ya. Katsu: a - bite ridges in the position of central occlusion; b - the ratio of bite rollers with anterior occlusion; c - wedge-shaped lumen formed between the rollers when formed between the rollers when shifting occlusion; g - formation of an occlusal curve (indicated by a dotted line); d - staging teeth on the lower occlusal roller.

After zagipsovki models occluder for occluding power metal ited upper roller glued plate made of glass. Then the glass must be transferred to the lower occlusal roller. For this purpose remove dissolved bottom occlusive ny roller model (on occlusal rollers teeth does not pose. Model bottom chelyustiobzhimayut basic wax. According to the crest of the alveolar portion mounted Sun kovoy roller (high) of the softened wax. Cap the occluder. When this window plane, fortified to the upper occlusion Zeon roller relates softened wax entire surface and flattened within a distance e, formed at a contact stud height occluder. Glass molten wax is adhered to the roller . On the upper jaw is made the new base wax and proceed to the formulation of artificial teeth of the upper jaw.

The upper incisors are put on either side of the central Noah line so that the cutting edges are touching the glass surface. In relation to the alveolar shoot, the incisors and canines are positioned so that 2/3 of their thicknesses lie outward from the middle of the alveolar bone. Lateral incisors put a medial inclination of the cutting edge to the central incisor and a little on the collar of the medial corner of the front. Their cutting edge is 0.5 mm from the surface of the glass . Fang has to touch the glass, it also put a Neboli w they tilt the cutting edge to the midline. Me zialno-labial surface canines is continued zheniem incisors and distal-Lip - start line of posterior teeth. The first premolar is set so that it touches the surface of the glass with a buccal tubercle, the palatine tubercle is 1 mm from it . Second prize LNR touches the surface of the glass both tubercles. Per vy molar just touches the glass medial palatal cusp, mesial buccal spaced at 0.5 mm , dis tal palatal - to 1 mm , and the distal buccal - 1 to 5 mm . The second molar is placed so that all its tubercles do not touch the surface of the glass. For resistance to the call

of their functions during the mandatory rule is etsya installation posterior strictly middle of al veolyarnogo process. This rule is also followed when setting the lower front and side teeth .

Setting lower teeth carried on Ver hnim in the following order: first, second premolars, molars and then the first premolars, SEQ them - the front teeth. Thanks to this formulation of razuyutsya transeerzalnaya sagittal and occlusal curves.

The V . Articulators - apparatus that repro plaguing relationship teeth of the upper and lower jaws. They are constructed according to the type of temporomandibular joint. "Joint" articulator linking is between the upper and lower frames and secu Chiva different frames of motion with respect to each d rugu (Fig. 37).

Typical articulators are articulators Gizi and Haita. These universal articulators consist of the following main parts: a lower and upper NJ frame unit articular joints, permitting to set the angle of the sagittal and lateral incisal th paths sagittal angle articular path pointers midline of the plate and the occlusal plane. Each articulator has three support points: two at about domain joint and one on the cutting site.

Fig. 37. Articulators: a- Bonville; b- Sorokin; Gizi "simplex"; Mr. Hight; d-Gizi; e-Ganau; 1 upper frame; 2- occlusal area; 3- pin of interalveolar height; 4- incisal pad; 5- lower frame; 6- "joint" of the articulator; 7- equilateral Bonville triangle; 8- middle line indicator .

The distance between each "joint" and the pointer tip centerline is equal to 10 cm , which corresponds to the average distance yaniyu between joints and each joint and the cutting point (medial angles mandibular incisors in Th Lovek). The presence of equal distances between the indicated points, arranged in the form of an equilateral triangle, was noted by Bonville. This equilateral Nij called triangle **triangles** Bonvin la .

Articulators can be divided into two types: arched or “arches” (an element that imitates the head of the lower jaw is located on the articulator’s frame, and imitation of the articular fossa is on the upper frame) and malignant or “nonarkon” (articular elements are vice versa - the fossa is on bottom frame articulator and holo application is on the upper frame).

Depending on the setting of joint opportunities can be divided into GOVERNMENTAL media non-anatomical, half-controlled and fully re adjust-able articulators.

Average anatomical articulator has fic xed joint and incisal edges and may be used in prosthetic edentulous jaw. A half-controlled articulators mecha Mami playback articular and incisal paths to torye can partially adjust for the average data, as well as the individual corners of paths obtained nym patient. Fully adjustable articulators perform two tasks - diagnostic and therapeutic. Diagnostic analysis task is static and din nomic occlusion dentition in order to identify at Rushen occlusion; medical task - restoration of the occlusion in the manufacture of all types of prostheses and ortho pedicheskih designs.

Pantograph is a device of the type of the facial arch, which allows you to get a graphic image of the path of limiting movements of the lower jaw.

Test questions:

1. Biomechanics of the lower jaw.
2. Vertical movements of the lower jaw.

3. Sagittal movements of the lower jaw.
4. Transversal movements of the lower jaw.
5. Laws of articulation of Bonville, Ganau.
6. Articulating five Ganau.

Practical lesson-24

Subject: Orthopedics of the maxillofacial area. Comprehensive treatment of bone fractures resulting from gunshot and non-gunshot wounds. Methods for the treatment of sedentary bone fragments. Classification of maxillofacial apparatus.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Dentofacial Orthopedics is one of the times Delov prosthetic dentistry and includes cus nick, diagnosis and treatment of injuries and defects in the maxillofacial region, resulting from trauma, injury, surgical interventions on water, inflammatory processes, tumors, radiation injuries, and congenital defects of the maxillofacial region (cleft soft and hard palate, upper lip, cleft in the lower jaw). Orthopedic treatment can be independent or used in combination with surgical methods.

Maxillofacial orthopedics consists of two parts: maxillofacial traumatology and maxillofacial prosthetics. The first is becom Twain surgical discipline because operational methods fastening jaws fragments: osteosynthesis fixation methods extraoral fragments bottom chelyus minute, suspended craniofacial fracture fixation for swing the upper jaw, fixing devices using alloys with "memory" shape - drove many ortho pedicheskie apparatus.

Success of reconstructive surgery facial con Bova wide range of applications in the operating and after the operating period of orthopedic surgery. The problem of recovering the maxillofacial area sic ktsii mastication, ingestion, recovery conversation hydrochloric speech require orthopedic treatments. Therefore, in the complex rehabilitation Merope riyaty to the fore teamwork dentists surgical and orthopedic profile with the addition in the form of therapeutic exercises, di etoterapii, physical therapy and other types of assistance.

The main tasks of maxillofacial orthopedics:

1. Prosthesis patients with defects and deformation tions maxillofacial area, ie manufactured.. Of dentition, facial and maxillofacial prostheses;
2. Create a prosthetic for the correct Foot matching fragments of jaws in their re lomah, to remedy the situation properly mustache tanovlenii or incorrectly fused bone fragments, as well as to address other consequences of trauma Th lyustno-facial area (scars, contractures, etc.);
3. Making special orthopedic cons truktsy in preparing patients for complex operator tsiyam maxillofacial area and to ensure the most favorable conditions in Postoperati Onn period;
4. Making special prosthesis during bone, and plastic surgery of soft plastics TCA it maxillofacial patients with congenital GOVERNMENTAL and acquired defects and deformation in E of this localization.

II . Jaw fractures occur more frequently due to trauma (transport, consumer, industrial, fire), a pathological process or operator -cooperative intervention. They can be localized in the lower or upper jaw, both Th Lust simultaneously or combined with other fractures of the facial bones. Treatment of maxillofacial trauma is complex and with Chet the use of surgical, orthopedic and physical therapy techniques, including wound treatment, hemostasis, reposition and secure Lenie fragments of the jaw, infection control, patient care, diet therapy, physiotherapy and

other

Neognestrelnye jaw fractures or rather occur on impact, deposited directly on the broad surface of the jaw, fall, compression between two solid bodies, or when the reflected shock when it is applied in the lower jaw and through the intersection is given by the upper jaw.

Non-gunshot fractures of the lower jaw are usually linear and occur in typical areas, respectively, "weak points". These overfishing , we are often closed.

DA Ėntin shared neognestrelnye mandibular fractures *by* their *localization to* the median, changed tal (side), angular (angle), cervical (cervical) and fracture coronoid process. Offset from Lomkov on the lower jaw due to muscle thee a goy, because the lower jaw attached camping all chewy and a number of facial muscles.

Neognestrelnye fractures of the upper jaw of the rush to the most *severe* damage. It Obus facial bones and the base of the cerebral alternation pas due to injury than it is often combined with

SHOCK niyami blood *vessels and* nerves, the brain *of the brain* and the organs of vision. Fractures of the upper jaw occur in typical "weak spots" along the Forum (1900) . Faure (I) - in the fracture line extends hori Talnoye direction of the alveolar ridge. With this type of peel fracture occurs alveolyar Nogo process together with a part of the jaw body and the hard palate.

Faure *(II)* -line fracture passes through the intersection nositsu medial edge and both sockets, nizhneglaz -border slot and zygomatic process, then via wing prominent processes underlying bone and nasal septum, i.e., breaking of the entire upper jaw occurs.

Faure (III) - fracture line passes through ne renositsu, medial wall of the orbit, nizhneglaznich hydrochloric slit, the lateral wall of the orbit and zygomatic arch pterygoid processes underlying bone. In this type of fracture, the upper jaw breaks together with the zygomatic bones.

When gunshot wounds can damage camping in different embodiments 1-2 and more facial bones, which largely determines the severity of the fire-Strelna injury .

The main features of firearms GOVERNMENTAL fractures are: presence injury, damage to the bone at the site of action offends projectile (without depend ing on the "weak points"); splintered nature of the re scrap rapidly changing clinical signs from the moment of injury before entering the wounded in spetsiali ized hospitals. In his bolshins TBE gunshot fractures are heavier than neognestrelnye. For this reason, under military Nogo time, *especially in the advanced stages of the evacuation of* the main attention should be paid to the definition of the degree of risk of injury to life, the urgency of an eye zaniya help ensure transportability village tradavshego in view of its general condition.

It should always be remembered that some types og period, involving injuries facial bones during the first inspection are sometimes presented not severe, but in actu Nosta could threaten severe complications and danger GOVERNMENTAL consequences for life. This applies in per -hand turn to the blind wounds caused by small fragments, as well as the through wounds by bullets and shrapnel.

Unlike neognestrelnyh gunshot ne fractures at the jaws are comminuted, almost always combined: affects the soft tissues and bones, do not have the typical localization. Wounds generally pollution us infected accompanied by frequent complications niyami (osteomyelitis, cellulitis surrounding soft tissues), which significantly aggravates the Clinical Techa set and prognosis. In severe wounds, jaw fragments are displaced.

Due to the close proximity of vital important organs of gunshot fractures of the skull faiths hney jaws are more dangerous than with fractures of the lower jaw, and has a number of features due to its anatomical page oeniem and the presence of the sinuses. Therefore injured top-not the first jaw often penetrating, with less koliches Twomey fragments and fragments at displaceability. The main factors displacing fragments of the upper jaw are the direction and strength of the injuring poison, the weight and volume of the fragment, the traction of the peri-pharyngeal and Vocal muscles, attached to the tubercles of the upper jaw, pterygoid processes and zygomatic arch, blood accumulation (hematoma).

From orthopedic standpoint gunshot wounds are classified according to their location: a) Stand on top of the face rezhdenie, b) the lower portion of the face; and c) mixed damage.

The goal of treatment *perepomov* is correct repositioning bone fragments, and reliable fixation follow present recovery masticatory apparatus functions (in t. H. And speech) and aesthetics. Fracture treatment may be carried out by surgery, orthopedics cal and combined. All methods of hardware les cheniya are orthopedic.

Securing jaw fragments produced by various orthopedic-apparatov. All orthopedic units are divided into groups in accordance with the function of fixing region le chebnym value, structures, methods, manufactured Nia and materials.

By function:

- Immobilizing.
- Replacing (correcting).

- Locking.
- Guides (corrective).
- Formative.
- Resection (replacement).
- Combined.

Dentures for defects in the jaw and face

At the place of fixation:

- Intraoral (single-jawed, double-jawed, intermaxillary)
- Extraoral.
- Inside-extraoral (maxillary, nizhneche lyustnye).

For medical purposes:

- Basic (having independent medical value: fixing, correcting, etc.)

- Auxiliary (employees for successful you are complements or kozhnoplasticheskih kostnoplasti iCal operations).

By design:

- Standard.
- Individual (simple and complex). **According to the manufacturing method :**
- Laboratory fabrication.
- Non-laboratory manufacturing.

According to the materials:

- Plastic.
- Metal. In Combined.

Immobilizing devices are used in the treatment of jaw fractures. These include:

a) tires made of wire (Tigirstedt, Vasiliev, etc.) (Fig. 23.24);

b) on the bus rings, the crowns (with hooks for vytyazhe Nia fragments);

c) the tire-kappa (metal - cast, stamped nye, PAEN, plastic);

d) removable tires (Port, Gunning, Limberg, Weber, Vankevich, etc.)

Repositioned in machines to facilitate repo zitsii bone fragments also apply to the stagnation relyh fractures stugopodvizhnymi the fragments chelyus Tay. These include

a) repositioned in machines of the wire elastically E intermaxillary rods;
b) devices with intra- and extraoral levers;
c) repair devices with screw and repellent
platform;
g) repositioned in machines with pelota toothless on Programmed Implemented Reformulated pits;
e) repair devices for toothless jaws.

Fixing call phones, sposobs Leica Geosystems retain fragments of the jaw in a certain position. They are subdivided into extraoral, internal, and combined .

Extraoral: standard chin sling with a head cap, etc .;

Intraoral:

Tooth Tires:

a) aluminum wire;
b) soldered tires on rings, crowns;
c) plastic tires;

g) fixing tooth devices. **Gingival Tires:**

Tires Weber and others. **Spring tires:**

Tires of Tuning, Port, Limberg .

Guiding (correcting) is called vayutsya apparatuses that provide bone from breaking jaw certain direction by means of an inclined plane, pelota sliding hinge et al.

For aluminum wire tire sending conductive plane is bent simultaneously with the bus from the same piece of wire into a series of loops.

By stamped crowns and kappa for clones plane of gotavlivayut of thick metal plates ki and solder them.

For solid tires simulating plane removed from the wax and molded together with the tire.

The pneumatic tire of plastic directed guide plane can simulate one temporarily to the bus as a whole.

I form conductive called an Paratov which are supported plastic material (skin, mucous membrane), creating a bed for the prosthesis in the postoperative period, and prevent the formation of scarring soft tissues and their effects (displacement of fragments due to pull together boiling forces, deformations prosthetic bed, etc.). .

According to the construction machines can be very time noobraznymi depending on the area of injury and its anatomic and physiological characteristics. The constructive tion forming apparatus forming part of the release and locking devices .

Resection (substitute) are the devices that replace dentition defects formed vavshiesya after tooth extraction, filling defects of the jaws, face parts, arose after the injury, the opera tions. The purpose of the apparatus is to restore the function of the organ, and sometimes to keep fragments of the jaw from displacement or soft tissues of the face from entrapment.

Dentures are divided into dentoalveolar, maxillary, facial, combined. Distinguish nepos backhoes, near and distant prosthetics.

In connection with this prosthesis is divided into opera tional and postopera insulation.

By replacing apparatuses also otno FNF orthopedic at sposobleniya APPLICABLE mye palate defects with: protective plate obturators et al.

COMBINED rowan on binding apparatus, having multiple assignments and performs guides various functions tion, for example, fasten Leniye fragments jaw and forming prosthetic bed or substitution jaw bone defect and simultaneously odds ming skin graft.

Prostheses with defects face and Th Lust are manufactured in the case contraindicated Nij for surgical intervention or in cases of continued reluctance of patients to conduct plastiches Kie operation.

If the defect captures a number of bodies od simultaneity:.. Nose, cheeks, lips, eyes, etc., about the front meas manufactured in such a way as to restore all lost. Facial prostheses can be fixed by a power of spectacle frames, denture steel chaso howling spring et al. Adaptations .

Tires and devices of laboratory manufacture. Or topedicheskoe treatment of fractures of the jaws with tugopod Vision displacement of fragments requires more time than in the treatment of fresh fractures.

When stiffness displacement: fragments of the lower jaw to contraction u ь Nia treatment period with widely changing bloody reposition. In this case, breaking off to the jaw again becomes mobile, as with fresh injuries of the jaw. Securing their wasp fected overlay wire), aluminum bars odnochelyustnyh yl ^ dvuchelyustnyh.

To reposition stiffness of Lomkov used apparatuses, fortified nye on teeth by Ile crown caps and with extraoral vnutrirotovymy levers.

When fractures within the tooth a power series with the fragments of stiffness in the lower jaw can apply bus intraoral levers or a spring arc. A spring arc mustache tanavlivayut in round tubes,

which are soldered to the crown or CVR. The arc has a constant acting force. When you delete an arc fragments kept in the correct position pins & Input sary in the tube.

In some cases, the fractures lower jaw bone at a defect present on the teeth about their fragments to reposition their use kappovogo apparatus shown with shoulder spikes (ASW schadkami) and repulsive screw. The equipment such Tami in a relatively short time (4-5 days) it is possible to conduct a full nekrovavuyu reposition tugopodvizh-tion of fragments.

In the presence of LO toothless fragments on her jaws may be used with removable screw sposobleniya: on the one hand on the bus-kappa other on pelota for toothless fragment. After sufficient dilution fragments removable screw Adaptations of removed and fragments CONST ruyut prearranged
an arc.

In old broke off kah itugopodvizhnyhotlomkah Z.Ya. Schur suggested the benefit vatsya device sequence -acting. When this method is carried out post foam fragment extension. The indications for use of this device is pre imushchestvenno fractures with persistent offset fragment in the presence of a bone defect in the branch angle and the lower jaw, as well as fractures at full unilateral defects stiffness and its fragments.

