

**The Ministry of Healthcare of Uzbekistan  
The Tashkent Medical Academy  
The Department of foreign languages, pedagogics and  
psychology – 2**

**English for medical students  
(the third course)  
(учебно - методическое пособие)**

**Tashkent – 2010**

**Prepared by:**

The senior teachers of the 2-hd department of languages, pedagogics and psychology of TMA **Abidova M.I, Babakhanova F.A, Israilova M.N.**

The student of the stomatological department of TMA **Usmanov F.**

**Edited by:** The chief of the department of languages, pedagogics and psychology of TMA, doctor's assistant, candidate of pedagogical sciences **Unusova N.X.**

## **АННОТАЦИЯ**

Представленное учебно- методическое пособие составлено в соответствии с формой и требуемой учебной нагрузкой. Пособие имеет профильную направленность, предусмотрено для студентов мед. вузов 3 курсов стоматологического факультета

Рассмотрено и рекомендовано к изданию центральной методической комиссией.

протокол № \_\_\_ от « \_\_\_ » \_\_\_\_\_ 20\_\_ г.

Председатель комиссии

Рассмотрено и утверждено Ученым Советом ТМА

от « \_\_\_ » \_\_\_\_\_ 20\_\_ г.

## LESSON 1

### Fluid Movement in Teeth.

Recent investigations have shown various biologic activities within tooth structure. The enamel, dentin and pulp are connected hydro dynamically. The tooth (enamel and dentin) might be compared with a pipe that extends into the pulp at one end and into the oral cavity at the other end. The fluid may move in either direction depending on the forces applied to it. The direction that this fluid moves has important implications for the health of the tooth.

This is not a difficult process to visualize when one considers the tubular structure of dentin. However, it is interesting to note that a similar fluid transport system can also be seen in the enamel. Enamel contains minute pores within its crystalline structure. These pores permit fluid exchange between the dentin and the oral cavity.

Analysis of the enamel fluid reveals that it is similar to lymphatic fluid, with measurable amounts of both calcium and potassium. The fluid in the enamel usually moves outward to the surface of the tooth, originating within the pulp chamber from fenestrated (porous) capillaries adjacent to the odontoblasts. Similar capillaries are also found in the kidneys and in the villi of the intestines, where a rapid fluid release is demanded.

The rapidity of fluid movement within the tooth is affected in a way that is similar to salivary gland secretions, which are active when one is eating and dormant when one is not eating. During sleep and when one is anesthetized, fluid movement almost stops. The normal transport system in the tooth maintains metabolism in the tooth, defends it against microbial activity, and provides mineral exchange within the dentin and enamel.

Exercise 1. Read and translate the following words:

Recent – недавний, yaqinda

minute – мелький, mayda

measure – мера, измерять, o'lcham, o'lchamoq

pulp- пульпа, pulpa

cavity – полость, bo'shliq

enamel – эмаль, emal'

Exercise 2. Analyze the structure of the words:

investigation, various, movement, dynamic, depending, visualize, tubular, exchange, oral, measurable.

Exercise 3.

Answer the questions:

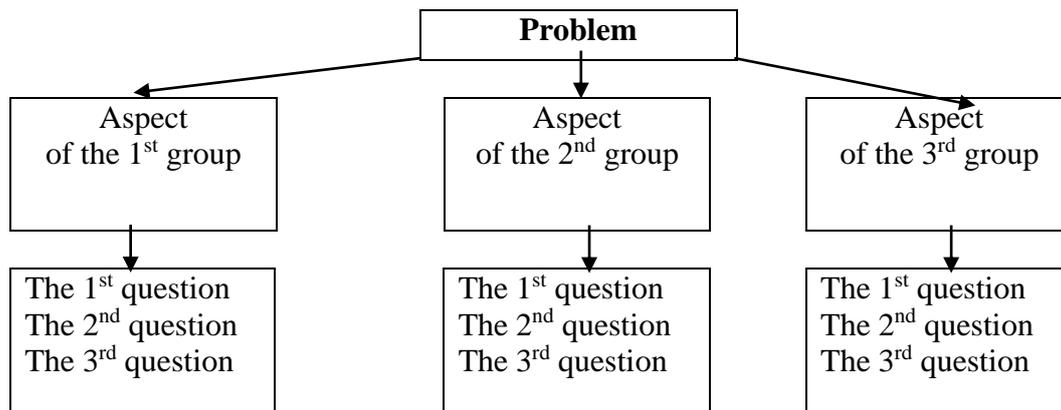
1. What have investigation shown?
2. What parts of tooth are connected hydrodynamically?
3. What directions may the fluid move?
4. Does the fluid move in the enamel?
5. What permits the fluid move within the tooth?
6. What substance does the fluid have?
7. Is the rate of the fluid flow constant?
8. When does the fluid flow almost stop?