In the presence of the displaced fragment stiffness top it is expedient when the jaw change repositioned in the apparatus with counter extraoral lever E and intraoral fastening Schur. Intraoral part of it is composed of a brazed tire to ronok rings or flat vtulit kami soldered to their buccal surface. In the sleeve administered metal rods that extend from the corners of the mouth on the outer surface of the cheeks and more directed lyayutsya upwardly towards the temporal region to other terminals, going conductive downward from the head cast. Perret displacements opposing levers adjusted position fragment maxilla.

It should be remembered that with stiff fragments of the upper and lower jaw with a sharp slope of the fragments orally and to the midline, the impression for the manufacture of apparatus must be removed in parts from each fragment separately. Models of fragments of jaws are set to the center approx Clusaz model antagoni-al jaw, fasten them and zagipsovyvayut in the articulator in the correct Polo zhenii fragments, as it is the situation broke off kov must create the device after manufacture, and superimposed on the jaw.

Test questions:

1. Maxillofacial orthopedics. Goals, tasks.
2. Principle of comprehensive treatment of gunshot and gunshot fractures.
3. Classification complex maxillofacial the Machine comrade.
4. Methods of treatment with stiffness fragments Th Lust.

Practice Lesson 25

Subject: Clinic, etiology and pathogenesis of deformations of the maxillofacial region.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen

Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Deformation of the dentition Etiology

1.The destruction of the crown of the tooth:

- Caries and its complications.
- Injury to the crown of the tooth.
- Increased abrasion of hard fabrics.

5. Tooth loss.

6. The defeat of periodontal disease.

7. Tumors

. Inflammatory processes in HMO.

6. Injuries to the jaw and other skull bones. **Pathogenesis of dentition deformity**

Loss of tooth-antagonist or a loss of Sedna tooth - an imbalance occlusion system (violation of occlusal equilibrium) - tooth-alveo- polar shift (vakatnaya hypertrophy of alveolar bone) - atrophy periodontal tooth displaces = tooth Noah elongation = elongation of the clinical crown of the tooth -> complications.

Pathogenesis deformation complications pn tooth rows

The deformation of the occlusal over Nosta - "

- changes in the nature of the movement of the lower jaw;
- a change in the position of the lower jaw; - "
- violation of multiple occlusal conta comrade; dysfunction of the temporomandibular joint (TMJ);

- TMJ arthritis;
- TMJ arthrosis. **Clinic**

Complaints:

a. difficult chewing of food;
b. violation of aesthetics;
c . violation of appearance;
d . trauma to the soft tissues of the oral cavity; E. Pain in the muscles and in the TMJ.

External inspection:

7. No change.
8. Restriction of the movements of the lower jaw.
9. Reducing the height of the lower face:

- seizures (angular cheilitis);
- deepening of the nasolabial and genial skla dock.

The clinical picture:

4. Tooth alveolar or dental lengthening.
5. The inclination of the teeth.

12. Restriction mandibular movements (in the sagittal hydrochloric and transversal planes).
13. Incorrect position of the lower jaw.
14. Trauma oral mucosa bumped tooth mi.
15. The clinical picture of a decrease in VNOL.
16. Education three, diastema, fanlike to popular denie front teeth in periodontitis.

Classifications

A. Vertical, horizontal, mixed
B. **Tooth alveolar elongation** (deformation along with the alveolar crest, crown length unchanged).

Tooth "elongation" (deformation with exposing Niemi tooth neck and atrophy of the alveolar ridge, the clinical crown is greater anatomic crowns tooth ki).

C. Degrees of vertical deformation of the dentition:
10 degree - Elongation at $^{1}/_{3}$ bits length;
11 degree - elongation by $'/_{2}$ crown lengths;
12 degree - elongation by $^{2}/_{g}$ of crown length or more.
D . Degrees of horizontal dentition
10 degree - tilt up to 15 °;
11 degree - a slope of 16-30 °;
12 degree - a slope of more than 30 °.

Diagnostics

13. The survey.
14. Inspection.
15. Sounding.
16. Palpation (muscle, TMJ).
17. Determination of the central ratio of the jaws.
18. Definition of VNOL.

Paraclinical methods

5. The study of diagnostic models.
6. Radiodiagnosis.

Treatment of patients with dentition deformity

ZTAP 1 ~~ preparatory

Objectives:

- oral sanitation;
- elimination of deformation;
- restoration of VNOL;
- restoration of the correct position of the lower jaw.

STEP 2 - Main Objectives:

- permanent prosthetics;
- restoration of the anatomical shape and size of damaged teeth;
- restoration of continuity of dentition.

STEP 3 - rehabilitation and prophylactic

STEP 1 - Preparatory

With a decrease in VNOL

Depending on the degree of reduction LO height a person under

- Simultaneous recovery of height (up to *2* ~ 4 mm).
- Phased recovery with a decrease (more than 4 mm).

Deformation Elimination

1st degree:

- Orthodontic treatment;
- Grinding.

2nd degree:

- Orthodontic treatment;
- root canal tooth + + shortening surgeons cal lengthening of the clinical crown.

3rd degree:

- Orthognathic surgery;

Tooth extraction or tooth extraction + alveolotomy

STEP 2 - permanent prosthetics

5. Restoration of the anatomical shape and just measure decayed teeth.

6. Restoring the continuity of the dentition.

- For short clinical crowns, special pin designs are used .
- When choosing a prosthesis design, it is necessary to take into account the remaining length of the root of the abutment after grinding (shortening) the crown.
- When restoring a tooth with a slope of the axis of the crowns ki to 30 shows the use of pin-stump O structures.

STEP 3 - rehabilitation and prophylactic

Regular, at least 1 time in half a year, control

- oral hygiene;
- for the proper use and care of Prote Zami;
- dynamic occlusion of the dentition.

! Dental arch as part dentition before stavlyaet integrally thanks to contacts and interproximal alveolar bone (bottom Th Lust - alveolar part) which are fixed tooth roots. The loss of one or more teeth destroys this unity, and creates new conditions for Fun tional activities of the

masticatory apparatus. The cause of tooth loss often are ka Ries, periodontal disease, trauma, surgery, beriberi and others. The resulting This clinical picture depends on the number of lost teeth, Lok tion of and the defect length, type of occlusion, with standing support apparatus remaining teeth, the time that It has passed since the loss of teeth and the general state of the patient ence.

Leading clinical symptoms in partial sweat ri teeth is:

■ discontinuity dentition (the appearance of defects);
the appearance of groups of teeth - antagonis retained comrade (functional group) and loss of (dysfunctional group);
■ functional overload of individual groups zu CWA;
■ secondary malformation of the bite;
■ reduction of VNOL;
■ violation of the function of chewing, speech, aesthetics;
■ violation of the temporomandibular joint.

II . In the formation of deformations in tooth rows and Kusa in dentition occurs functional onal dissociation. It is characterized in that different groups of teeth are different condition Via operation that affects the metabolic processes. The dissociated tooth system follows blowing distinguish three main link: functional center, traumatic and non-functional link node - atrophic unit (VU on Courland). **Functional center** is formed in nai larger group antagoniruyuschih pairs of teeth with well preserved periodontium. The emergence of his vyzy INDICATES appearance of the conditioned reflex (adaptation), which is based on the presence of irritation, inflamed Niya or even the possible loss of teeth in other areas of the dentition.

Traumatic node arises because any disturbance in a particular portion Toothbrush series (inflammation, periodontal atrophy, tooth loss and m. P.). In the event of traumatic node in the results Tate reflex spares the patient the damaged portion and arranged in use ceases traumatic node teeth. This term is defined lyayut education in a particular area of the dentition of traumatic overload.

Direct traumatic node - etodekom-compensate the state of the affected area of the tooth jaw system. With partial defects in the teeth
the ranks of the state of decompensation characterized Naklo Mr teeth towards dentition defect, destruction of the jaw, a violation of the contact points of the teeth (addressing mations three and diastema).

The reflected traumatic node is
dentition pathological condition in which changes in the location of the front teeth, hard tissue destruction and periodontal this group zu CWA due to recent changes in either their side groups of teeth. The reflected traumatic node is formed both in the intact dentition and in violation of their integrity.

A non-functioning link - atrophic block consists of teeth devoid of antagonists. In periodontal and tooth pulp deprived antagonists about originate pathological processes.

For traumatic articulation characterized by the fact that one of periodontal dentition has functions tional failure. Traumatic articulation determined in those cases where there is functional onal failure periodontal all antagoniruyuschih teeth or one of antagoniruyuschih teeth in each pair.

Treatment of patients with strains dental pn rows and occlusion associated with insufficiency of steam Dont must be conducted sequentially. Ba howling complex treatment are the regulation and restoration of mastication function, eliminating the influence of harmful components is horizontally acting Schnega stimulus, as well as steps larger spatial offset teeth and beacause of them trophic tissue disorders. Comprehensive treatment method involves the

detection of the disease etiological factors and more precise definition of axes novnyh units pathogenetic mechanism. This need go to:

■ selection of etiotropic and pathogenetically based therapy;

■ generate a specific plan of the patient When a functional failure parodon the extent of pathologic tooth mobility Rate INDICATES the direction and magnitude of the deflection of teeth. The degree of tooth mobility is necessary to determine how to treat, and during its holding obja optionally comparing the mobility of teeth mo ment examination and after elimination of inflammatory phenomena that t. K. A degree of tooth mobility is the basis for choosing the design of therapeutic splinting present apparatus.

Estimating ratio dentition and defined Laa degree pathologic tooth mobility, one temporary estimate the position of each tooth in the dental arch. When periodontal diseases are possible displacement of teeth in the vestibular, oral hand turns zu CWA about a vertical axis. As a rule, this leads to the appearance of gaps between the teeth, the imposition of one tooth on another. By moving the group of front teeth forward lip vary the location and relation shenie level cutting surfaces of the teeth and the red portion of the upper lip. This tooth displacement is called secondary deformation of the dentition.

I .Obsledovanie patient with dentoalveolar deformation tions identical survey conducted Paci tomers with partial loss of teeth. Examination pro usual using clinical techniques (survey inspection, palpation, sensing, auscultation) and paraclinical (mo Delaey diagnostic study, dental radiography and alveolar bone, temporomandibular joints, etc.)

Additional studies should help the doctor establish:

4) causes and time of occurrence of deformation
5) the nature of the deformation: vertical elongation zuboalveo Noe, medial, distal or combined displacements of etc .;
6) type of dentoalveolar elongation;
4) the nature of occlusal disorders;
5) the state of TMJ and chew -negative muscle;
6) psycho-emotional with standing patient ready NOSTA to prolonged treatment.

The important point is to establish anamnesis date Delete Nia teeth in the area deformation matsy, but also need to know whether attempts were made to eliminate occlusion - precision violations, but if they were, why It turned were unsuccessful.

Through examination, we get information about the state yanii teeth periodontal study their stability, soot wearing the clinical crown of the tooth and composed yanie mucosa of alveolar bone and others.

We examine the tooth rows in position cents tral and other occlusions, studying the movement of the lower jaw when opening and closing the mouth, analyze the diagnostic models.

The study of the occlusion should begin with elucidating neniya dentition position to Ca gittalnoy plane. A reference in this regard is mezhreztsovaya line located in Wed dinnoy sagittal plane. Its displacement indicates the reasons for the change in the position of the dentition.

Incisal overlap quantity is determined by the nature of the occlusal surface of remaining teeth (broken line, convex, straight) and position otde lnyh teeth relative to the sagittal curve. Vc tanavlivaetsya supraokklyuzii value has shifted teeth, and their relation to the toothless alveolar otros heel and size of the prosthetic space. On examination, the mutual movement of the teeth is determined with the development of blocking movements of the lower jaw. It is necessary to pay attention to the signs of the primary in trauma cal occlusion (mobility, increased blurring, the slope of the tooth, lengthening the clinical crown).

When violation clamping teeth and in mesio-distal transversal directions may housing Noe or inclination movement of molars in a lumen de defects and distal movement premolar on a particular distance, and has shifted teeth rotate around its axis.

Violation occlusion is detected in the investigation Vania mandibular movements during opening and closing of the mouth. In the presence of blockade disappears melting NOSTA its movements. Instead of straight and smoothly go traffic is detected its first deviation in the direction of the obstacle and then return to the center if Britain and move forward, the trajectory of the lower jaw becomes a zigzag. In assessing the origin of these and other excursions of the mandible should be careful, because this action voltage can occur in the pathology of the masticatory muscles and temporomandibular joint.

II . Study of diagnostic models of jaws presents Xia one of the methods of examination for dia gnostics deformations of dentition.

Reprints dentition removed vysokokachest governmental impression materials (alginate, sili KONOV). The use of thermoplastic masses for this purpose is contraindicated, since they give a delay. Cast models of high-plaster and placed in the articulator, allowing consistently studied chat occlusal relationship with the sagittal and transversal excursions models.

Diagnostic study models to be le cheniya, during and at the end of it. The first is called Xia diagnostic, and the second control. Models need to be numbered and stored throughout the peri ode treatment.

The main objective of the study diagnostic fashion lei patients with partial loss of teeth is to identify the nature of the occlusal relationships. The type of bite, the depth of the incisal overlap, the nature of the closure of the palatine and lingual tubercles, etc., are being clarified, various measurements are taken (the width of the dental arches, the size of the teeth, etc.). When deformations in the diagnostiches FIR model defines:

- depth of dentoalveolar elongation;
- nature of the occlusal curve;
- the ratio of individual teeth to the mucous membrane of the toothless alveolar ridge;
- nature of the medial or distal Move scheniya teeth (cabinet, with a slope);
- the value of the medial or distal Move scheniya;
- points where blockage of the movements of the lower jaw occurs;
- level of shortening of teeth.

III . One of the most common methods The investigations dovaniya for deformations is radiography of the maxillofacial system. The method is accessible, uncomplicated and informative. For these purposes etsya radiography teeth, alveolar, sagittal and axial CT images of the TMJ, orthopantomography, lateral ones lerentgenografiya.

I of . One of the reasons for the formation of jaw defects in peacetime is surgery on the jaw. Operation - resection of the jaw - in on the standing time often carried over novoobra mations, accompanied by deformation of the face, typical GOVERNMENTAL functional impairment, the message of the mouth and nasal cavity (with resection of the upper jaw), nodules of scar. Dentures

n yaemye after resection of the jaw, called Rezek tional.

There are two methods of prosthetics village le resection of the jaw - **immediate** and **subsequent.** Direct prosthesis is prepared for surgery, and fix it immediately after resection Th Lust (on an operating table). The subsequent prosthesis is prepared at various times after the operation. THEM. Oxman shared the subsequent prosthesis soon, to Thoroe carried out as soon as possible after surgery and from Dalen - after 3-4 months after surgery.

The advantage remains for direct prosthetics, which is due to the fact that scarring of the postoperative wound occurs around the prosthesis in accordance with its shape and promotes the formation of the prosthetic bed, and this improves the fixation of the prosthesis on the remaining part of the healthy jaw. In the absence of resection prosthesis healing soft FIR fabrics is randomly generated array nye scars interfere with fixation of the prosthesis produced in the late periods. Poor

fixation resection prosthesis promotes rapid races shatyvaniyu remaining jaw teeth and their loss. Prosthesis superimposed immediately after surgery helps stop capillary bleeding supports tampons, prevents displacement axes tavshegosya fragment normalizes eating and speech Eliminates (to some extent) retraction of soft tissue and thus deformation of the face. When neposreds Twain prosthesis after resection of the jaw did not suppressed psyche of the patient feeling appeared facial deformities.

Prosthetics (directly) after the D action of the upper jaw on the method proposed by I-AM Oksmanom, carried out in three stages

1. The manufacture of the fixing part of the basis of the prosthesis covering the healthy part of the jaw. This part of the prosthesis with the retaining elements (Clam measures telescopic crowns and the like) tscha prispasovyvayut tion in the oral cavity of the patient before surgery.

2. By fixing part resection prosthesis privatized Riva substituent. This is a temporary prosthesis.

3 Manufacture occlusive prosthesis part, conv schenie from its temporary to permanent.

Manufacturing sequence resection Foot prosthesis according to the procedure IM Oxman on top Th Lust:

1. The manufacture of crowns on the abutment teeth of a healthy part of the jaw (on crowns it is necessary to make brazings from the cheek side) and their fitting.
2. Removing slip with the upper jaw, together with the supporting crowns for manufacturing plastic CONST ruyuschey plate with clasps.
3. The fit of the upper jaw retainer plas roughcast with clasps and removing the impression (to the fastening plate on a jaw) for the manufacture of resection hydrochloric prosthesis part.
4. Models of the upper and lower jaw are cast into the occluder in the position of central occlusion. In the model of the upper jaw note resection border, where one gypsum tooth bordering the tumor are cut off at the neck to further pro mes interfered cover resection bone mucosal graft, all other gypsum teeth resection side cut fully facially at ground level alveolar otrost ka and palatal - until the middle of the sky.
5. On the palatal surface of the locking plate de bark cutting and re-laid on the model.
6. On the model of the upper jaw, the resection part of the prosthesis base is modeled from wax. The surface of the prosthesis facing the cheek modeled wali com, which contributes to a better formation of the prosthetic bed, and the prosthesis is better fixed soft kimi cheek tissue. The wax is replaced with plastic (as in the manufacture of a removable laminar denture).
7. The fixing of the resection prosthesis are connected is a C resection. The prosthesis is ready, but it is temporary, it is applied immediately after the operation (on the operating table).
8. The manufacture of the obstructing part of the resection prosthesis.

After 20-30 days (wound granulation occurs) start manufacturing occlusive portion Rezek insulating prosthesis maxilla. On top of palatal denture NOSTA placed impression material (silicone -hand, alginate) and remove the impression from the upper jaw. The prosthesis with the obtained impression is plaster in the cuvette so that the prosthesis passes to the base of the cuvette (after opening the cuvette, the prosthesis remains in the counter-stamp).

A cavity formed after removal ottis knoy-mass model is lined with a thin layer plas tmassy (possible self-hardening), filled with sand (wet, river). The surface of the sand is covered with a layer of plastic. The edges of the prosthesis are “refreshed” (treated with Frez)

and laid on the model. Then the prosthesis is polymerized. From the finished prosthesis it obturi ruyuschey parts removed sand (through an opening, which after removal of the sand is eliminated by samootver. Deyuschey plastic) and the design of the prosthesis becomes Xia hollow, easier.

Occlusive portion should be prepared in a maxi mally short period of time (during the day), t. To. Without Prote for operating cavity is declining rapidly. IM Oxman recommended to make two resection prosthesis in case of breakage of one, it immediately possible for menit others.

With a complete resection of the upper jaw Z.Ya. Shur proposed to attach the rear portion of the base prosthesis odds mu conical appendages. For these-spikes in the back of the buccal mucosa by free ne resadki skin during operation, are pockets (niches). Due conical beam-spikes prosthesis Chez fixed in the oral cavity of the patient. Summary fic prosthesis satsiya Further, the formed scars around the prosthesis contribute to the fixation of the prosthesis on the jaw.

When resection of the lower chin Th Lust and presence of teeth on both sides of the remaining jaw shown prostheses mnogoklammernoy fixation tion. First fixing part is manufactured, which is removed for making impressions of the jaw model and zagipsovyvayut occluder in position cent tral occlusion. The model is denoted border fic siruyuschey part denture or by model izgo prepare from on the abutment teeth (2 - 3 on each side) for the model tooth, which stands on the boundary of the osteotomy cut at the neck level and in tumor - at the level of base Nia alveolar . Further, according to the prepared MO Delhi prepared resection prosthesis.

Prosthetics after resection of half of the lower jaw

In this case, it is very important to fix the remaining camping healthy part of the lower jaw in the right polo zhenii. For fixation of the prosthesis before resorted to time a personal kind of screwed directly onto the outer surface of the bone fragments with screws and wire Ligat swarm. Recently, instead of the previously used bloody method of fixing the prosthesis to the fragments, plastic prostheses with multi-chamber fastening and an inclined plane are used; Oxman recom blows for fixation of the prosthesis after resection of the half lower jaw clasp 3-4 in the prosthesis on the healthy part of the jaw. Thus, the prosthesis consists of 2 parts: the first locking and the second - substitutable boiling. It is believed that the entire load falls on the fixing part, so it should be carefully considered when designing a resection prosthesis on the lower jaw.

The replacement part must be made by WHO Moznosti precisely, a good fit to the edges posleopera translational cavity and artificial teeth should be well articulate with the opposing jaw teeth must have an inclined plane, a retaining a healthy part of the lower jaw in the correct occlusion (from displacement inwards).

Prosthetics patient after full Delete Nia mandible conduct harder, t. To. There are no conditions for fixation of the prosthesis, as well as to achieve its functional fitness.

IM Oxman suggested the following method of gotovleniya resection prosthesis after full ud Lenia mandible.

1. Read the impressions of the upper jaw and lower chelyus minute.
2. Get the plaster model.
3. gypsum model in the articulator (occluder) polo zhenii central occlusion,
4. Cut teeth from the lower model at the base level alveolar part.
5. Model the basis of wax.
6. Remove the base with artificial teeth from the model and extend it with wax behind the dentition. The lower surface of the prosthesis should be round, on the lingual side, the prosthesis in the area of the chewing teeth should have concavity and sublingual protrusions (wings) so that the tongue is placed over the wings of the prosthesis and this helps to fix it.
7. Replace wax with plastic. The prosthesis is ready.

Ready prosthesis is placed in the mouth pain Nogo immediately after the disarticulation of the mandible (on an operating table). A resection prosthesis is held in the mouth in the first time using between jaw fixing rubber rings. For this, an aluminum splint with hook loops is applied to the teeth of the upper jaw. The resection prosthesis facially in the canines and premolars

manufactured metal hinges 2-3 weeks after resection overlay prosthesis around the soft tissue and the formed prosthetic bed mezhchelyus Supply Return fixation is removed. The prosthesis is fixed manner vavshimisya around scars, and on the lingual side it is held by the tongue. If such insufficient fixation precisely resorting to mechanical locking via coil springs, magnets.

Defects and scarring soft tissue of Lost mouth and face may arise due to fur nical trauma (gunshot, production, transport, household), thermal injury (burns, frostbite), chemical trauma (vozdeys tvie acids, alkalis), infectious diseases (noma, syphilis , lupus, erysipelas, osteomyelitis), dressings rezhdenie tissue after treatment radium rentgenovs kimi rays.

Upcoming facial disfigurement (the results in the Tate defect and scar nodules), functional disorders (impaired speech, constant outflow of saliva, dryness of the oral mucosa, tongue) leads to profound mental patients herbs us. To restore the lost shape and function, plastic surgery is performed, for which

adjacent tissues or tissues from other parts of the body. These attack dissolved after wound healing and the elimination of pro inflammatory processes (otherwise plas matic material may be detached). One of the most important conditions for a successful second of plas cal operations on the soft tissues of the face or mouth area is the production of special operations to Foot orthosis or prosthesis, which will act as a support member for plas -static material and fix the bed for future mandibular prosthesis. Such devices (prostheses) is called are **forming** and are auxiliary (Fig. 44). Plastic material (e.g., filatovs cue stem) without forming wrinkles apparatus Xia and becomes formless.

Forming apparatus must meet the following with the limits:

1. Be removable or even combined, with standing support of non-removable parts and forming a guide removable. It is necessary to conduct a thorough inspection of the toilet and postoperatively th field.
2. Securely lock in order to withstand cicatricial contraction during wound healing. Fick siruyuschimi parts forming apparatus may be crowns, kappa, rings, clasps and the like. D. If this should be avoided with tse intermaxillary fixation pour preventing articular contracture.
3. Have the appropriate shape of the face, and the time action - by about $^{1}/_{3}$ fewer true.
4. It is easy to input and output through the oral slit, so when forming large defects yuschy apparatus (its part forming) must be collapsible or foldable (m. E. Consist of several parts). The design of forming a prosthesis would be the most simple, if the defect braids tee and soft tissue and small bone fragments with preserved teeth.

The choice of design forming apparatus for hanging a number of factors:

1. Topography and the size of the defect or cicatricial Menenius facial soft tissues and oral cavity (selection docking, nose, lip, transitional fold, the bottom and the mouth , etc.);
2. *The* nature of the damage - the defect is replaced only with soft tissues or soft and bone tissues;
3. The state of the dentition.

For example, when the defect of the lower lip and a barb with the absence of the front portion of the body of the mandible and the presence of the side shape of the teeth ruyuschy prosthesis would have the following design and manufacturing technology. [1] Initially, the teeth izgotav Lebanon crowns welded together, to which are soldered the buccal contour nye tube.

It will be non-removable support part is formed present prosthesis, it is always made first. During the forming is made detachable part on the type of conventional denture with the only difference that in the region forming the defect part appears bulkier than conventional dentures: metal provided cal rods, which are in horizontal tube and fixed shaping part. I form conductive device is prepared in advance, the patient uses it for a few days before the operation and for the development of addiction. During this period, carry out all the necessary corrections. Finally forming part domo delirium on the operating table of termoplastiches Coy mass.

If extensive mandibular defect, coh and is one otlomok with the presence of teeth thereon, forming it with a prosthesis is fixed in the oral cavity by means of an inclined plane.

If the forming apparatus or prosthesis due to the lower jaw cannot be fixed, then resort to fixing it on the upper jaw. This happens at about Schirn defects of the lower jaw, in the presence SHORT FIR edentulous fragments.

When the upper jaw of total defects odds miruyuschy device (prosthesis) can be fixed due to the metal rod connecting the prosthesis with gypsum howling cap on the head. By the prosthesis in the distal add two fingerlike process formirova for Nia deep in the recesses of the cheeks at the level of the vestibular mounds. Niche (recess) are reserved seats are located Nia fixation devices for the jaw about the thesis. During operation in the fingerlike appendages on imposes skin flaps (by Tirso) and injected into the wound, thereby forming the lining of niches. At the same forming apparatus can be rebelled twist lip Filatov stem. For a good fixation of the prosthesis on its gingival part, a furrow of small depth should be made from the vestibular side . It UCLA dyval Filatov stem that helps hold the NIJ prosthesis.

If the plastic of the nose and upper lip I form conductive part of the apparatus can be enhanced also by means of rods which are introduced into the tubes soldered to a Ronchi imposed on the teeth of the upper jaw.

The forming apparatus used in plasti ke oral mucosa for deepening before door oral floor of the mouth, to form a palatal arch and so on. D.

Thus, the presence of scar and adhesion formation between the folds do mucous lips, cheeks and mucosal alveo lar ridge, preventing denture resorting to plastic surgery, which consists of free-dissecting scars and skin grafting.

To hold the graft and its formirova Niya using various forming machines. Hee rurg dissecting scars, refreshing tissues. Forming apparatus in this *case* the prosthesis may serve izgo tovlenny before surgery. After excision scars for about tezu in the surgical field is welded steel zigzag wire, it imposes a wall whose shape corresponds to the mouth of the wound surface. The finest skin flaps of the wound surface are placed on the stensnak to the wound of the oral cavity, the prosthesis is inserted into the oral cavity and skin flaps, thus, are fixed in the wound surface.

The simplest and most commonly used ortho pedicheskim forming apparatus when the sky is a plastic protective plate for uranoplasty. It is designed to create a complete nepodvizhnos minute patches, fixing them in the correct position to protect the operative field, hold the dressing. In addition, the protective plate forms the arch of the sky.

Test questions:

1. Ethiology, pathogenesis, classification of deformations of the dentition with partial absence of teeth.

2 . The concept of the functional center, forward and reflected ny traumatic node, non-functioning zve but traumatic occlusion and articulation.

3.Osobennosti anamnesis and clinical obsl dovaniya in patients with partial absence of teeth.

4 .. The study of diagnostic models in the articulator.

5 .. X-ray research methods in patients with partial absence of teeth.

Practice lesson-26

Subject: Methods of orthopedic treatment for a false joint, improper bone fusion after a fracture of the jaw, with a defect in the bones of the lower jaw and a microstome.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

1. Incorrectly fused fractures are sleds tviem jaws traumatic injury. When ranks them can be:

■ untimely provision of specialized help;

■ long-term use of temporary ligatures GOVERNMENTAL tires;

■ improper reposition of fragments;

■ insufficient fixation or early removal of FIC siruyuschego apparatus.

The nature of the injury itself and the general condition of the patient are also important. Depending on the degree of deformation and displacement of bone fragments can bite

naru shatsya mastication function, the motion of the mandible, speech. When abrupt displacements fragments may confine a bounded opening mouth, facial asymmetry, impaired respiratory function.

Incorrectly fused fragments can be shifted vertically or transversally.

Treatment of these patients, primarily on the rule in the restoration of the anatomic integrity Nosta jaws, setting bone fragments in the right bite, eliminating limitations of mouth opening, Sun formation of chewing and speech function.

Apply surgical. Orthopedic com plex treatments properly re fused scrap. Surgery is the most radical, comprising refracture (m. E. The artificial naru along line shenii

If the patient for one reason or another about tivopokazany surgical intervention (zabole Bani heart, old age, and so on. D.) Or has a comparatively small malocclusion or pain hydrochloric disclaims surgery performed orthopedic treatment to restore chew tion function, i.e., prosthetics.

For small displacements of fragments ver potassium transverzali noted slight naru shenie plural contact between the teeth. In these cases, correcting the deformation of occlusion is achieved by grinding teeth or application of fixed prosthesis (crowns, bridges, metalliches FIR and plastic trays).

With significant displacements of fragments of the lower jaw in the horizontal direction (inward), the jaw narrows sharply and the teeth incorrectly close to the teeth of the upper jaw. This relationship between the tubercles of the posterior teeth complicates the process of crushing and chewing food. In such cases, the inter-occlusal relationship between the teeth of the upper and lower jaw is restored by manufacturing a tooth- gingival plate with a double row of teeth in the lateral areas.

When correctly fused fragments with low levels considerably dentition defect in the anterior part can be made non-removable dentures with double dentition. In these cases, due to the increased load on the abutments in the design of bridge no necessity to include additional abutments.

When correctly fused fragments with low levels considerably defect in the anterior region, when the fragments are shifted to the center line and the teeth are inclined in the lingual side of denture with multi-unit E clasps and saddle basis in de defects.

When correctly fused fractures chelyus Tei and a small amount of remaining teeth that are beyond the occlusion, manufactured dentures with duplicates Rowan dentition. The remaining teeth are used to fix the prosthesis using support-retaining clasps.

During deformation of the dental arch of the mandible due to tilt in a lingual side or how many prosthetics dentition defect removable plate or arc prosthesis made difficult tively, t. K. Displaced teeth interfere with its overlay. In this case, the prosthesis structure thus change of time to the teeth in the displaced part Bazi` meat or arc was disposed on the vestibular and not on the lingual side. At offset teeth superposed support-retaining clasp or occlusive patch, chewing PRESSURE allowing transfer of from the prosthesis on the abutment teeth and prevent their distance ther offset in the lingual side.

When properly fused with fractures UCO Rocen length of the dental arch and jaws (micro Roguin) partial denture made with a redundant number of artificial teeth, creating a correct occlusion with antagonists. Displaced natural teeth, as a rule, are used only for fixing the prosthesis. The consequences of maxillofacial trauma also include non-consolidated jaw fractures or a false joint (pseudoarthrosis). The most typical when the sign is non-united fracture mobility of fragments of the jaw. During the Second World War, about 10% re scrap mandible ended form pseudoarthrosis. These were the advantages of fractures but the bone defect.

The causes of the formation of a false joint can be general and local.

Common include disease: tuberculosis, syphilis, metabolic diseases, dystrophy, beriberi, for bolevaniya endocrine glands, heart suck kyanite system, etc...

The local factors are: nesvoevre meline or insufficient immobilization of fragments of jaw, jaw fractures with bone defect, getting between the fragments of soft tissue (mucosa or muscle), osteomyelitis of the jaw.

The mechanism of formation of a false joint was at *one* time discovered by B. N. Bynin. On the basis of morphological cal Bynin studies established that the process of accretion of bone fragments jaw, unlike CPAC Thaniah tubular bones, passes only two steps and osteoblastic -fibroblasticheskuyu bypassing hon-d roblasticheskuyu, i.e. cartilaginous. Thus, when for Derzhko any of the stages of development of bone Mozo whether the jaw, the process stops at the fibroblasts-minute Český accretion of fragments, without going into the cartilage, which leads to bone fragments mobility.

Radical and only treating it pseudoarthrosis YaV wish to set up a surgical by-osteoplasty (bone continuity is restored braid tnoj plastics, pos le which implies a dental prosthesis). The set Gia patients for a variety of reasons are unable or unwilling to undergo surgery BME -interference, but nuzh given in dentistry. Prosthesis with false joint has its own characteristics. Dental prosthesis, regardless of fixation (t. E. A removable or non-removable) in place pseudoarthrosis must be movable with unity (preferably hinged)

At the beginning of the Second World War with a false denture sus tave it is widely held bridges dentures, ie by rigidly connecting fragments of the jaw. The immediate results were very ho roshie: held together fragments of the jaw, chewing function is restored adequately. But in the first three months, and sometimes even in the early days it broke intermediate naya part of the prosthesis. If, however, it strengthened the arc or izgo prepare from thicker rastsementirovalis crowns or stagger the abutment teeth.

AJ Katz explained by the fact that when you open the mouth all the fragments are displaced care when closing from committing reverse movement and occupy the original position of breaking. In this case, supporting teeth become dislocated, or structural changes occur in the metal, its “fatigue” and the body of the bridge are broken. To eliminate these complications, I.M.Oksman proposed using not bridge joints , but articulated bridges. The hinge fits in place
false joint. In this case, you should know that mostovid nye prostheses are shown, if false joint is located on the limits of the dentition and bone fragments on each tooth has at 3-4. Bone defect with thumbs should not shat 1 -2 cm. The supporting teeth must be stable. Are usually chosen on the two teeth on each side of de defects. Making bridge usual, with the first except that its intermediate portion Section county for false joint line in 2 parts connected by a hinge. Hinge (in the form of a "dumbbell") is input to Sun kovuyu composition before it is cast from metal. This design provides microexcursion of the prosthesis in the vertical direction.

If on the fragments there are only 1-2 tooth or toothless have fragments or bone defect pre Witzlaus cm 2, should be applied about a removable dental theses with the movable joint. Several types of mobile compounds are proposed. THEM. Oxman proposed a 1- and 2-joint connection (Fig. 36). Initially izgotav Lebanon conventional removable prosthesis, the prosthesis then cast model (as with fixing the prosthesis) in place pseudoarthrosis basis sawn into two pieces. In most IE therefrom by self-hardening plastmas sy stem is welded to the head, and in a lower - IU -metallic box (sleeve) filled with freshly prepared amalgam. The prosthesis is installed on the jaw, and for 15-20 minutes the patient was doing vsevoz ble movements of the lower jaw. At this time the ball is in the amalgam forms a path corresponding displacements NIJ jaw fragments.

With more pronounced mobility in the false joint, it is advisable to make a prosthesis with a 2-joint joint. Manufacturing technology is the same as 1-joint.