Exercise 4. Give the summary of the text.

### Business game “Snowball”

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized. Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued. All members of the group are active during the conducting of this game.



### Free reading

The fluid flow is a complex phenomenon. It can be manipulated, systemically so that the fluid can be stopped and even its direction can be reversed. For example, the intraperitoneal administration of bradykinin, a tissue hormone, will cause fluid from the oral cavity to flow inwardly all the way through<sup>4</sup> the dentin and into the pulp. It takes little imagination to envision the deleterious effects that toxins from dental plaque might have if they are carried inwardly during this reverse flow process.

The fluid sometimes moves outward, sometimes moves inward, and sometimes remains static. The outward movement of fluid may be a method by which the tooth is protected «from unwanted substances working their way inward and causing discomfort and distinction to the tooth.

There is evidence indicating that the mechanism that activates fluid flow is a hormone secreted by the parotid gland and released into the blood stream, stimulating the odontoblasts, which encourages fluid movement out the tubules and through the dentin.

Controlling questions

1. What is the fluid flow?
2. How can it be manipulated?
3. How does the fluid move?
4. What method may be the outward movement?
5. What evidence is there?

## LESSON 2

### What happens if the tooth's defense system fails?

Early in the carious process, invasion by microorganisms occurs beneath the white patch of the enamel. At this time, inflammatory cells may be found in the pulp of the tooth. It is believed that their presence further compromises the ability of the odontoblasts to function normally. As caries processes and as the enamel pores are enlarged and the enamel is demineralized, another defense mechanism comes into play. This defense response occurs within the dentin and is shown by the movement of antibodies into the dentin beneath the carious lesion. These antibodies are probably transported into their defensive position by the odontoblasts. The response of the teeth to bacterial invasion is similar to the reaction of other tissues, moving antibodies into a defensive position around the invasive area and making an effort to block the invasion.

In the tooth, this is done by the formation of reparative dentin and hypercalcification. In some respects, dental caries resembles other diseases in that the underlying problem is a malfunction

of the normal physiologic activity. In this instance, it is a malfunction of the dentinopulpal complex.

In most infections, the body's defense mechanism responds by expending heat and energy. Interestingly, the tooth also expends energy in the formation of reparative dentin. Such energy is made available in increased amounts within the tooth as it responds defensively to microbial invasion.

Exercise 1. Read and translate the following words:

Fail – оказаться не в состоянии, biror narsani uddalay olmaslik, yiqilish

Invasion – вторжение, qirib borish, invaziya

Lesion – повреждение, поражение, shikast, jarohat

Reparative – репаративный, reparativ

Occur – происходить, sodir bo'lmoq

Inflammatory – воспалительный, yallig'lanuvchi

Exercise 2. Analyze the structure of the words:

function, enlarge, demineralize, lesion, defensive, bacterial, probably, antibodies, hyper calcification.

Exercise 3.

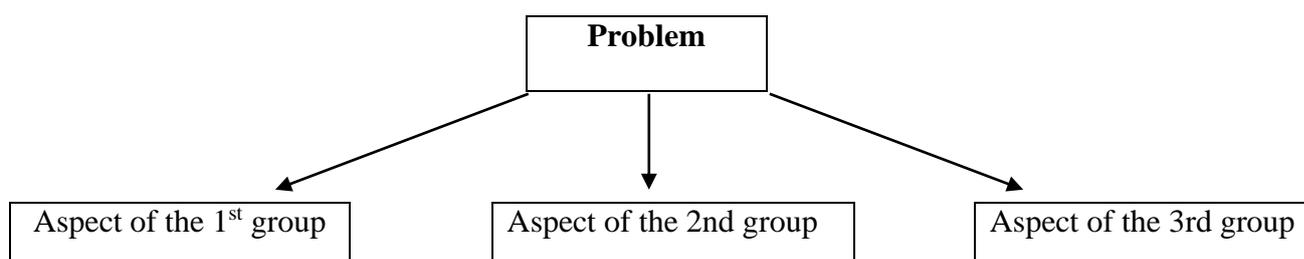
Answer the questions:

1. When does microorganism invasion begin?
2. Where does it occur?
3. What compromises the ability of odontoblast to function normally?
4. What shows the defense response to caries development?
5. What is formed in the tooth in response to bacterial invasion?

Exercise 4. Give the summary of the text.

### **Business game “Mental attack”**

Each group is divided into small groups consisting of 4-5 persons. Questions are given for each small group is written on the blackboard. All answers are checked by the teacher and valued. All members of the group are active during the conducting of this game.



### **Free reading**

The dentist is responsible for the patient's action while the patient is under the effects of an anesthetic or depressant. These include acts in which the patient can cause injury to himself. The dental malpractice claim based on failure to take an adequate health history is a difficult case to defend. A short "Do you have any diseases or allergies?" a few seconds before the anesthetic agents are administered does not constitute taking an adequate history. It is suggested that the dentist has the patient fill out a printed health questionnaire before any treatment, in particular before the administration of a general anesthetic.

Usually, the dentist discloses the results of his examination to the patient and explains what treatment is indicated to correct the patient's problem. The patient's consenting orally to the proposed procedure is sufficient to constitute legal consent in almost every instance. One

exception is when the patient is to undergo surgery involving extensive removal at tissues. In this situation the dentist should have the patient sign a form that gives consent to the surgical procedure, the anesthetic to be used and any removal at tissues.

Controlling questions:

1. When is the dentist responsible for the patients action?
2. When the patients can cause injury to himself?
3. What is suggested?
4. What does the dentist do to correct the patients problem?
5. What form should have the patient sign?

### **LESSON 3**

#### **Dental caries**

The disease, which produces cavitas in teeth, is known as dental caries. It is unquestionably the most prevalent dental disease among children between the ages of three and eighteen. The first lesions may appear soon after the eruption of the first teeth. Pits and fissures in tooth surfaces are more susceptible than the smooth surfaces. The chewing surfaces of the molar teeth seem to be attacked first. Girls seem to be slightly more susceptible to such-, attacks than boys, probably because girl's teeth erupt earlier and are therefore exposed longer to the ravages of decay. Dental plaque, a highly acid, gelatinous substance that adheres to the teeth, causes decalcification of tooth enamel and appears to be the leading factor in tooth decay. Lactobacillus and certain strains of streptococci have been found in the dental plaque and appear, to be the producers of the acid-forming enzymes. While the exact nature of dental plaque is not known, there is evidence that it is a protein substance formed from saliva in the form of mucin. As this substance traps microorganisms, it grows into a dense matted mass.

Exercise 1. Read and translate the following words:

Adhere – приминать, уоришмоқ

Plague – чума, бедствие, о'lat, halokat

To chew – жевать, чаунамоқ

Producer – производитель, ishlab chiqaruvchi

Decay – гнить, разлагаться, yemirilmoq, yiringlamoq

Saliva – слюна, so'lak

Exercise 2. Analyze the structure of the words:

eruption, fissure, susceptible, decalcification, unquestionably, gelatinous, lactobacillus, enzyme.

Exercise 3. Answer the questions:

1. What is dental caries?
2. When is the disease most often in children?
3. When the first lesions may appear?
4. What part of the tooth was affected first?
5. Are girls more susceptible than boys?
6. What is dental plaque?
7. What bacilli and cocci are found in the dental plaque?

Exercise 4. Give the summary of the text.