Instead of a hinge, B.V. Vainshtein proposed welding a spring, and E.I. Gavrilov proposed a wire joint.

It should be remembered that the hinge prostheses are shown only when the mobility of fragments only in Ver -point plane, occurring very rarely.

It is much more common in the displacement of the fragments Yazici hydrochloric side horizontally. In these cases show no joints and conventional removable Prote PS, manufactured necessary to conduct the whole functional shaping inner by surface basis, especially in the jaw area with defect removal portions maximum pressure. This allows the presence of bone fragments move in the cavity of the prosthesis of the mouth as well as without it, which eliminates grass ming fragments basis mandible prosthesis and ensures the successful use of them. Need pom thread that combine prosthesis should only

broke off ki, which are roughly similar in length. Such conditions are in the presence of lower fracture Th Lust in the anterior region. If the line of intersection of scrap is held in the former molars, especially for a second or a third, removable construction pro thesis within both fragments irrational, because a small otlomok is shifted due we antiplaque thrust inwards and upwards. In such cases, recom mended positioning the prosthesis only large fragments with mandatory use in the construction of Prote for systems support-retaining clasps with shini ruyuschimi elements. However, the technique for manufacturing such prostheses is somewhat different. General Procedure - SAE term impression with wide-open mouth, can not be used because when the mouth opens, fragments of the jaw are displaced horizontally (to each other).

I. M. Oksman proposed the following prosthetics:

1) is removed from the partial prints for each fragment on which the base is made with clasps and clones plane or tooth-nadesnevuyu bus with clone plane;
2) pripasovyvayut bases to partial fragments chelyus minute so that the inclined plane is kept at their mouth opening, then the plaster, which is administered without spoon filled defect area jaw on both sides (the vestibular and oral).

A whole prosthesis is prepared from this impression, which appears as a spacer between the fragments of the lower jaw, preventing them from drawing together when opening the mouth (inclined planes are removed).

In the hard plastic basis define a central occlusion and then made about mes conventional manner.

It should be noted that the hinge prosthesis does not restore the chewing function in so far as conventional prostheses, prosthetic functional value will be significantly higher if they will do after osteop erasers. Radical treatment of the pseudoarthrosis is only surgical, through osteoplasty. Contracture is a limitation or absence of motion Nij mandible. Distinguish between **articular** and **extra-articular** contractures.

Articular (or arthrogenic) due vnut risustavnymi changes leading to nepodvizhnos minute in the joint, i.e. ankylosis. They can not be conservative as micro enterprises treatment.

Extra-articular contractures are divided into **cicatricial and reflex muscular.** Scarring contract ry scarring associated with soft tissue, mechanically hindering the movements of the mandible, so they can be called mechanical. Depending on the nature of scar tissue distinguish **myogenic, dermatogenic, mixed** and so on. D. Kontrak tours. Extraarticular cicatricial contractures according to the degree of opening the mouth are divided into heavy (opening the mouth d about 1 cm), medium (1-2 cm), light (2-Zcm).

Muscle reflex contractures occur. Reflexively due to the action of the stimulus on the receptor apparatus, which leads to muscle hypertension. Cicatricial contractures can arise as a result of:

a) improper primary treatment of wounds (primary or secondary sutures were not applied to the edges of the soft tissue wounds);
b) prolonged intermaxillary fixation of bone fragments Th Lust (2 weeks);
c) delays in the application of medical gymnasts ki.

Prevention of cicatricial contractures mainly comes down to preventing the development of gross scars that cause functional disturbances. It is reaching etsya timely debridement, the maximum convergence of the wound edges, early immobilization of Lomkov jaw, using therapeutic exercises.

Maxillo-facial exercises can be started from the first days after injury, if there is no counter to this testimony. Contraindications are:

a) infectious diseases;
b) purulent infection (abscess, phlegmon);
c) bone fragments or shell fragments, it is nye the vicinity of large vessels;
d) poor immobilization of fragments, etc.

Maxillofacial gymnastics is active and passive. Active consists in exercises of the lips, cheeks, tongue. Passive - when the movement of the lips, cheeks, tongue wasp fected hands, fingers doctor or the patient, or with the help of machines.

Active physiotherapy gives good re results of, if applied to the scarring of wounds, ie. E. In the lane stems 12 to 15 days after the injury. It causes hyperemia of tissues, increases their tone, makes scars more tender.

If, for some reason, therapeutic exercises were not used, then the scars remain rough, massive, as a result of which the movements of the lower jaw are sharply limited . In such cases, it is too late to start with therapeutic exercises. Mechanotherapy should be used. Mechanical therapy involves the active and active-passive movements of the lower jaw with the help of machines.

The simplest means of mechanical opening are corks, wedges, drainage tubes folded in two or three, etc., which are inserted between the teeth (for 2 - 3 hours with rest pauses). However, it should be remembered that these funds are rough, not biological acting only on the group otde lnyh teeth, which could lead to overloading of the teeth and damage them. These devices comprise I band an Paratov Mechano. Best results attains gayutsya using the II group of devices built on the principle of simultaneous action on all dental arch, on the principle of active and passive movements of the lower jaw.

For the first time such a device was proposed by Darcy Sak. This is an individual device, i.e. Their make it on the jaw imprint of what it does not ease, because with limited opening of the mouth, it is difficult to take an impression . I.M. Oxman modified the Darsisak apparatus , making it standard. AA Limberg so as to provide an apparatus of standard type - swinging spoons. Maximum convergence of spoons are introduced into lethargy oral and extraoral part of the apparatus then diluted Xia (apparatus Limberg) or converging rubber rod (Darsisaka apparatuses Oxman) and lower jaw pass sively moves away from the top (passive opening of the mouth). Closing the mouth makes the patient himself with the Machine is in the mouth, but without the participation of the unit (active movement of the mandible).

Mechanotherapy should be carried out after the physio procedures. It can also be used to stretch the corners of the mouth, scars of the oral cavity, leading to a microsome . Therapeutic exercises along with a massage, mechanical therapy and physiotherapy restores the function of the peripheral nervous system, contributes to seizing sheniyu lymph and blood circulation in the tissues damaged Nogo body, making the scar tissue becomes bo Lee soft, supple, stretchable. Thus, the function of the body is restored. Microstomy - narrowing of the mouth, refers to the severe consequences of maxillofacial trauma. It can occur after tissue injury when p tovoy area after surgery (especially in the front portion of the tumor or mandible Ost omielit) after burn person or system Sclerotiniose dermis.

The mouth gap is narrowed to 3 cm. In this case, the tissues of the mouth gap lose elasticity, the corners are often pulled together by powerful keloid scars. As a rule, in such cases, plastic surgery does not help much . Scars give relapses. Mikrostoma remains Prosthesis at mikrostome sometimes very difficult because of the narrowed mouth slit, as well as due to the spread scarring mucous prosthetic bed or a combination of the visually mikrostomii alveo lar ridge or secondary deformation tooth row under the action of keloid scars.

Therefore, we should focus on a special technique for prosthetics of such patients. The difficulty arises, first of all, when taking an impression, introducing and removing it with an impression spoon. It relies ottis ki shoot special collapsible spoons, but t. To. They are often not the case with the practical doctor, then we have to cut the usual standard metal spoon into two parts. Impression removed first one The half us jaws and without removing it from his mouth, it's only one spoon. Enter the second half of the spoon with'mass to remove the other half of the jaw. Impression mouth vyvo ditsya piecemeal.

Central occlusion should be determined using silicone blocks, but not wax blocks, because when they are removed, they are deformed.

The design of the finished prosthesis is also unusual. Most often they are folding or collapsible (hinged). ^

A folding prosthesis consists of two lateral parts connected by *a* hinge and the front part. In the oral cavity, it extends, is installed on the jaw and is strengthened by the frontal part. Last is the front teeth, the basis and pins to torye fall into the tubes located in the interior of polo prosthesis guilt.

Collapsible dentures are made up of individual parts. In the oral cavity and fasten them up into a single n th integrally with pins and tubes. You can do a normal prosthesis, but for ease of administration and derive Niya his mouth through the narrowed mouth slit should narrow dentures arc, while applying Telesco scopic mounting system as the most reliable.

Test questions:

1. Incorrectly healed fractures. Etiology, cus nickname; treatment.
2. The false joint. Etiology. Clinic; especially op topedicheskogo treatment.
3. Jaw contractions. Etiology. Clinic, pro galaxies, and methods of treatment.
4. Mycrostomy. Etiology. Clinic. Treatment.

Practical lesson-27

Subject: Methods of orthopedic treatment of soft and hard palate defects. Methods of manufacturing prostheses before surgery. The design of the forming apparatus.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.

Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I of . Defects of hard and soft on the etiology of the sky again dividing by the **innate** (embryonic malformations Nogo development) and **acquired** (ognestrela nye, trauma, surgical interventions consequence, complications diseases).

Congenital defects of the sky formed vsleds tvie nonunion bone of the upper jaw during the EMB rionalnogo child development. These defects under more considered in detail

Acquired defects of the sky have different localization and shape, they can be located in the region of hard or soft palate, or in both places at the same time. These defects, in contrast to the innate accompanied cicatricial mucous membrane changes, changes of the alveolar process and de defects in bone tissue of the maxilla.

A specific pattern defects are firmly of the sky syphilitic origin. Usually they are in the central part of the *bone* of the sky, are more or less round shape, at their edge Inog yes observed thin radiant scars and *in communication with* the nasal cavity. It is often pathological pro cession affected opener. In some cases, We mention chaetsya ceasing nose (saddle nose). If the defect captures the area of the soft palate, then the tongue is destroyed and the scars extend to the palatine-lingual and palatine-pharyngeal arches, as well as to the posterior pharyngeal wall. It should be noted that in syphilitic lesions of the soft palate palpation of these areas, as well as the throat does not cause Vaeth gag reflex. This point should be taken into account when taking impressions.

Defects in the sky after a gunshot injury have no strict localization, nor any tup GIH shapes, t. To. They depend on the shape of the projectile wounding.

When defects hard and soft palate bright you razheny functional disorders. Message between dy oral cavity and *nose acts gives* food intake and respiration, it suffers significantly. When ingesting SRI liquid food particles fall into the cavity *of the nose, in the* result of developing chronic catarrhal state yanie airways. Speech disorders are expressed in nasal and incorrect sound formation.

Snuffles is a consequence of the constant you air travel This is also facilitated by the underdevelopment of the muscles of the palate and pharynx. On Rushen sound generation arise due to lack of air pressure in the oral cavity, the tongue support, optionally walk for generating different sounds.

When defects and shortening of the soft palate in D result of trauma may change hearing t. K. A muscle tenses the soft palate *(m . Tensor velipalatini),* starting vshayasya from cartilage and membranous part of the auditory tube facilitates the passage of air into the tympanic cavity. Damage of this muscle causes dehiscence auditory tube, which is the cause of chronic inflammation of the inner ear and consequently - CNI hearing zheniya.

All damage to the upper jaw with defects in the palate should be divided into 4 groups: (classification by Prof. V. Yu. Kurlyandsky):

Group I - defects of the hard palate in the presence of teeth on both halves of the upper jaw.

Subgroups:

a) the median defect of the sky;
b) lateral defect of the sky;

c) frontal defect of the sky.

Group II - defects of the hard palate in the presence of teeth on one half of the upper jaw.

Subgroups:

a) the median defect of the sky;

b) total absence of one half jaw with Nali PIR 1-2 teeth on the other side of it.

Group III - defects of the palate in the absence of teeth on the upper jaw.

Subgroups:

a) the median defect of the sky;

b) the absence of one half of the jaw;

c) the complete absence of the upper jaw with a violation of the edge of the orbit.

Group IV - a defect in the soft palate or hard and soft palate.

Subgroups:

a) cicatricial shortened and soft palate displacement

b) a soft and hard palate defect in the presence of teeth on both halves or one half of the jaw

c) a defect in the hard and soft palate in the absence of teeth on the upper jaw.

Each group has its own characteristics. Twain for the effectiveness of the subsequent prosthesis tion.

The treatment of acquired defects of the palate is possible by surgical, orthopedic and combined methods. Surgical interventions consist in enclosed defect TII Orthopedic Kie intervention is to close or compensation for defect prosthesis. Dentures have in their construction an obturating part called obturators.

The task of prosthetics for defects of the hard palate is:

4. Dissociation of the *oral* cavity from the nasal cavity.

5. Maintenance of tissues that have lost bone support.
6. Recovering acts of speech, chewing and swallowing.

II . **Treatment of patients with group I defects (palate defects with teeth on both halves of the upper jaw)**

Patients with small hard palate defect, ranging in its middle portion, Nali PIR enough reference teeth to Clam-dimensional fixation of prosthetic implants arc. Arc prosthesis bears occlusive part, closed vayuschuyu defect in the sky, a few visits to its edge.

When the conditions for fixation of the prosthesis arc absent or there is a broad hard palate defect, prosthesis used removable plate (uncoupling schaya plate). This prosthesis is stronger on the jaw on (do not use the support clasps, so as not to interfere with the power of immersion retaining clasps prosthesis zheniyu), This prosthesis should fit snugly to the edges of the defect, creating a reliable separation of the oral cavity from the nasal cavity. Most tight closure palate defect formation can be obtained on the palatal side of the ba -crisis plate - platen 0.5 - 1 mm, located Xia around the defect, *departing from it* by 2 - 3 mm - therefore the base plate sinking into fusion Zist shell creates NO valve on peri ferii defect.

When thinning mucous stubborn about span of or presence of scars on the edge of a flaw to create a snug fit of the prosthesis on the periphery of the defect we can but use a lining of elastic plastic.

The prints with the upper jaw is removed elastically E impression materials with prior Tampa yield flaw gauze.

When the front palate defects about tezirovanie made laminar removable prostheses, the main method of fixing which are are klammernye locking device or crepe Leniye. In two of the remaining teeth on each side are superimposed crowns, which fell at the equator INDICATES wire: the first - facially to d nother - palatal side. In the prosthesis clasps cons truiruyutsya so that one shoulder was disposed on the vestibular side, and the second - palatal. Such double fixation of the prosthesis prevents the sagging of the prosthesis in the anterior section. In the front section of the plate it is advisable to make the platen roller, which improves grip and eliminates the possibility Getting Nia food into the defect.

Side palate defects may be times of personal value. Small defects can occur when you remove the side teeth with perforations verhneche lyustnoy sinus. To isolate the sinus and oral cavity, small saddle prostheses with clamming fixation or telescopic crowns are used.

Large side defects close to Ba ve the same principles as the median defects wi mations roller for uncoupling the plate (stepping 2 - 3 mm from the edge of the defect).

III . **Treatment of patients with defects II group nN (with teeth present on one polo fault maxilla)**

When the median palate defect to increase the fixation of the prosthesis should be used remaining adhesive force, which is achieved by internally form of (roll around the defect) and the peripheral valve.

In case of a defect in one half of the upper jaw, the basis for fixing the prosthesis is a clasp or lock fastening. But ordinary clasps do not provide sufficient fixation. Therefore it is necessary to use IP artificially bits (bits 3-4 fortification with special devices: a palatal soldered vertical tubes (Figure 40) sootvets. Tween them set pins in the prosthesis). With vestibu lar side of the equator soldered wire or extruded bead, for that should go Clam-measures. Additional fixation and greater tightness is achieved by the formation of the vestibular cushion. If the remaining teeth are not sufficiently stable, when should run an additional vertical strengthening the prosthesis via the supporting spring. Prying rzhivayuschaya spring must be removable. Fixing the spring on the lower jaw can be solved by two methods: strengthening it on removable dentures or on crowns with special devices.

In the case of a small number of teeth on the remaining sheysya intact jaw achieve sufficient fixing of the prosthesis is difficult. In this case, the impression is carried out in stages. First prepared TEXT Current preserved part of the upper jaw, which prepare the base plate with all

necessary appliances (clasps, pins, etc.). In addition , the plate facing toward the defect, complemented nyayut near metal hinges. After carefully fitting the manufactured part of the prosthesis, the thermoplastic mass is gradually layered *on the* loops, which is replaced with plastic. Make rigid individualistic dual spoon and imprint obtained in B functional likonovoy thixotropic mass.

IV **Treatment of patients with defects III group nN (palate defects with no zu CWA in the maxilla)**

The main difficulty in prosthetics pain GOVERNMENTAL this group is the fixation of the prosthesis, ie. K. At such a negative pressure beneath the prosthesis pathology impossible. Therefore, the topography of the defect is of great importance . With orthopedic standpoint track is defect distinguish two locations (Figure 41.);

a) Median defect sky when the design of the prosthesis can rely on adhesive strengthening of it by forming a valve system - vnut rennego and peripheral.

b) A lateral or frontal defect of the palate, when there can be no calculations for the possible suction of the prosthesis and the installation of supporting springs (or repulsive magnets) is required .

In these cases Prep vyat individual rigid spoon on anatomical al ginatnomu reprint, supplies inrush spoon and updating Ofori mlyaya its peripherally defect basal (high viscosity) B likonovoy mass. For Ofori straightening tight internal valve occlusive de fect, carry out nasal sample and the sample was swallowing water. Prior Bevan reliable isolation of the oral and nasal cavities.

Functional from TISK obtained silicone thixotropic weight average viscosity when the patient's head is upright. In these cases the reliability of fixing the prosthesis to the attained due to the snug fit occlusive hour whith prosthesis of elastic plastic (e.g., Goss).

The V . **Treatment of patients with defects of IV group nN (defects of the soft palate or firmly th and soft palate).**

When cicatricial shortening of the soft palate orthopyroxene -periodic interference is inappropriate. The main IU Todd treatment should be an operation aimed at lengthening the soft palate.