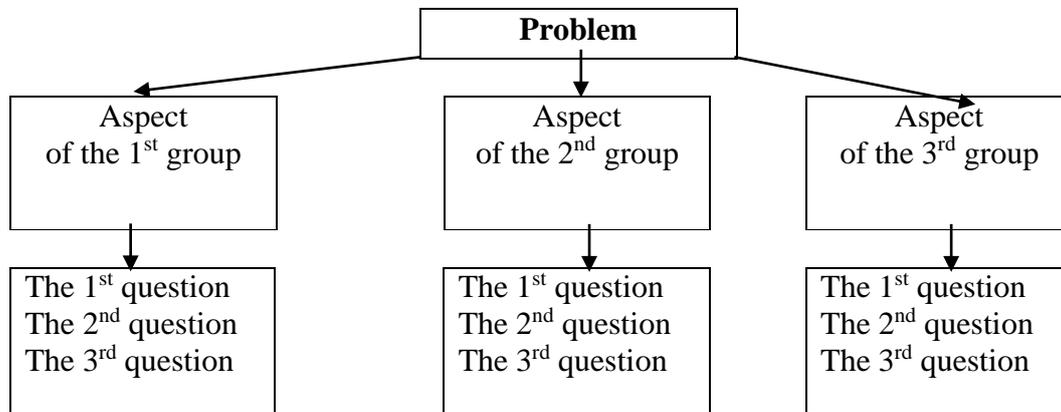
#### **Business game “Snowball”**

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized.

Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued.

All members of the group are active during the conducting of this game.



### Free reading

Acute infection of the Mucosa Herpes simplex, known as "fever sores" is seen in both children and adults. It is caused by a virus which remains in the soft tissues of the mouth long after the acute stage is over and it may recur from time to time if the individual's resistance is lowered. The onset of herpes may be very severe, with high temperature and general disability. The entire mouth and throat may be highly inflamed. The disease leads to cure itself, and no particular treatment is prescribed. Herpes is infections and may become epidemic in schools. The secondary lesion appears on the lips and is known as "cold sores", if the lesion is in the mouth as "canker sores".

Controlling questions:

1. Where is «fever sores» seen?
2. By what is it caused?
3. What occurs if the individual's resistance is lowered?
4. How may be the onset of herpes?
5. What may be highly inflamed?
6. What is herpes?
7. Where does the secondary lesion appear?

## LESSON 4 Periodontal diseases

Periodontal disease is actually a group disease affecting the supporting tissue\* of the teeth. They are the most common cause of tooth loss in adult life. Periodontal disease is<sup>4</sup> now recognized as a public health problem because of the number of persons affected and as such, it must receive greater emphasis both in the educational phase and in prevention and cure. Periodontal disease affects the bony structures and the soft tissues surrounding the teeth. The onset of the disease is being recognized more frequently among children than in the past.

Because of the involvement of several types of tissues in periodontal disease no one causative factor can be stated. There seem to be two sets of predisposing factors; (a) local disease conditions in the mouth and (b) systematic disease.

The best prevention is correction of local condition such as complete systematic removal of all dental calculus, plaque and debris;  
and correction of all irritating force upon the tissues such as cavities, poor restoration, abnormal occlusion and mouth habits.

The systematic factors that predispose to periodontal disease are malnutrition, vitamin deficiencies, debilitating disease such as tuberculosis, kidney disease, virus infections, allergies and psychic disturbances.

Exercise 1. Read and translate the following words:

Emphasis – ударение, подчеркивание, urg’u berish

Surrounding – окружение, среда, artof- muhit

Removal – удаление, перемещение, daf qilish, o’rinni almashtirish

Frequently – часто, ko’pmarotaba, tez-tez

Debris – развалины, обломки, пород, burilishlar, sinish

Exercise 2. Read and translate the following words:

prevention, involvement, periodontal, predisposing, correction, irritating, restoration, malnutrition, deficiencing, debilitating, psychic

Exercise 3. Answer the questions:

1. What tissues are affected in periodontal disease?
2. How often is the disease?
3. Is the disease, more often in children as adults?
4. What is the causative factor or periodontal disease?
5. What are predisposing factors?
6. Is smoking related with the disease?

Exercise 4. Write degrees of comparison of the following:

local

common

great

frequently

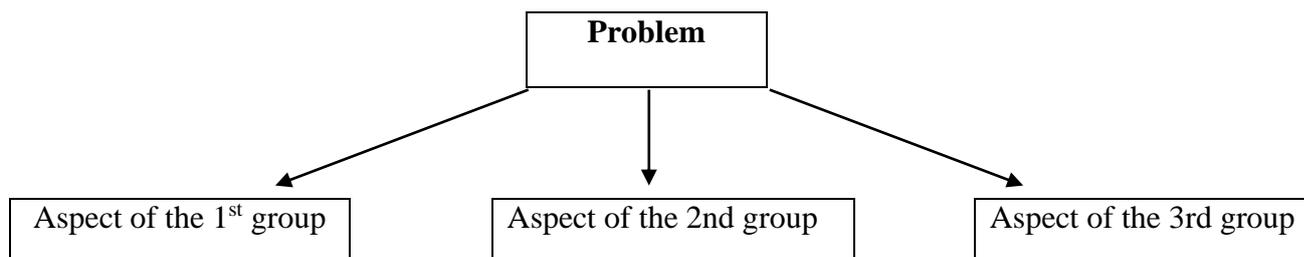
poor

high

Exercise 5. Give the summary of the text.

### **Business game “Mental attack”**

Each group is divided into small groups consisting of 4-5 persons. Questions are given for each small group are written on the blackboard. All answers are checked by the teacher and valued. All members of the group are active during the conducting of this game.



**Free reading**

The more commonplace defects are often overlooked in considering the more dramatic dental conditions most children learn to talk without much help, but some acquire undesirable habits during the learning period. Some of the problems of faulty speech are directly connected with dysfunction, malformation or pernicious habits involving the tongue, teeth, throat and lips. The same structures are used in speaking as are used in breathing sucking, swallowing, chewing and coughing. The dental phase of speech correction pertains to the recognition and correction of all defects in the mouth and teeth. It also includes the education of the parents and child concerning the undesirable habit so that proper treatment may be started before the habit becomes fixed or the structures of the mouth and teeth damaged.

Controlling questions:

1. What are the more commonplace defects overlooked?
2. With what are some of the problems of faulty speech connected?
3. Are the same structures used in speaking as are used in breathing sucking swallowing, chewing and coughing?
4. To what does the dental phase of speech correction pertain?
5. What does it also include?

## **LESSON 5**

### **Other Pathological Conditions of the Mouth**

A host of other conditions affect the health of the mouth and dental structures. In fact they are so numerous that only a few are mentioned just to indicate the magnitude of the problem of dental health.

These conditions include:

1. Lesions of the lips.
2. Lesions of the dental mucosa.
3. Lesions of the parotid and sublingual glands
4. Lesions of the gingival and the edentulous
6. Lesions of the tongue and floor of the mouth.
6. Lesions of the maxilla and mandible.

Some of the lesions are malignant but many are benign. They constitute a growing menace to dental health perhaps because dentists are recognizing and treating more of these lesions than in the past.

The dental health problem, is a complex one. It has been demonstrated that dental health or the lack of it affects all phases of child development and all areas of his environment, school, home and community. Neglect of any area of dental health results in far-reaching effects on the growth and development of the individual.

It is apparent from the amount of dental disease in the American population that this public health problem has been overlooked by the general public. Under present circumstances it is necessary to choose another means of control. Prevention based on knowledge seems the only workable solution to the problem. Prevention can be effective only if it is based on motivation through education, this approach should be carried out in the home, the dental office, the school and the community.

Exercise I. Read and translate the following words:

Magnitude - величина, o'licham

Ridge - гребень, bo'rtiq

Maxilla - верхняя челюсть, uqori jag'

Mandible - нижняя челюсть, pastki jag'

Menace - угроза, угрожать, havf, havf tug'dirmoq

Neglect - пренебрежение, пренебрегать запускать, pisand qilmaslik, nazarga ilmaslik

Exercise 2 Read and translate the following words:

edentulous, prevention, 'Workable, solution, motivation, circumstance.

Exercise 3. Divide the text into logical parts and compress the text into 5 most important ideas:

Exercise 4.

1) Read the text and answer the questions about it.

2) Retell the text using your questions.

Exercise 5. Give the summary of the text.