In the complete absence of teeth and soft palate defect prostheses used obtu- tors. They consist of two parts: fixing, located within the limits of the hard palate and obturating, covering the defect of the soft palate.

With the reduction of non-BNO-pharyngeal muscles of the rear part of the obturator muscle regards roller (roller Pas shroud), soft lifting something the sky, and

closes the entrance to the nasal cavity. In this case, the air stream is directed in the Soft Sky Object
oral cavity and speech clarity is restored.

According to the method of connecting the fixing and obturating parts of the obturators, they are divided:

a) obturators with a fixed connection;
b) obturators with a movable joint;
c) floating obturator - do not have a locking part, are located in the area of the defect and held there blah Godard exact match their edges the edges of the surrounding tissues.

When an isolated defect in the soft palate and on the teeth on the jaw lichii obturator may be used, CONST rowan on the teeth via telescopic crowns or support-retaining clasps. These crowns or Klamme-Ry are connected by an arc, from which the process departs towards the soft palate, the obturating part of rigid or elastic plastic is strengthened on the process.

Combined defects rigid and *soft* palate closing ysya dentures that a fixed or movable but connected to the obturator of the soft palate. The basis of the prosthesis at the Place of contact with the edge of the defect of the hard palate should have a closing valve.

Test questions:

1.Etiologiya, clinic and classification of defects Tver dogo and soft palate.
2. Treatment of defects of the hard palate of group I.
3. Treatment of defects of the hard palate of group II .
4. Treatment of defects of the hard palate of group III .
5. Treatment of defects of soft or hard and soft palate.

Practice Lesson-28

Topic: Treatment of partial dentition defects with implants. Requirements for implant materials.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

One of the methods of modern orthopedic le cheniya schastichnoy patients and complete loss of teeth YaV wish to set up treatment with implants. Cons truktivno in the implant divided into three main parts: the root, neck and head (support head). The root of the call intraalveolar cons design and provides the cervix - cervical region of the implant neck and head together - the coronal part of the implant Tata. In some constructions allocate shoulders knife implant ki,

Implant Classification

8. By biocompatibility distinguish biotole rantnye, bioinert, bioactive;
9. The shape - cylindrical (solid, hollow), helical, leaf (plate) stake sovidnye, forms the root of a natural tooth;
10. The structure of the material - nonporous, surface-porous, with continuous porosity, combines bathrooms;
11. By the properties of the material - without the effect of "memory" of the odds we have with the effect of "memory" shape;

12. Localization - chreskornevye, lodslizistye, sub-periosteal, intraosseous, chreakostnye combi nirovannye;
13. By function - substitute, support, support-replacing;
14. According to the perception of chewing pressure - amortiza torus (vnekostnym, intraosseous, combined nym) without suspension;

8. By the design of the intraosseous part - collapsible, non-collapsible;
9. According to the design of the connection of the implant with the suprastructure, an integral connection with screws, cements and detachable with the help of magnetic systems, locks, etc .;
10. In the method of manufacturing - standard individual cial.

In foreign literature, the design of the implant comrade a combined system. Each system has its own tooling.

In applying dental implantology by a large number of materials. There are biotelerant, bioinert and bioactive materials. By biotalerantnym include noble metal alloys, cobalt alloys, chromium and molybdenum, a bioinert Titan, and its alloys, carbon, a bioactive - stekloke ramika with bioactive surface hydroxyapatite. Implant materials must meet the following with the limits:

1. Must be corrosion resistant.
2. Non-carcinogenic.
3. Non-toxic.
8. Do not cause an allergic reaction.
9. Have high technological and Mechanical job kimi properties.
10. Easy to sterilize.
11. Be comfortable in the work, aesthetic and publicly available GOVERNMENTAL.

Implantation success in applying metalliches FIR materials depends on many factors: the composition and properties of metals, shape of the implant, the properties of the bone tissue, but the most important property of metals is their resistance to corrosion, which defines the electro chemical "behavior" metal implant. Ta Kie materials as stainless steel, alloys based on Co - Cr - Mo , Co - Cr - W - Ni , titanium and its alloys; Ti -6 AI -4 V , TiNi , noble metals and their alloys are corrosion-resistant. The ability of these materials anti stand exposed to chemical and electrochemical environment to form a metal film surface of sparingly soluble compounds, such as oxides.

Of all the materials you most sokoy corrosion resistance have titanium and its alloys, which allows them a lifetime plantation titanium structures in the body of the patient first. However, among all the known titanium alloys, special position is occupied by a titanium nickel alloy possessing ter momehanicheskoy memory - shape memory effect. Alloys TiNi meet three axes novnym requirements, without which no matching material may not be suitable for introduction into the human body. This is, firstly, high antikorro Zeon resistance; secondly, the absence toksichnos minute, carcinogenicity; Thirdly, the presence of mechanical properties close to the properties of living tissue that key Will with high reliability carry out treatment of patients.

Test questions:

1. Implant - design features of the main types of implants, the requirement for structural materials.
2. Classification of implants.

Practice Lesson 29

Subject: Research methods for patients for implantation. Preparation of the oral cavity for implantation, indication and contraindication for implantation.

Stages and time of work	Teacher Responsibilities	Student Responsibilities
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

II . Examination of patients referred for implantation tion, and holds by traditional way (complaints, medical history, physical examination, palpation, percussion and laboratory instrumental studies), but taking into account the following features. The survey, patients should be carried out in such a way that would identify common on Kazan and contraindications to implantation.

Based on the data and subsequent obsledo Bani can determine the general state of the organism and the possible reactions to the implant. From instrumentally laboratory studies dentition binding are plain radiography, or orthopantomography teleroentgenography facial Th turnip. Images should be prepared under standard CSS loviyah and suitable for carrying out measurements to determine the vertical dimensions *of* the alveolar crest to nasal cavity and maxillary sinuses in the upper jaw and mandibular canal until - at the bottom.

Several methods are used for study assessment implants functioning ki: sample Shillera- Pisareva gum to assess the state of the remaining memory CWA around the implant and - measuring the depth of the gingival sulcus at the implant; measurement of the amount of tissue fluid with the calculation of the number of leukocytes; with di -dynamic monitoring of patients use rents genologicheskie methods.

III . Indications and contraindications

In the absence of general and local contraindications orthopedic implant treatment using comrade shown in all cases the presence of defects of tooth rows:

1) with the end (unilateral and bilateral) de defects of dentition;

2) with a complete lack *of teeth,* when traditional means of prosthetics impossible secu chit function satisfactorily complete dentures; with 3) included dentition defects.

Contraindications to implantation are divided into general and local. Common diseases include diseases of the cardiovascular system, blood, liver (chronic renal failure), diseases of the neuropsychic sphere, infectious, allergic , neoplasms, immunological. The group of local contraindications includes diseases of the oral mucosa, osteomyelitis of the jaw bones, TMJ diseases, neuralgic diseases, severe malocclusion, macroglossia, parafunctions, adverse anatomical and topographic conditions, conditions after radiotherapy of the facial and cervical regions. Some of these contraindications are relative and lose their strength as they are eliminated.

Absolute contraindications for intraosseous implantation - connective tissue disease bo existing illness blood, allergic diseases.

Explanation contraindications to implant patients should be carried out deliberately, with the system GMM observance of ethical principles. But physicians chu need to remember, as soon as the circle contraindicated readings of tapers, and the range of indications is expanded, the percentage of success is significantly reduced.

Test questions:

1. Features of the examination of patients with partial and complete edentulous.
2 .Pokazaniya and contraindications cpm lanthanum.

Practical lesson-30

Subject: Methods and types of orthopedic treatment with implants. Implant fixation methods: immediate, late, one and two stage.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001	Listen and record

	3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

I .There implantation methods Ob can be unified by the following features:
1. by implantation period: a) immediately after tooth extraction (implantation in a fresh zuoa well), o; delayed (after healing of the tooth socket);
On the basis of communication with the oral cavity during at zhivleniya implant: a) communicating (one-phase Nye implantation), b) noncommunicating (two-phase technique with the "closed" engraftment root hour whith the implant in the first phase).

Under direct dentures c implant should be understood method involving directly on the operating table, fixing of a prefabricated dental prosthesis on implants. This method can be used with the simultaneous implantation technique and extremely accurate coincidence of the parameters of the jaws constructed on gypsum models with the support parameters obtained after implantation. direct dental prosthetics using implants, they are immediately connected to the functional load. The processes of restructuring of the inert tissue and mucous membrane proceed under conditions of mechanical stress. Method of direct pulses lantatsii are useful for substitution ne Independent user teeth, in the manufacture of bridges implant and natural teeth. It's about tivopokazan after tooth extraction with diseases periodontal.

The technique of single-phase implantation is that the root portion of the implant is set in the braid tnom bed, and wherein the head protrudes into the cavity of the mouth, the cervical portion of the implant comes into contact with the mucosa. This method is simple and sufficient foam for general use, does not require complex folding design implants. However, with its use, the likelihood of complications is high, since regenerative processes occur when there is a message with the oral cavity. Serial NOSTA clinical and laboratory stages neposreds Twain prosthetic teeth after a single-phase implantation.

After examination of the patient for the purpose mouth ment of the indications for implantation of additional studies (diagnos preparation matically models Radiography of the teeth and jaws / selected type of implant, determine its size and location on the jaw.

Prepare the base plate with guide bushings, reproducing the spatial polo implants voltage.

Next, the prosthesis is made using modern technology. Then proceed to direct implantation: excision and exfoliation of the mucous membrane
osseous flap, creation of a bone bed, insertion of an implant into the bone bed, fixation of the prosthesis on them plantations.

The technique involves a two-phase implantation engraftment first only the root portion of the implant acetate in isolation from the mouth only after successful solutions of this problem occurs is connected of the root portion of the implant head. Classification cal example of a two-phase implantation procedure is Bronemark system applied with floor prefecture absence of teeth when insufficient fixation of complete dentures because of marked atrophy of the alveolar ridges.

In order to establish the indications for implantation, as well as clinical and clinical dental surg gical examination of the patient (receiving diagnos cal models, X-rays of the teeth and jaws), functional studies.

Surgeries performed in this two pas (phases):

The first phase - the introduction of the root portion cpm lanthanum consists of a number of successive manipulation tions: 1) excision, peeling muco-nadkostnich- Nogo flap to expose the alveolar bone; 2) alignment of the alveolar ridge in a zone Raspaud Proposition implant; 3) determining LOCATION Nia implants; 4) establishment of the bone bed for them plantata; 5) expansion and preparation of the bone bed For the root of the implant; 6) the introduction of the root of the implant into the bone bed; 7) suturing the wound; 8) postoperative management of the patient.

The second phase is carried out after healing - after 3-4 months on the lower jaw and 5-6 on the upper. To establish the support heads, i.e. is pveolyarnoy often produce mucosal excision of olochki over the implant. Remove the cap screws, replacing with support heads. The surgical field is covered with a protective tray for one week. Prosthetics begin 2 weeks after the operation to install the support heads.

The manufacture of dentures is carried out according to the generally accepted method of subsequent fixation on the supports.

The technique uses a two-phase implantation camping in orthopedic treatment of patients with both partial nym and the complete absence of teeth. The advantage of this method is that the reparative processes in the first phase occurring under conditions isolated from cFe rows mouth and without functional loads on lanthanum-imp. The duration of the first phase is associated with pro cession bone mineralization. The duration of the second phase is short, since the mucous membrane heals much faster.

In implantology, titanium and its alloys are most widely used.

Evaluation of implants can be carried out on the power performance of the implant operation for MZ Mirgazizov:

1 - the implant is movable or not movable in pre affairs physiological pliability of tissue is inflamed of the gums and bone pocket absent;

0.75 - recurring observed mobility implant 1 - *2* degrees, the appearance and uc disappearance gingival inflammation, bone pocket otsuts tvuet (compensation step);

0.5 - constant mobility of the implant of 1-2 degrees, bone formation pocket (step Subki pensation);

0.25 - motility implant 3 degrees, expressed adjoint bone pocket (decompensation step);

0 - complete disappearance of the implant surrounding tat bone and pushing it out of the jaws granulocytes lyatsiyami.

Test questions:

1. The direct method of implantation.
2. One-stage implantation method.
3. Two-stage implantation method.
4. Criteria for assessing the status of implants.

Practical lesson-31

Subject: Methods of orthopedic treatment of patients with chronic diseases of the oral mucosa. The right choice of materials for orthopedic structures

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Among the diseases of the mucous membrane of the mouth, to torye orthopedic surgeon is necessary to pay special attention, it is possible to allocate leukoplakia, angular cheilitis ("Zayed") and lichen planus.

L e u k o p l a k i a [K **13.2] -** chronic hundred Matit flowing thickening and keratinization dormancy smooth epithelium of the oral mucosa.

Conservative treatment consists in eliminating irritating factors, stopping smoking, and oral sanitation. Relatively efficient at Menenius vitamin A topically in the form of applications, since

the inside of 10-20 drops 2 times a day for 20-30 days, multivitamins. In the case of unsuccessful treatment cally surgical interventions used meto-

dy such kakkriohirurgiya, radiosurgery ililazerna ı epilation foci verrucous or erosive leykopla cues. If malignancy is suspected, a biopsy and subsequent histological examination are **r e q u i r e d . A n g u l a r c h e i l i t i s [K 13.00]** or "jamming" is manifested in erosion and then easily bleeding cracks in the corners of the mouth.

Conservative treatment of angular cheilitis with in the following: the use of fungicides prep comrade inside and locally (for example, Nystatin on 250 000 EL used once a day and nystatin ointment (100 000 units per 1 g of Ba you), multivitamins, smearing lesions 15% solution borax in glycerol. Given that the fungus can be introduced into the pores of the inner surface plastmas cial prosthesis last nebhodimo handle disinfectant solution and fungicidal ointment (powder). Pain nye represent a danger to others. Therefore, great importance is compliance with sanitary of Hygiene -ethnic mode in prosthetics such patients . **lichen planus [K 43]** - chronic inflammatory and dystrophic diseases resulting present on the skin and visible mucous membranes etiology remains hitherto unclear..

Conservative treatment is meticulous hydrochloric oral sanitation. In a typical, giperkeratoti-cal (if there are complaints of a burning sensation and pain when eating) and congestive exudative form of assigning by sedatives, locally affecting skin ointments, desensitizing and laser therapy. When erosive ulcerous and bullous forms best ef fect provides a combined method of treatment: use delagil (1-2 tablets per day) with methyluracil (1 tab taphole 3 times a day), anti-viral agents. When on the positive results of research nadisbakterioz prescribe antifungal medications, and general locations -acting. Operate as physiotherapy (laser, inhalation, phonophoresis with les for pharmaceuticals agents at the gingival margin) is carried out bracing and desensitizing therapy. Patients with verrucous form of leukoplakia, lichen planus is first prepared canned tive treatment. If during 3 weeks this treatment does not provide a noticeable effect, surgical remove of the lesions (excision, cryosurgery or electrocautery pathologically modified tissues).

Typically, in the presence of mucosal diseases hull ki oral use dentures leading to obos rubbing process, which is more difficult to leche NIJ.

Laminar dentures, based on If Zist shell can, in turn, cause a variety of pathological processes. When the disease of the oral mucosa (leukoplakia, keratoses leuco red flat Lesch and t. D.) The treatment plan must be prepared individually for strictly kazh dogo patient. When planning the design of the prosthesis must be considered that the affected surface must be completely isolated from mechanical and Toxie Cesky its impact. Part of the prosthesis adjacent to the affected area should have good polish bath surface clasp should be hidden or broad, tightly embrace the abutment teeth.

Plots of the mucous membrane affected by leuko-keratosis cannot be a bed for a denture.

Given the poor thermal conductivity of plastic, it is necessary to warn patients about the negative effect of eating hot food. With special tschatelnos Tew in the manufacture of prostheses for patients with leykop lakiey should grind and polish the prosthesis and proactively resolve areas of increased PRESSURE Niya under dentures and within their boundaries. Large values chenie has a permanent dispensary observation of patients suffering from leukoplakia.

Positive effect it is achieved under applied nenii nesmnyh prostheses serebryanopalladievyh alloys, silver base plate removable prosthesis.

Test questions:

1. The role of conservative and complex treatment of slaughtering timetotal oral mucosa.
2.Obosnovanie and possibilities of orthopedic leche Niya.

Practice Lesson 32

Topic: The changes occurring in orgonism and in the oral cavity associated with the use of dentures. Clinical manifestations of allergies, paresthesia and galvanization. Pathogenesis, clinic, diffdiagnosis, oncological alertness

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Ma intolerance of structural materials under

1. Etiology

a) effect of metal alloys and plastics components for organs and tissues of the mouth, as well as op - organisms patients;

b) the mechanical effect of dental structures about tezov on organs and tissues of the mouth.

2. Pathogenesis

a) allergic reactions of a delayed type of organs and tissues of the oral cavity;
b) immediate type allergic reactions (anafilak matic shock)
c) toxic-chemical reactions of the oral fluid;
d) the phenomena of galvanism with the heterogeneity of metals;
d) oral dysbiosis.

3. Clinic

a) galvanism;
6) toxic stomatitis;
c) immediate allergic reactions;
d) delayed-type hypersensitivity (allergy cal stomatitis);
e) violation of neurological status;
e) disorders of the gastrointestinal tract;
g) violation of biochemical and immunological until exponent of oral fluid and blood picture:
h) the occurrence of anemia;
i) candidiasis of the oral cavity;
j) deterioration of the general condition and well-being of patients.

4. Diagnostics

■ Clinical methods

a) poll (identifying specific complaints and collecting anamniotes for);
b) examination (mucous membrane and organs of the oral cavity);
c) assessment of the quality and correctness of the designs of dentures;
About a clinical blood test;
e) sample with exposure;
f) provocative test.