### **Free reading**

It has been shown through a number of studies that man does not meet his nutritional needs on the basis of appetite of custom. Appetite is not the reliable guide to the selection of an adequate diet. refining processing and cooking often appeal to the palate at the sacrifice of vital food factors including minerals and vitamins.

Calcium and phosphorus are the two elements found in the hard structure of u-eth along with traces of a number of other minerals. These nutrients are procured principally from high protein foods, fruits and vegetables arc deposited in the teeth with the aid of vitamins.

The main dietary factor affecting teeth in their formative stages that makes them resistant to decay is fluoride. There are rarely sufficient fluorides found in food to build decay resistant teeth so that it must be supplied in some other form. The most economical method is the addition of fluoride to drinking water.

Controlling questions:

1. What does a host of other conditions affect?
2. Are they numerous?
3. How many types of lesions do you know?
4. Is the dental health problem a complex one?
5. What does dental health or the lack of it affect?
6. What does neglect of any area of dental health result in?
7. When can be prevention effective?
8. Where this approach should be carried out?

## **LESSON 6**

### **Physiology of the aging tooth.**

As people age, their teeth also tend to age. Perhaps the most marked evidence of the aging process is the decrease in activity of the fluid transport system because of the .formation of reparative dentin. This seems to take place in me presence of an irritant and .manifests itself by deposition of reparative dentin, both inside the pulp chamber and inside the affected tubules. Tubules are seldom uniformly affected throughout the entire tooth. Instead, they occur underneath old restorations of slow growing lesions and under areas in which the dentin is exposed because the enamel has been abraded or eroded away.

Tooth response to operative procedures, probably through the odontoblast: is quite rapid. There is an 80 percent reduction in permeability within 7 days in the dentin beneath cavity preparations in vital teeth, whereas in control teeth in which pulpectomies are perfo ncd during the same period of time, there, is increase in permeability.

The aging process con also affect the soft tissue of the pulp with varying degrees of depressed blood supply and with, increased librosis. within the pulp. Many pulps are unable to rebound after an additional insult (e.g., a .crown preparation) has been thrust, upon them. When

this happens, a nonsymptomatic pulp may become symptomatic. Teeth that have had multiple deep restorations placed or replaced or both are prime candidates for this phenomenon. In such cases, consideration should be given at the; planning stage for treating the tooth endodortically before crowning it.

Exercise 1. Read and translate the following words:

Decrease – уменьшаться, камаymoq, pasaymoq

Excavate – копать, рыть, qazimoq

Fluid – жидкость, suyuqlik

Affect – поражать, ta'sir qilmoq

Lesion – повреждение, поражение, jaro hat, shikast

Respond – реагировать, javob bermoq

Permeability – проницаемость, o'tkazuvchanlik

Exercise 2. Read and translate the words without your dictionary

Physiology, process, activity, transport, system, formation, tubule, restoration, reduction.

Exercise 3. Answer the questions:

1. When do the people's teeth change?
2. What is the most marked evidence of teeth aging?
3. Where does reparative dentin dePOSE?
4. Are tubules always uniformly affected throughout the entire tooth?
5. How rapid is tooth's response to operative procedure?
6. Can the aging process affect the pulp?
7. When, does a nonsymptomatic tooth become a symptomatic one?
8. What should be done in these cases?

Exercise 4. Translate the following phrases. As people age, the most marked evidence, in the presence (of), uniformly affected, slow growing lesions, 80 percent reduction.

Exercise 5. Give the summary of the text.