■ Paraclinical methods

a) chemical spectral analysis of the oral fluid;
b) determining the pH of saliva;
c) detection of the potential difference (in the presence of IU -metallic inclusions);
d) determination of pain sensitivity of the mucous membrane under the prosthesis;
e) a hygienic assessment of prostheses and the condition of the oral cavity;
e) scarification film test;
g) epimucous tests;
i) leukopenic test; platelet test;
j) determination of the activity of salivary enzymes;
k) immunological tests;
m) determining the nature of the microbial flora;
n) the selection of organism sensitivity to structural nym materials:
■ according to R. Foll;
■ using pulsed-hard fashion an isolated field.
o) determination of biochemical parameters of blood and saliva.

5- Methods of orthopedic treatment

■ Elimination therapy;
■ Rational prosthetics from selected structural materials;

6 Possible Errors Orthopedic whom treatment

■ Carrying orthopedic treatment without the elimi nation of old dentures;

- holding dentures in the presence of general physical diseases under an exacerbation of rhenium;
- holding orthopedic treatment with Nali PIR mucosal inflammation prosthetic bed or exacerbation of chronic diseases of the oral mucosa;
- Production *of new* designs of dental *prostheses* without a selection of construction mate rials;
- The patient has not explained the rules of care for the dental mi prostheses.

7.Possible complications Orthopedics Cesky treatment

- Relapse phenomena intolerance constructional GOVERNMENTAL materials;
- Dysbiosis of the oral cavity;
- Development (exacerbation) of diseases of the mucous membranes of the oral cavity;
- Other.

8. Rehabilitation and preventive measures

a) Adherence to the dental prosthetic technology schemes;
b) Exclusion of heterogeneity of metals;
c) The exclusion of the use of dentures 3-5 days before the repeated prosthetics;
d) Treatment of major somatic diseases;
e) Compliance with oral hygiene and the rules *for the* care *of* dentures;
f) Timely replacement of old dentures;
g) Timely periodic medical supervision (at least 2 times a year).

The emergence of intolerance associated with combi nirovannym exposure to endogenous and exogenous factors, particular importance is attached to the chemical-Toxie Ceska and allergic effects on the mucous membrane of prosthetic bed laminar dentures of acrylate.

Contact allergy develops in the body by HRT (delayed-type hypersensitivity, class IV). Substances that cause contact allergy, *by* at like no antigens. Such substances are called haptens. Combining chemically with proteins of body tissues, they can acquire antigenic properties.

Pathogenesis. In the mechanism of allergy iCal reactions play a major role himergicheskie reactions involving various biologically active substances released from cells as a result rea tion antigen - antibody. As a result of this reaction reveal Leno that occur reactive changes of all tissues of prosthetic bed, including nerve agents and their endings. In this case, fragmentation and decay of nerve fibers, varicose thickening and softening of the serene are revealed.

Clinic. Allergic inflammation against repentieth type contact stomatitis, is shown on the mucosa tongue, lips, cheeks, alveolar from germs and particularly on the palate. It is sharply limited and corresponds in magnitude to the basis of the prosthesis. Mucous about span of bright red, shiny.

Diagnostics. Skin testing Schwartzman: scalpel to scrape off part epider forearm skin Misa and sprinkled with crushed on the portion Roshko prepared from the base material of the prosthesis. In allergic conditions 24-48 hours at about worked portion shown redness. Ex uses Patch - test : on the back of the shovel overlaying dissolved platelets plastics and closed for 48 hours, the skin of the face reddening reaction force. Stop using the prosthesis.

Dental and allergic anamnesis is of great importance in the diagnosis of slaughtering Levan. Widespread use of gain exposure onnaya and provocative tests. The essence of these samples is that the disappearance of the pathological symptoms after removal of the denture from the oral cavity and resuming after the administration of allergenic indicates the influence of the prosthesis. For diagnosis of allergic stomatitis comrade used *leykopenicheskuyu and platelet-penicheskuyu sample,* consisting in reducing the number of leucocytes and thrombocytes not less than 1000 and 40000 (respectively) in allergic nature intolerance.

Test chemical silvering - is used to differential diagnos tics toxic and allergic stomatitis from mechanical irritation. *Immunological*
Meto dy research - to identify Sensi stabilization of the body: the reaction of blast Transfrm mation lymphocytes, neutrophils damage test in VA Fradkin, quantitative determination of IgE , indirect reaction *Shelly* - test degranulation bazo- Filov specific detection reaction

September sibilizirovannyh cells (lymphocytes, macrophages gov), lymphocyte blast transformation reaction (BTR), leucocyte migration inhibition reaction (RTML), macrophage migration inhibition reaction (RTMM) reaction lei specific agglomeration Cocytus (RSAL).

Etiology. Cause, provoking facto rum parastezii when a prosthesis is in oral application - only the symptoms of a medical illness. The reasons may be a mechanical injury to the rough surface of the prosthesis and the pressure of the basis of the prosthesis, the resistance of the oral mucosa.

Pathogenesis. Studies conducted by the study of the mechanism of parastezii revealed're active changes of prosthetic bed tissues, including those nerve agents and their endings. In this case , fragmentation and granular decomposition of the meat of nerve fibers, varicose expansion and fibration of the serene are revealed.

Clinic. Complaints of burning, tingling, pain and dryness in the mucous membrane of prosthetic bed, appeared to use a prosthesis immediately or Th cut some time after the application of the prosthesis with normal mucosa. The slightest irritating of any nature superposed mucosa in SRI prosthesis may cause excessive salivation and vomiting.

Diagnostics. Patients need to be a computer integrated polices treatment and examination. Dentist detail finds complaints, medical history, history bo useful to. This makes it possible to set the transferred disease in the past and identify the suspect or su stances. It is important to find out the etiological factor **Etiology.** When dissimilar metal -crystal inclusions in the mouth occurs pos toyannaya change electrolytes with high and low potentials. Galvanic currents have a diverse effect on the body.

Pathogenesis. Suction fi products of electrolysis are in oral mucosa and getting into ZHKG, have an overall effect on the organism. Galvanic microcurrents affect about various physiological processes that occur in the oral cavity. They act on the receptor apparatus, break processes excitability and adaptation by changing and distorting normal function, the membrane potential of cells, disrupting them pronitsa emost and ion exchange in cells. Galvanomikrotoki facilitate the exit of ions of metals with different potentials in saliva. Chromium and copper ions penetrating easily dissolved in the injured mucosa, and nickel ions may be deposited in tissues. Chromium, like all heavy metals, in elevated amounts can have adverse processes in the tissues. Prolonged WHO action metal ions cause sensitization and allergic reactions on HRT.

Clinic. Metallic taste, perverted schenie taste sensitivity. Sensation of sour, salty in the mouth , burning or pinching of the tongue, excessive salivation, or dry mouth. Sensations expressed in the morning, especially after eating spicy and salty foods.

Diagnostics. Cutaneous fineness metal la for 24-48 hours, to measure the current, the difference of potentials between the metal inclusions when changing milliammeter or millivoltmeter.

Chronic trauma With atrophy, the epithelial layer of the oral mucosa undergoes atrophy : it becomes sensitive, easily vulnerable, and the wound healing process is disrupted. Even in case of minor dressings rezhdeny oral mucosa prosthesis E in elderly people with weakened tissue trophism prosthetic bed formed painful, prolonged healing dekubitalnye ulcers. Individuals should bow -age a marked tendency to the development of hyperplastic, dysplastic and neoplastic processes in the tissues of the oral and maxillofacial region.

Patients using removable dentures do not feel pain even with significant injuries of the oral cavity, which should be borne in mind and warn the patient about the need for regular medical supervision.

Of particular concern are patients with chronic diseases of the oral mucosa (leukoplakia). Against the background of chronic injuries from prostheses, a flat form of leukoplakia can turn into a verrucous, which is a precancerous condition, or a chronic, very painful ulcer, poorly healing and often recurring (erosive- ulcerative form of leukoplakia) can form.

The design of prostheses with leukoplakia has its own characteristics. First of all, it is necessary to prevent the possibility of traumatic moments.

Through optimal recovery VNOL and surround simulation bases prosthesis proper orientation of the occlusal plane and creating Bugrova overlap can prevent impairment of the mucous membrane, as well as biting of lips or cheeks (especially where there are foci of expressions).

Given the poor thermal conductivity of plastic, it is necessary to warn patients about the negative effect of eating hot food. With special tschatelnos Tew in the manufacture of prostheses for patients with leykop lakiey should grind and polish the prosthesis, and in advance to eliminate areas of high PRESSURE Niya under dentures and within their boundaries. The manufacture of dentures with a titanium base helps to eliminate the "greenhouse effect", to reduce the contact of the basis of acrylic plastics with the prosthetic bed. Of great importance is the constant follow-up of patients suffering from leukoplakia, with the aim of early diagnosis of malignancy possible with this disease .

Methods of prevention and treatment of pathological changes in tissues and of oral organs associated with the presence of dentures Allergy:

1. timely remove all oral lesions at dozritelnye to chronic infection.
2 In the newly prostheses eliminate sherohova toast and if injure labial fold, the edge of the prosthesis zu.
7. Eliminate the deficiencies in occlusal vzaimootno sheniyah artificial teeth.
8. Avoid relocation of the prosthesis in the oral cavity.
9. Provide for manufacturing the prosthesis of colorless hydrochloric plastic or metal base.
10. Partial removable laminar dentures WHO Moznosti should be replaced by an arc. Correctly in the required time to carry out the polymerization steps of plas tmassy in the manufacture of the plate removable prosthesis.

Parasthesia:

6. Eliminate oral lesions chronic infectious tion.
7. Eliminate the roughness in the dentures.
8. Eliminate deficiencies in occlusal vzaimootno sheniyah artificial teeth.
9. Avoid relocation of the prosthesis in the oral cavity.

When the manifestation of parastezii from just the imposition of the prosthesis need to be re-polymerized tion

dentures with a titanium base helps to eliminate the "greenhouse effect", to reduce the contact of the basis of acrylic plastics with the prosthetic bed. Of great importance is the constant follow-up of patients suffering from leukoplakia, with the aim of early diagnosis of malignancy possible with this disease .

Methods of prevention and treatment of pathological changes in tissues and of oral organs associated with the presence of dentures Allergy:

1. timely remove all oral lesions at dozritelnye to chronic infection.
2 In the newly prostheses eliminate sherohova toast and if injure labial fold, the edge of the prosthesis zu.
3.Ustranit deficiencies in occlusal vzaimootno sheniyah artificial teeth.
4. Avoid relocation of the prosthesis in the oral cavity.
5.Predusmatrivat fabrication of prosthesis colorless hydrochloric plastic or metal base.
6.Chastichny removable laminar dentures WHO Moznosti should be replaced by an arc. Correctly in the required time to carry out the polymerization steps of plas tmassy in the manufacture of the plate removable prosthesis.

Parasthesia:

1.Ustranit oral lesions chronic infectious tion.
2. Eliminate roughness in dentures.
3. Address deficiencies in occlusal vzaimootno sheniyah artificial teeth.
4. Avoid relocation of the prosthesis in the oral cavity.

When the manifestation of parastezii from just the imposition of the prosthesis need to be re-polymerized tion. Production prosthesis of colorless plastic IU with the metallic basis with partial prosthesis on removable plate possibility NOSTA be replaced by arc.

Galvanism: Remove from the mouth all the metal inclusions, metal fillings replaced with someone pozitnye and dentures made of homogeneous alloy. Perform skin tests with metal alloys in order to identify the most suitable for the patient. Bridge prostheses in such cases must be made in one piece. A general desensitizing treatment of the body is carried out.

Test questions:

1.Etiologiya, pathogenesis, clinical manifestations, diagnosis, pro galaxies, intolerance of dentures.
2 .. The etiology, pathogenesis, clinical manifestations, diagnosis pareste sion.
3. Etiology, pathogenesis, clinic, diagnosis of the phenomena of galvanism.
4. Oncological alertness when using prostheses.

Practical lesson-33

Topic: Differentiation of the symptoms of galvanism. Differential diagnosis of changes arising due to general diseases of the body and use for orthopedic treatment of basic materials. Prevention and treatment methods.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.

	4. Summing up the topic 5. Assessment of actively participating students.	
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

Diseases caused by metal cal inclusions in the oral cavity

1. Etiology

I) formation of a galvanic cell

a) due to the difference in electrode potential of various metals in the alloy;

b) due to the different composition of the same alloy metal fishing;

a *)* forming a galvanic cell due to various Nogo identical alloy structural state IU thallium;

II) toxic effects "heavy" metals and micro element deficiencies (Cu, Co, Cr, etc.).

2. Pathogenesis

a) dissolution of metal with a negatively charged nym potential;

b) an electric current, whose value th depends on the potential difference and chemical activity metallicheskihvklyucheny saliva;

c) trace elements significantly inhibit transaminase activated acidic and alkaline phosphatase, for crumbling the regulation of glycolysis and tissue respiration;

g) disrupted activity of proteolytic enzymes and their inhibitors - nonmetals, which leads to time vitiyu inflammatory reactions, tissue destruction and disruption of blood circulation;

e) violation of energy metabolism and lipid peroxidation in the blood /

3. Clinic

a) galvanosis;

b) toxic stomatitis;

c) allergic reactions to metal inclusions;

d) exacerbation of somatic diseases;

4. Diagnostics

■ Clinical methods:

a) poll (identifying specific complaints and collecting anamniotes for);

b) examination (mucous membrane and organs of the oral cavity);

c) assessment of the quality and correctness of the designs of dentures;

g) a clinical blood test;

e) sample with exposure;

f) provocative test;

g) patch test.

■ Paraclinical methods:

a) chemical spectral analysis of the oral fluid

b) determining the pH of saliva;

c) determination of the potential difference of metallic inclusions;

g) a hygienic assessment of prostheses and the condition of the oral cavity;

e) scarification film test;
e) epimucous tests;
g) leukopenic test; platelet test; i) determination of the activity of saliva enzymes;

j) immunological tests;
k) determination of the nature of the microbial flora
m) the selection of organism sensitivity to structural nym materials:
■ according to R. Foll;
■ using pulsed-hard fashion an isolated field.
m) determination of indicators of energy metabolism in
blood (lactic acid and uric acid);
o) determination of lipid peroxidation indices in blood and saliva;

5. Methods of orthopedic treatment

■ **Elimination therapy;**
■ **Rational prosthetics selected from different metallic alloys:**

a) the exclusion of dissimilar metals in the construct of dentures;
b) rejection of stamped-brazed structures;
c) Careful adherence to technologies made by dentures;
d) polishing of metal parts of prostheses according to GOST;
d) timely replacement of dentures. **6 . Possible errors**
Orthopedic whom treatment

a) non-rational design dental prostheses, with metal-containing inclusions;
b) orthopedic treatment against the background of inflammatory phenomena or diseases of the oral mucosa;
a *)* disorders of manufacturing techniques dental Prote call;
d) the patient is not explained the rules for caring for dental dentures

7. Possible complications Orthopedics Cesky treatment

a) formation of a galvanic couple resulting uc use or soldering of dissimilar metals of the prosthesis;
b) relapse of the disease due to incomplete replacement of all metallic inclusions in the oral cavity;
c) relapse of allergic reactions to metal inclusions;

8. Rehabilitation and preventive measures

e) compliance with hygienic rules for the care of dentures;
i) timely replacement of dentures.

In the presence of metallic impurities in the mouth cart are possible are three main types of pathological vozdeys tviya on the human body: Chemical-toxic, electrogalvanic (plating damaging effect of current) and allergic.

Intolerance elektrogal -ethnic nature - of pathologists her symptom complex. It is expressed by the following signs: metallic taste; the taste of salt, and acid (especially after eating acidic foods); paresthesia of the oral mucosa, glossodynia, glossalgia, hypo- or hypersalivation, the sensation of "current flow" when metal objects are introduced into the mouth, inflammation of the oral mucosa, and hyperkeratosis in the form of red flat or leukoplakia, violation (perversion) of taste sensitivity.

Patients notice subjective sensations after 1 - 2 months after prosthetics with metal prostheses, or after repeated orthopedic treatment with the addition of a new prosthesis.

Diagnostics. Patients with complaints of YaV Lenie galvanosis primarily determined electro cal characteristics of electrochemical processes between dissimilar metals. Along with clinically mi methods of examination of particular importance priobre melt special methods: measurement values of potency als oral metallic inclusions; measuring the current between metal dentures, determining the pH of saliva; determining quality with stava and quantitative content of microelements saliva as an indicator of the severity elektrohimiches FIR reactions.

Instruments which use for measuring various parameters of the electrochemical cell of Lost mouth are: a laboratory pH meter-millivol-tmetr, microammeter, biopotentsiometr 03 BPM.

A norm accepted indicators of micro-WHO arising, between the golden bridges in healthy individuals; they range from 1 to 3 μA (up to 50 mV). With galvanosis, the current strength increases. In some cases, a marked improvement in the fusion Zist envelope was observed after removal of n Lost mouth metallic inclusions with high (more than 100 mV) potential.

Skin tests for nickel, chromium, cobalt with galvanosis are negative.

The determination of the presence of trace elements in mica is carried out by the method of spectral analysis. Using a quartz spectrograph ISP-28.

Chemical toxic stomatitis when exposed to metals

Etiology. This disease is caused by the action of "heavy" metals entering saliva as a result of electrochemical processes between metal prostheses.

To detect the toxic effect of metals in the oral cavity requires their contact with the mucous hull Kami, wherein the metals are bound sobolochkami cells intimal capillary breaking last permeability. Violation permeability leads to redistribution NIJ metal, its penetration into the cytoplasm.