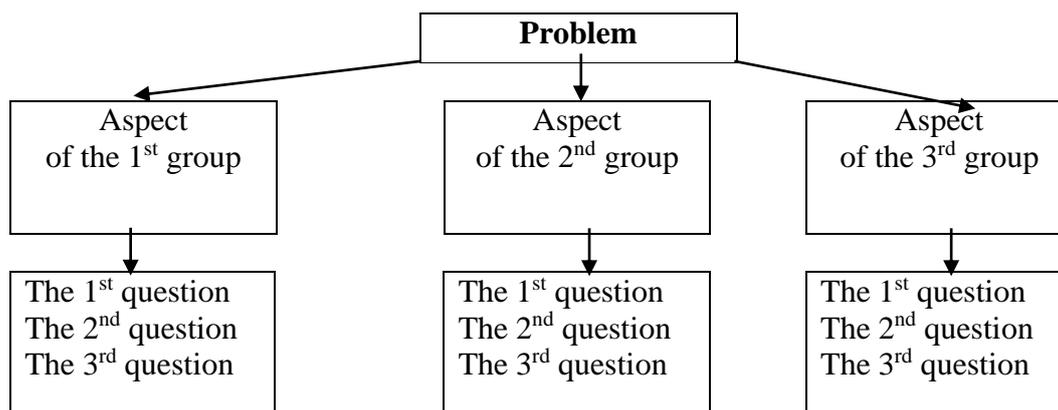
### **Business game “Snowball”**

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized.

Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued.

All members of the group are active during the conducting of this game.



### Free reading

Teeth whether endodontically treated or intact, are in the same oral environment, and their external surface is exposed to a similar amount of fluid. However, the fluid content of endodontically treated teeth is reported to be 9 percent less than for intact teeth located in the same oral cavity. This suggests that 9 percent of the fluid content of the teeth is determined by the normally functioning intact pulp. This supply of fluid would require a blood supply to the pulp and a fluid transport through the dentin.

Obviously the strength of the tooth depends on its vitality hence the need for reinforcement of the endodontically treated tooth. There is a very rapid loss of the strength of dentin following extraction. As much as 50 percent of the bond strength between the dentin and polycarboxylate cement is lost in the first 250 minutes after extraction.

Controlling questions:

1. How are teeth treated?
2. What would the supply of fluid require?
3. On what does the strength of the teeth depend?
4. What is lost in the first 250 minutes after extraction?

### LESSON 7 Anesthesia Types.

Until recently, there were only two pain control methods available to the patient who was seeking dental care. One was local anesthesia (regional analgesia), the other was general anesthesia.

Local anesthesia had its practical beginning in 1884 when Carl Roller reported the use of cocaine as a local anesthetic agent. In 1904, Albert Einhorn synthesized procaine, later marketed as Novocain, and in 1943, Nils Lofgren, a Swedish chemist, introduced lidocaine, the first amide anesthetic.

General anesthesia was introduced by William T. Morton, a Boston dentist, on October 16, 1846, when he administered ether to Gilbert Abbott, who had a tumor of the jaw removed by a well-known surgeon Dr. John C. Warren.

Local anesthetic techniques are adequate for the control of pain for MOST dental patients; for a limited number of patients however, general anesthesia may be the only option for receiving comprehensive dental care. These patients may include the very young pediatric patient, certain mentally and physically handicapped people, and some medically compromised patients.

There remain, however, many fearful patients for whom local anesthetic techniques are not sufficient for proper control of pain and anxiety and for whom general anesthesia may have too many disadvantages. For these people, recent modalities are bridging the gap between local and general anesthesia. These modalities include inhalation analgesia and oral, rectal intramuscular, and intravenous techniques of conscious sedation.

S.L. Drummond-Jackson, a general dentist in London, introduced intravenous anesthesia in general dentistry in 1932.

*Exercise 1.* Read and translate the words:

Available – доступный, свободный, qulay, bo'sh

Option – право выбора, tanlov huquqi, opsiya

Analgesia – болеутоляющее, og'riq qoldiruvchi

Sufficient – достаточный, etarli

Conquer – побеждать, завоёвывать, g'alaba qilmoq, engib o'tmoq

Modality – способ воздействия, ta'sir usuli

Technique – технические приёмы, texnik uslublar

Inhalation – вдыхание, nafas olish

Exercise 2. Read and translate the words without your dictionary.

Local anesthesia, regional, general, agent, synthesize, ether, tumor, limit, pediatric, physical, intravenous.

Exercise 3. Write out adjectives from the following words:

Control, available, dental, surgeon, recently, anesthetic, jaw, adequate, limited, comprehensive, mentally, fearful, disadvantage, conscious.

Exercise 4. Answer the questions:

1. What kinds of anesthesia do you know?
2. What was the first local anesthetic agent?
3. When was lidocaine introduced into dental practice?
4. When was general anesthesia introduced?
5. What patients may be treated only under general anesthesia?
6. Is it possible to bridge the gap between local and general anesthesia?
7. When was intravenous dentistry introduced in general dentistry?.