Metals, metal leachable from Prote call as a result of electrochemical reactions (metal corrosion), also interact with various organs cal molecules, particularly enzymes. When this blocking occurs functionally active GOVERNMENTAL groups of proteins, enzymes, and metals have a STI which stimulates the or inhibitory effect on them.

Patients complain of burning tongue, taste acid, hypersalivation (less dry), the phenomenon pas restezii, breach of the general status of the nerve, zhelu zling-intestinal lesions. The severity of burning tongue is different in different patients, it depends on the amount of metal prostheses in the mouth, Constant Nosta their use. Patients complain gipersa livatsiyu that occurs after 1-7 days after the fixing bridges of stainless steel and gold 900-th sample.

Diagnostics. Patients with toxic D shares on metal prostheses were found to dramatically shift the mineral composition of the saliva compared to the norm. The content of iron, nickel, copper, silver, and chromium sharply increases.

Trace elements entering saliva from metal prostheses are swallowed, absorbed through the gastrointestinal tract and enter the liver depot, while exacerbation of liver diseases, gastritis, and peptic ulcer are noted.

Metal dentures have Inga-biruyuschee influence on the content of pepsinogen in zhelu zling juice. In diseases of the gastrointestinal tract and toxic stomatitis in gastric juice, kro vi significantly increased content of manganese, copper, lead, nickel, in the urine - iron, copper.

When toxic stomatitis on metal prostheses of leukocytes (leukocytosis) is changed in the blood, erythrocytes (erythropenia) increases Xia erythrocyte sedimentation rate. Pronounced measurable neniya biochemical parameters observed in the saliva. Increased activity of alkaline phosphatase, kitty loi, alkaline proteinase activity decreases lactate dehydrogenase and transaminase. Protein in saliva is increased.

Allergies to metal about theses. Allergens that cause allergic D action on the metal, are haptens nickel, chromium, cobalt, et al., Acquire properties of allergens as a result of conjugation with proteins. Ingestion of an antigen causes its sensitization.

Sensitization - it is mediated immunologically Bathing increase the body's sensitivity to allergens us (antigens) of exogenous and endogenous origin. Al lerga includes not only an increase in sensitivity to any antigen, but also the realization of an increased sensitivity of the allergic reaction.

In patients with an allergy to metals, there is a burning sensation of the mucous membranes and tongue and their swelling, dry mouth. Objectively: diffuse hyperemia of all mucous membranes of the oral cavity, on which erosion is often observed ; swelling of the mucous membranes of the lips, cheeks, tongue; pe- tehialnye hemorrhage on the mucous membrane of the soft palate, stringy or foamy saliva. Allergic stomatitis may be accompanied by functional disorders E of the nervous system: irritability, insomnia, emotional lability, Cancer ' phobia prosopalgia, exacerbation of chronic ho, " letsistitov, gastritis, colitis.

Diagnostics. Diagnosis of allergic hypersensitivity to the constituent parts of the body of metal dentures much more difficult to. This is due to the fact that elimination tests (introduction) and exposure (removal) prostheses can not perform camping t. K. Non-removable dentures are removed only with their destruction.

Performed following epicutaneous epikutannye (intraoral) allergological tests: drops nye, skarifikatsionnye and compression.

A clinical blood test reveals leukopenia, lymphocytosis, and a decrease in the number of segmented leukocytes.

Intolerance of plastic dentures

1. Etiology:

a) mechanical injury;
b) The effect of bacterial plaque on the prosthesis;
c) Allergic and toxic-chemical effects of substances included in prostheses;
d) Non-physiological conditions under dentures; e) diseases of the internal organs;
e) Psychogenic factors.

2. Pathogenesis:

a) Acute and chronic inflammation of the tissues of the prosthetic bed and organs of the oral cavity;
b) Toxic and allergic reactions caused by vital products of microorganisms;
c) The cytotoxic effect of the monomer as a protoplasm of the toxic poison;
d) Allergic reactions of immediate and sustained first type;
e) Violation of the processes of heat transfer and self-cleaning of the oral cavity;
f) When prosthetics with full removable dentures, the effect of negative pressure on the receptors prosthetic bed and stasis of saliva when closing blind openings in the sky;
g) Violation of homeostasis in the body:
- Immunity violation;
- Violation of hormonal metabolism;
- Endotoxicosis;

i) Mental disorders:

Clinic:

a) Prosthetic stomatitis:
- Traumatic stomatitis;
- Toxic stomatitis;
- Allergic contact stomatitis;
- Candidiasis stomatitis;

b) Allergic reactions of an immediate type;
c) Exacerbation of somatic diseases;
d) Neuroses and neurosis-like conditions;

e) Dermatoses;

4. Diagnostics:

■ **Clinical methods:**

a) poll (identifying specific complaints and collecting anamniotes for);
b) examination (mucous membrane and organs of the oral cavity);
c) assessment of the quality and correctness of the designs of dentures;
g) a clinical blood test;
e) sample with exposure;
f) provocative test;

■ **Paraclinical methods:**

a) Determination of the level of residual monomer in the bases of prostheses (gas chromatography, etc.)
b) Determination of pH of saliva;
c) Determination of pain sensitivity of the mucous membrane under the prosthesis;
g) Hygienic assessment of prostheses and the condition of the oral cavity,
d) Epimucous tests;
e) Leukopenic test;
g) platelet test;
i) immunological tests;
j) determination of the nature of the microbial flora:

■ scraping from the tongue;
■ scraping from the base of the prosthesis;
■ scraping from the mucous membranes;

f) Selection of the organism sensitivity to structural nym materials:

■ according to R. Foll;
■ using pulsed-hard fashion an isolated fields;
m) the surface of the test chemical metallization acrylic Vågå prosthesis:
■ silvering; ■ palladium;
■ gilding;
m) Determination of the activity of saliva enzymes;

5. Methods of orthopedic treatment

■ Elimination therapy;
■ Rational prosthetics from selected structural materials;
■ Use of soft elastic linings;
■ Careful observance of technologies about dental tezirovaniya using plastics;

6. Possible faults Orthopedic whom treatment:

■ Carrying orthopedic treatment without the elimi nation of old dentures;
■ holding dentures in the presence of general physical diseases under an exacerbation of rhenium;
■ holding orthopedic treatment with Nali PIR mucosal inflammation prosthetic bed or exacerbation of chronic diseases of the oral mucosa;
■ Production of new designs of dentures without a selection of construction mate rials;

7. Possible complications of orthopedic treatment:

■ Relapse of intolerance to structural materials;

- Dysbiosis of the oral cavity;
- Development (exacerbation) of diseases of the mucous membranes of the oral cavity;

8. Rehabilitation and preventive measures:

a) rational nutrition of the patient

b) Treatment of somatic diseases and sanitation of foci of chronic infection;

c) Teaching patients the hygienic rules for the care of dentures and the oral cavity, as well as the proper storage of prostheses;

d) Clinical observation of patients at least 2 times a year;

d) the use of adhesive means to improve adaptation to removable dentures;

f) Timely replacement of old dentures

Chemically-toxic stomatitis occurs due to the toxic effect of monomer of acrylic resin when it is in excess of baseline pro thesis. Last possible when tackle polymerization mode or reline bys trotverdeyuschimi plastics when not observing are measures neutralizing monomer is flagged to the mucosa (washing soda sol rum), followed by polymerization in the water by a pressurized limerizatore.

The clinical picture of acute toxic hundred MATIT occurs under the action of high monomer concentration, penetrating through upper respiratory pathways or integuments. This happens when deeply compromised by dental technicians.

Toxic reaction on acrylic denture fuss repents in the event of a polymerization mode when the monomer confinement significantly increased. At the same time VIVA rapid and pronounced manifestation intok sikatsii. After 1 - 7 days after the application of removable prostheses, there is a strong burning sensation of the mucous membranes of the mouth under the prosthesis, burning of the lips. Removal of the prosthesis zna considerably reduces these feelings or they disappear entirely. Patients complain of dry, sometimes hyper salivation. Pronounced neurological disorders: th Karlovna pain, sleep disturbance; dyspeptic disorders of the gastrointestinal tract are possible .

When viewed from the oral cavity indicated hyperemia and edema of the mucous membranes under clearly defined about tezom, most of the upper jaw; dryness of all mucous membranes of the mouth, sometimes only under removable dentures. The tongue is hyperemic, dry. Papillae of the tongue are smoothed, atrophied. It is believed that the toxins disrupt the function of the parasympathetic nerves, as well as salivary tissue climb, which leads to a change in an exchange of histamine and CE rotonina, potassium, protein, resulting in the hypo-salivation. With hypersalivation of these metabolic changes

do not celebrate.

Diagnostics. The monomer is a potent toxin and after *2* hours of wearing acrylic pro thesis marked a change in the pattern of blood: white blood cell TOZ, reducing the number of red blood cells, increased erythrocyte sedimentation rate. Clinically, wherein the phenomena of anemia: burning mucous hull ki beneath the prosthesis, malaise, fatigue, drowsy ness et al.

Plastic prostheses are electroneutral in nature, therefore, there are no active electrochemical processes. Microcells saliva zhelu zling juice and blood is not changed without changing the protein saliva and mucosal enzyme activity.

Allergic stomatitis when using Prote s observed in individuals who use prostheses, as well as work with the material from which the prosthesis izgo tovleny. These materials do not have a protein nature; therefore, they cannot be antigens, but they acquire these properties when the hopten mechanism is combined with the proteins of the body tissues. Allergic reactions when using prostheses have been known for a very long time. Quincke's edema, urticaria and stomatitis were observed even when rubber was used as the base material for prosthetics. The increase in reactive allergic manifestations was noted in connection with the widespread use of acrylic plastics as a base material. Perhaps a certain role is played by additives in the form of dyes, fillers, etc.

The clinical picture. By the nature manifestations of allergic reactions can be isolated contact allergy, manifested in places with a touch baseline prosthesis with the tissues of the oral cavity (orthopedic bed) and allergic reaction from the other systems.

In allergic stomatitis on acrylic plast tmassu patients complain made difficult or impossible nennoe use of removable dentures because of the constant burning sensation in the mucous about span of prosthetic bed. Burning sensation over expression Genoux in the maxilla than the bottom, due, apparently, to buffer properties mucosal about span of the prosthetic field maxilla. Sometimes adjunction unifying burning tongue, mucous membranes alveo polar processes, cheeks, lips. Patients complain of dry mouth. The saliva is viscous, "foamy", "sticky" (ptyalism). Sialoschesis difficult to use a prosthesis and usu gublyaet clinical picture of an allergic condition. Removing the prosthesis, as a rule, eliminates subjective sensations. Often subjective sensations prevail over the objective picture of the disease.

A characteristic complaint of patients is swelling of the mucous membranes of the cheeks, tongue, lips, soft palate and pharynx. Vsleds tvie edema, difficulty in swallowing, sometimes, the language does not mind schaetsya mouth, "prevents" sick bitten cheek, tongue.

Toxic (bacterial) stomatitis is caused by bacterial toxins origin. The latter appear at low thrust hyena and poor oral care prostheses with DURATION NOM use of dentures, over 3 years. at the same time, conditions for the growth of microflora are created in the oral cavity. It not only increases quantitatively, and its qualitative composition changes - the number of fungal microorganisms in the oral cavity increases. Bacterial toxins are products zhiznede yours elf bacteria, and their death.

Traumatic prosthetic hundred Matit occurs when non-compliance of the base prosthesis prosthetic bed, clasp denture borders. Kleene ka can be very diverse. In mild degree or injury develops catarrh. In SLE tea production of the prosthesis with a considerably extended the boundaries of transitional fold bedsores occur-tions ulcers with bleeding and swollen edges down. Ulcers are painful and are one of the reasons for patients to refuse to use the prosthesis. Acute dekubitalnye sores disappear quickly after adjustment edges of the prosthesis, in the pro Otherwise ulcers become chronic. Around her there is hyperplasia of the epithelium. Sometimes in the form lepes tkov covering the ulcer. The bottom of the ulcer can be clean, bleeding. Sometimes covered with fibrinous plaque. In the study of biopsy material discovered INDICATES with symptoms of chronic inflammation giperke ratoza submersible and epithelium growth. After the elimination of injury ulcer heals quickly, leaving py Betz, deforming labial fold and impede conductive in the subsequent creation of the closing valve.

Which is broken these negative moments comrade impact plastic removable prosthesis to another subject mucosal side effects it is a so-called **"greenhouse effect".** Fights in violation of the thermoregulation of the mucous membrane of the prosthetic bed. The mechanism behind this phenomenon consists in the following. The base materials of the acrylic series have low thermal conductivity. For this reason, a higher temperature is established under the prosthesis than in the oral cavity, close to the temperature of the human body. A thermostat appears, in which conditions are created for the reproduction of bacterial and fungal microflora. Toxins released by bacteria cause inflammation of the mucous membrane. The clinical effect is manifested by diffuse or focal hyperemia (toxic bacterial stomatitis). If the "greenhouse" effect being layered PLO Khoi care of dentures and oral mucosa is about span of prosthetic bed falls into the more the adverse pleasant conditions.

The greenhouse effect is associated with the physical properties of the prosthesis material. The fight against them must be in the selection of basic materials, having guides a high thermal conductivity. Safe in this respect, bases or metal alloy prosthesis with a titanium basis, manufactured by sverhplas cal molding. Since their use contraindicated, should seek ways to reduce this effect when using plastic prosthesis mi. To do this, reduce the base area, using a denture day, oral hygiene, use hygienic rinsing, about to drive preventive hygiene dentures at least 2 times a year.

Allergic stomatitis on metal prostheses should be differentiated from glossalgia ventricular but intestinal origin, candidiasis, endocrine disease, climacteric symptoms

bolez no blood, chronic diseases of mucous Obolo check (planus, leukoplakia), bone syndrome, galvanosis.

With glossalgia of the gastrointestinal genesis, burning of the tongue, as a rule, takes place during meals. For the first time, patients associate burning sensation or the appearance of burning with exacerbations of the gastrointestinal tract. When allergic to metal prostheses, burning is constant, increases in the evening, at night, appears after 10-15 years of wearing a metal prosthesis. A spectral analysis of saliva in allergies reveals a change in the qualitative composition (lead, tin, titanium, etc.) and the quantitative content of haptens of nickel, cobalt, and chromium. With allergies, always positive skin scarification and film tests, and with galvanosis, most often negative. With galvanosis , the blood picture is not changed .

Symptom burning without a visible change If Zist shell is not a typical allergiches whom the disease. It occurs more often in women ne IRS menopause. In such cases, the allergy tests are negative, and the use of other prosthetic materials, such that will not have an effect.

Symptoms similar to allergies occur in other pathological conditions, as, for example, with vitamin deficiencies.

Sense "burning sensation in the oral cavity" can occur in diabetes mellitus, anemias, particularly pernicious, atherosclerosis lingual artery, intoxications, such as heavy metal salts, gastrointestinal diseases and others. Thus, in diseases of the cardiovascular system we oral tissues disturbed microcirculation , redox reactions are reduced, hypoxia phenomena develop, metabolic products accumulate in the tissues. Patients subjectively We mention chayut burning sensation, paresthesia effects, pressure, fullness mucosa. Swelling of the entire mucous membrane of the prosthetic bed is characteristic. Often, by the sword burning tongue combined with atrophy Nita prominent papillae and thinning of the epithelial tongue.

In patients with gastric ulcer and dvenad tsatiperstnoy intestine in chronic zabole Bani often celebrated sialoschesis that promotes intolerance of dentures.

In diseases of the gastrointestinal tract, the following complaints are most characteristic: burning, paresthesia of the mucous membrane, especially the tongue, hyper- and hyposalivation. In Crohn's disease (chronic stenotic ulcerative ileitis) aphthae are found on the mucous membrane of the oral cavity, which can scar deeply; sometimes fibrinoid swelling of the vascular walls develops, up to necrosis. With iron deficiency anemia , trophic disorders of the oral mucosa develop, patients complain of distortion of BKV sensitivity, paresthesia and dry oral mucosa.

Diabetic patients have been complaints of dry mouth, decreased palatability sensitivity Nost, the rapid development of ulcers in dekubitalnyh injuries tion prosthesis.

Thyrotoxicosis detected slizis burning of the shell, reducing taste sensitivity glossitis.

One of the symptoms of intolerance acrylates - dry mucosa prosthetic bed: may be observed in myxedema, nedostatochnos minute gonads, in infectious diseases s, medication use, depressing the function of the parasympathetic nervous system, CNS depression, xerostomia and other syndromes.

CANDIDIASIS

1. Etiology

The presence of fungi of the genus *Candida* in the form of blastospores and hyphae as the resident microflora in persons using schihsya fixed and removable dental prostheses designs at:

a) violations of oral hygiene and dentures;

b) the development of an acidic environment (pH 5.8 ~ 6.5) with inflammation of the mucous membranes and gums;

c) violations of local and general immunity;

d) the presence of retention points in dentures (pores, shells, etc.),

e) aging of plastics;

e) poor oral hygiene and the presence of prostheses made of plastics or dissimilar metal alloys;

g) taking antibiotics;

2. Pathogenesis

a) zndotoksikoz (effects on organs and tissues of the oral cavity metabolic products of the fungus genus *Candi da):*

- in an acidic medium to pass fungi parasitizing moiety form buds, releasing enzymes break down proteins, carbohydrates, fats, keratin;
- plastic (in bases prostheses accumulated organic acids, $C0_2$; pigments compounded Laa polymers aging processes).

b) an allergic reaction in slow motion on the kind of fungus cells *of Candida* (act as a hapten (al lerga))

c) oral dysbiosis;

3. Clinic

a) Candidiasis stomatitis (thrush);

b) Exacerbation of somatic diseases;

c) The appearance of concomitant diseases of the organs of the oral tissues

4. Diagnostics

- **Clinical methods:**

a) poll (identifying specific complaints and collecting anamniotes for);

b) examination (mucous membrane and organs of the oral cavity);

c) assessment of the quality and correctness of the designs of dentures;

g) a clinical blood test;

d) sample with exposure.

- **Paraclinical methods:**

a) determination of the level of residual monomer in the bases of prostheses (gas chromatography, etc.);

b) determining the pH of saliva;

c) determination of pain sensitivity of the mucous membrane under the prosthesis;

g) hygienic assessment of prostheses and the condition of the oral cavity

e) epimucous tests;

e) leukopenic test;

g) platelet test;

i) immunological tests;

j) determination of the nature of the microbial flora:

- scraping from the tongue;
- scraping from the base of the prosthesis;
- scraping from the mucous membranes.

l) the selection of organism sensitivity to structural nym materials:

- according to R. Foll;
- using pulsed hard - mo dulirovannyh fields

m) In the presence of metallic inclusions - measurement of potentials of the oral cavity

m) Determination of the activity of saliva enzymes;

o) other.

5. Methods of orthopedic treatment

- Comprehensive treatment: medication and orthopyroxene valid in law;
- Elimination therapy;
- Rational prosthetics from selected structural materials (if possible:

a) the use of plastic "Bakril" and silver-palladium alloy);
b) the use of solid structures and prostheses with a fused metal base;
c) the use of the method of electropolishing metal iCal parts.

6. Possible faults Orthopedic whom treatment

- Prosthetic treatment without elimination of old prostheses;
- Dental prosthetics in the presence of general somatic diseases in the acute stage;
- holding prosthetic treatment in the presence of mucosal inflammation prosthetic bed, or exacerbation of chronic galvanosis zabole vany oral mucosa;
- Production of stamped and brazed stainless steel structures;
- Other.

7. **Possible complications Orthopedics Cesky treatment**

- Relapse of candidiasis;
- Dysbiosis of the oral cavity;
- Development (exacerbation) of diseases of the mucous membranes of the oral cavity;
- Other.

8. Rehabilitation and preventive measures

a) Careful observance dental technology Prote "Bakr" zirovaniya silver-palladium alloy;
b) Treatment of somatic diseases and sanitation of foci of chronic infection;
c) Teaching patients the hygienic rules for caring for dentures and the oral cavity, as well as the proper storage of prostheses;
d) The use of hygiene tablets in the care of removable dentures;
e) Timely replacement of old dentures;
e) Good nutrition in patients with low contain zhaniem carbohydrates;
g) Clinical observation of patients at least 2 times a year.

Test questions:

1.Patologicheskie condition caused by metallic E dentures. Clinic, diagnostics, about prophylaxis.
2..Patologicheskie condition caused by plastic mi dentures. Clinic, diagnostics, about prophylaxis.
3.Differentsialnaya slizis lesion diagnosis of the membranes of the mouth of the base materials and manifestations of common diseases in the oral cavity.

Practice Lesson 34

Subject: Diagnostic, de a ntologicheskie and technological errors allowed by the dentist. Complications during and after treatment.

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class 3. Attendance check	Listen

Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

6. Possible faults Orthopedic whom treatment

- Prosthetic treatment without elimination of old prostheses;
- Dental prosthetics in the presence of general somatic diseases in the acute stage;
- holding prosthetic treatment in the presence of mucosal inflammation prosthetic bed, or exacerbation of chronic galvanosis zabole vany oral mucosa;
- Production of stamped and brazed stainless steel structures;
- Other.

7. **Possible complications Orthopedics Cesky treatment**

- Relapse of candidiasis;
- Dysbiosis of the oral cavity;
- Development (exacerbation) of diseases of the mucous membranes of the oral cavity;
- Other.

8. Rehabilitation and preventive measures

a) Careful observance dental technology Prote "Bakr" zirovaniya silver-palladium alloy;
b) Treatment of somatic diseases and sanitation of foci of chronic infection;
c) Teaching patients the hygienic rules for caring for dentures and the oral cavity, as well as the proper storage of prostheses;
d) The use of hygiene tablets in the care of removable dentures;

e) Timely replacement of old dentures;
e) Good nutrition in patients with low contain zhaniem carbohydrates;
g) Clinical observation of patients at least 2 times a year.

5. Methods of orthopedic treatment

■ **Elimination therapy;**

■ **Rational prosthetics selected from different metallic alloys:**

a) the exclusion of dissimilar metals in the construct of dentures;
b) rejection of stamped-brazed structures;
c) Careful adherence to technologies made by dentures;
d) polishing of metal parts of prostheses according to GOST;
d) timely replacement of dentures. **6 . Possible errors**

Orthopedic whom treatment

a) non-rational design dental prostheses, with metal-containing inclusions;
b) orthopedic treatment against the background of inflammatory phenomena or diseases of the oral mucosa;
a *)* disorders of manufacturing techniques dental Prote call;
d) the patient is not explained the rules for caring for dental dentures

7. Possible complications Orthopedics Cesky treatment

a) formation of a galvanic couple resulting uc use or soldering of dissimilar metals of the prosthesis;
b) relapse of the disease due to incomplete replacement of all metallic inclusions in the oral cavity;
c) relapse of allergic reactions to metal inclusions;

8. Rehabilitation and preventive measures

e) compliance with hygienic rules for the care of dentures;
i) timely replacement of dentures.

Test questions:

1. Errors of orthopedic treatment.
2. Complications of orthopedic treatment.

Practice lesson-35

Topic: Aesthetics in orthopedic dentistry. Compliance with the requirement of aesthetics of dental prosthesis designs. Anthropometric rules create the body of the jaw .

Stages and time of work	**Teacher Responsibilities**	**Student Responsibilities**
Training (5 minutes)	1. Preparing the audience. 2. Analysis of student preparation for class	Listen

	3. Attendance check	
Introduction to the topic (10 minutes)	1. Preparation of the educational complex on this topic. 2. Preparing slides for the lesson. 3. References on this subject. **Main literature:** 1. Danilevsky NF, Magid, Mukhin "Periodontal Diseases" 1993 2. V.N. Kopeikin M.Z. Mirgazizov Orthopedic Dentistry 2001 3. A.S. Shebbakov E.I. Gavrilov "Orthopedic Dentistry" 1998 **Additional literature:** 1. Lebedenko I.Yu. "Guide to practical training in orthopedic dentistry"	Listen and record
Main part (105 minutes)	1. Divide the group and ask questions. 2. Use visual aid 3. Use slides, multimedia 4. Summing up the topic 5. Assessment of actively participating students.	The division of the group into 2 subgroups: 1 group listens, 2 group - participates. Each student expresses his opinion.
Stage 3 (110 minutes)	1. Explain to students the topic of clinical studies.	The student independently performs.
Final part (10 minutes)	1. Summary 2. Set up an independent work 3. Set homework	Listen Write down Write down

Text of the lesson:

In the literature and in common usage among physicians orthopaedists, dentists found the terms "Este tick" and "cosmetics", indicating the property artific governmental prostheses. What is right? Literally, cosmetics *means the art of* decorating. Medical cosmetics (decorative) hides or makes less visible mi appearance defects. The word "aesthetics" is translated from Greek as "feeling, sensual."

In a broad sense, aesthetics - *is* a philosophical science of the general principles of the laws of creativity Polis you. Medical aesthetics CLM dimension human body composition, spatial hydrochloric organization body parts, their proportionality alone and dynamics, color harmony, questions symmetry aging changes and so on. A

Section of Medical Aesthetics, especially in op topedicheskoy dentistry, is the theory hudozhes Twain modeling. This applies to all types of prostheses.

For aesthetic categories are: simplicity, clarity, directness, the number, diversity, integrity, with vershenstvo, color, proportion, value. Universal E signs of beauty is considered a measure, harmony, about the portion of symmetry.

Quantitative methods in medical es tetike are: anthropometric, biometric, telerentgenograficheskу. The prosthetic stomatitis nology subject of study is a human face. Ar hitektonika human person depends on the following mo ments:

1) the height of the face (elongated, medium, shortened type);
2) the orientation of the jaws in space;
3) the angle of the lower jaw.

II . There are three types of faces, depending on the structure of the dentition. Allocate syndrome udli nennogo face. Patients of *Group height* person enlarged deployed mandible angle is increased the angle between the base jaw and the base alternation na. The relationship of the dentition can be just personal. The free interocclusal space is minimal or equal to zero.

The second group of people is the syndrome reviled chennogo face. Height faces are reduced to an angle clone mandible approaching 90 °, the jaws of the skull base and the base are parallel. The free interocclusal distance is 6 mm or more.

The third group consists of patients with correct nym person. All anthropometric and tele-roentgenographic data are average.

Williams (1913) established 4 face shapes: '1) a square face;

2) a triangular face;

3) an oval face;

) Ovoid face (wider dimensions of a $_{G}$la

s).

The shape of a person's face has a direct connection with the shape of his teeth. The shape of the teeth can be rectangular, wedge-shaped, oval. The straight line of the shapes is characterized in that the height of the crown exceeds its width, the contact surfaces are parallel. The triangular shape - the narrow neck of the tooth, convergence con tact surfaces. Oval shape is found in 66.9% of women, (Fig. 47)

Teeth play an important role in facial beauty. Pos Kolka they are the support lip, even in the rest *of the* positions of the teeth and their relationship depends tone, and the lips relative position profile. They may look tense or freely-resting, protruding or sinking. All this is reflected in the expression on *his* face, *his*

individual beauty.

Further increases their value when the dynamical equilibrium is the face during conversation, smiles and CME ha. Exposing the dentition and the teeth themselves with their signs actively shape the face, complementing the facial harmony, or destroying it. Their color, shape, size, position, shape, integrity, mutual location with of a dentition with respect to the free edges of the lips and other parts of the face, the proportionality between them, the whole person, and more form the beauty of a smile.

||| smile components:

1 Correspondence of the general size of a person’s teeth to its constitutional type and general head size. Usually for tall people adynamic type characterized thorns are long and narrow rectangular

teeth; to Nor-mostenika - any form of teeth with a slight predominance of height over width, for hypersthene-nick - large teeth, often with signs ovalnos minute.

2. Correspondence of the shape of the upper incisors with the shape of the face.

3. The width of the mouth at rest and smile.

If the distance at rest between the corners of the mouth Men Chez distance between the pupil, the width of the mouth is considered normal, and when smiling mouth corners are located on the same vertical line with the pupil.

In prosthetics patient must take into TYVA visibility exposes the teeth at a smile (line smile) (Fig. 55). In a broad smile may view us clasps on premolars and molars and Solid bridges in the sides of the dentition.

4. Symmetry of a smile.

5. Match width of the upper front teeth shi Rina mouth.

6. The degree of exposure of the front teeth.

Normally, the lower teeth are exposed no more than Y $_{3\,of}$ their height. The upper teeth are exposed differently. Su exists teeth 4 degrees exposure at a smile:

1) the crowns of the upper central incisors are exposed within the cutting third;

2) the crowns of these teeth are exposed within the middle third;

3) the teeth are exposed within the cervical third;

4) exposing the alveolar ridge (gingival SMILE more).

Degree of exposure of the teeth affects the aesthetics of the pro tezirovaniya. Selection prosthesis fixation, setting ne Independent user artificial teeth in the denture defined wish to set up the degree of exposure of the front teeth. For example, at the end of bilateral prosthetic defects upper dentition limited canines for ho roshey aesthetics fixation of the prosthesis should be carried out via interlocking, telescoping clamps or using implants.

7. The ratio of the upper dentition to the edge of the lower lip. The most beautiful is a relation of when dentition repeats bending of the lower lip.

8. The uniformity of exposure of the upper teeth from one corner of the mouth to another.

9. The line passing between the upper and lower price tral incisors, should coincide with estetiches kim center of the face.

10. Correct spatial arrangement of parts of the face. Matching widths of 4 superior incisors with interorbital width.

11. The width of the nose in women corresponds to the distance between the tubercles of the canines, and in men - the entire width b of the upper front teeth.

12. The width equal to the width filtrum two upper cent eral incisors.

13. Axial tilt of the front teeth. BEST ESTHETE cal effect is observed when the convergence angle of 5 ° for the upper incisors.

It is of great importance in the formation of holes mal smiles parallel occlusal pover ited dentition.

The occlusal plane is normal with closed lips located at the level of the cut of the lips.

IV. Means of expression in the medical aesthetics - the color, shape, compositional balance those've mask, the shape of the teeth.

The color of artificial teeth and crowns should not differ from natural ones. Color problem ordeal governmental crowns now resolved Prima neniem porcelain, metal-ceramic and metal-loplastmassovyh crowns and bridges. Ability tinting crowns during firing or during polymerization makes it possible to accurately repro product of the color of the adjacent teeth. Teeth color picks Xia using colors and under certain conditions: ^) must have local illumination color tempo rature 5000 ° K;

2) patients should be dressed in calm tones;

3) a bib and artificial lighting are not used;

4) moistened coloring is applied to the tooth at a right angle, at arm's length.

Selection of colors of artificial teeth in patients with complete loss of teeth is carried out in accordance with his age and skin color, in women using braid metikoy - with colors faces.

Modeling the shape and size of temptation governmental fixed prosthesis is not too difficult if there are a hundred teeth opposite the Rhone jaw. However, the absence of all front teeth, the presence of diastema and three, abnormalities in the development of the jaws, etc. make this process difficult. To achieve ho roshey aesthetics with the patient discusses the color, the shape of the value of artificial prostheses. When coordinating this shape and size is transferred to permanent prostheses size edentulous alveolar bone dictates ve mask artificial teeth. This does not always ensure harmony of the face. To solve this problem expressive means are used, which should create sludge lyuziyu.

In the simulation of artificial teeth and boxe knock on the upper jaw contact with diastema power metal ited made more convex increased by teeth to the midline clone

If the patient is cut with a wide mouth and a narrow upper jaw, the jaw to create the width axis of the upper front teeth to be positioned ver tikalno.

Another technique is to impose the illusion of lateral incisors at central. This achieves a reduction in area of the teeth and central review Uwe lichenie area smaller lateral incisors.

Rectilinear teeth appear more ovals nye- less. If you change the shape of the teeth, or not much to deploy, you can gain visibility measurable neniya their proportions and colors. Firstly, this is due to a decrease in the review area, and secondly, the laws of wasps light situations the surface depending on the angle of inclination. If necessary, to create the illusion of a wide dentition, the lateral teeth should be picked up lighter. To create the illusion of a narrowing of the dentition, lighter teeth are located in the center.

The esthetics of removable dentures depends on the choice of placement of artificial teeth, the color and modeling of the artificial gum and the visibility of the fixing elements of the prosthesis. If artificial gums cannot be dispensed with, then its surface should be modeled in accordance with the natural gum. Transparent ordeal governmental gums mucosa perceives color and is inconspicuous. When choosing abutment teeth and the type of prosthesis fixation, aesthetics should be remembered. Clammers that are visible with a smile do not make patients look attractive. Aesthetic goals are best served by tubeless fixation systems. Many patients with

high demands aesthetic doctor is forced to compromise - improving the appearance of the removable Prote for - to reduce the stability of the prosthesis.

Test questions:

1. The concept of "aesthetics", the subject of medical aesthetics, a section of medical aesthetics.
2.Types of face, characteristics, classification.
3. Components of a smile.
4. Expressive tools in medical aesthetics.

Themes of independent work .

Odontoperiodogram and its meaning.	3
Focal periodontitis and its clinic. X-ray inspection methods.	3
Methods of Orthopedic and complex treatment of limited pathological abrasion.	3
X-ray, arthrography and tomography of the TMJ.	3
Symptoms of the facial area. Otoneurological syndrome.	3
Kosten's syndrome. Dif diagnosis.	3
Symptom “Weyer” in the front teeth and deep incisal overlap. The appearance of prognathic bite.	3
Classification of anomalies of the maxillofacial system in adults.	3
Special methods for diagnosing anomalies of the maxillofacial system in adults.	3
Ethics of appointment with a doctor. Psycho - therapeutic preparation of patients for orthopedic procedures.	3
Modern materials for taking a cast. Preparation of patients for taking a cast.	3
Pressing dentures made of plastic and the necessary tools for this process. Auxiliary dental instruments. Oral hygiene when using dentures.	3
Sterilization and disinfection, wired devices for employees. Iatrogenic infectious disease. HIV infection. Prevention of hepatitis B and others.	3
Diagnosis of dentoalveolar anomalies and their study. Congenital malformations of the dentition.	3
The movement of the lower jaw “Occlusive surfaces of the teeth. Hippe curve line. Benett angle, cutting and articular path.	3
Occlusiography Method ..	3
Etiology, clinic and pathogenesis of deformations of maxillofacial orthopedics.	3
Clinic and differential diagnosis of patients using dentures.	3

Indication and contraindication for implants.	3
The use of two-layer dentures. Indication to them.	3
Orthopedic treatment with tabs made of metal and photocomposite by the opposite method.	3
Etiology, clinic and pathogenesis of TMJ diseases.	3
Implantation methods: immediate, late, one and two stage.	3
Aesthetic laws in the design of dentures.	3
Allergy, galvanization. Their diagnosis, prevention and treatment methods.	3
The study of the composition of blood, smona and urine. Ability to conduct Allergic tests and other clinical studies.	3
TMJ research methods.	3
Argy articulators - Arkon system.	3
Absolute contraindication to implantation.	3
A change in the tissues of the body and oral cavity associated with dentures.	3
The use of locking systems and telescopic crowns that are fixed with clasp dentures.	3
Collapsible bridges, their use.	3
Coating basic materials by the chemical method and the method of galvanization with gold and silver.	3
Aesthetics in orthopedic dentistry.	3