Exercise 5. Remember the ways to express modality.

1. Must(-t-v)
  2. Be + to V / have+to V
  3. Should (+V)
1. You must know the technique very well.
  2. The patient is to receive intravenous drugs.
  3. should take a thorough medical history.

Exercise 6. Give the summary of the text.

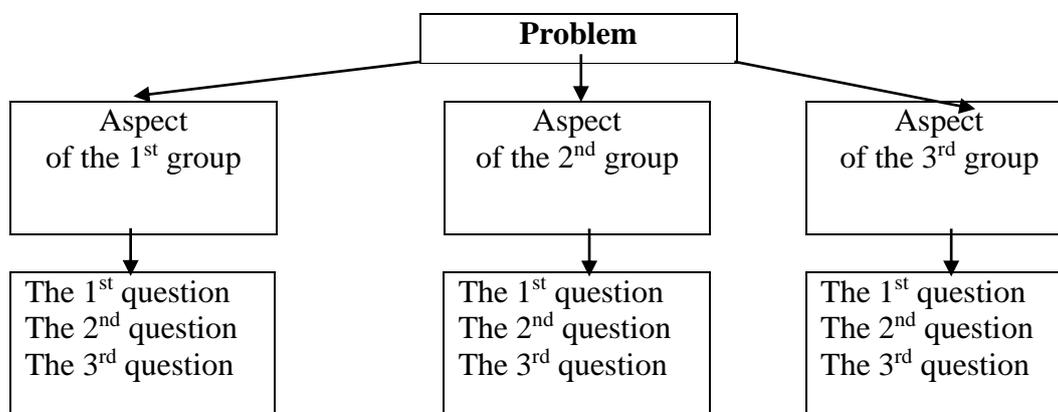
### Business game “Snowball”

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized.

Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued.

All members of the group are active during the conducting of this game.



### Free reading

It is important that any patient who is to receive intravenous drugs has had a recent (within 6 months) physical examination. The dentist should take a thorough medical history, and, if there

are any questions about the patient's health, he or she should consult the patient's physician before undertaking intravenous sedation.

The patient may have a light meal but should refrain from coffee or other stimulants. Greasy or heavy food should be avoided. The patient should be advised to wear a short-sleeved shirt or blouse to facilitate the taking of blood pressure and the drug injection. Because the patient will be under the influence of sedative drugs responsible adult must accompany the patient home at the completion of the office visit.

Controlling questions:

1. How is any patient examined by the dentist?
2. What questions are asked about?
3. When should he or she consult the patient's physician?
4. What should be the patient advised?
5. Who must accompany the home?

## **LESSON 8**

### **Local anesthesia.**

Local anesthesia (regional anesthesia) techniques have been used with generally good results during the last 50 years. Dental patients have learned to expect effective pain control and most of the time their expectations are realized. However, there is still room for improvement among most clinicians in local anesthesia techniques. There is little excuse for not achieving good, effective local anesthesia with the variety of dependable anesthetic solutions, excellent disposable needles, and aspirating syringes that are available today, in addition to a thorough knowledge of the anatomic consideration of the various local anesthetic injections, the clinician should know as much as possible about the pharmacology of local anesthetic solutions how they work and why. For instance, it is generally understood that the effectiveness of local anesthetic agents depends on:

1. Chemical nature
2. Concentration used
3. Rate of diffusion
4. Presence or absence of a vasoconstrictor.

The presence of a vasoconstrictor increases the time that the anesthetic agent remains in contact with the nerve. Adequate concentration in the nerve fibers is also related to the pH of the local tissue fluids, and the rate of absorption of it into the systemic circulation.

Exercise 1 Read and translate the words:

Successful – удачный, успешный, muvaffaqiyatli

Realize- реализовать, осознавать, namoyon bo'lmoq

Provide – обеспечивать, предусматривать, ta'minlamoq, ko'zda tutmoq

Improve – улучшать, yaxshilamoq

Experience – опыт, tajriba

Failure – повреждение, нарушение, buzilish, shikast

Exercise 2. Read and translate the words without your dictionary.

Local, analgesia, result, effective, agent, concentration, diffusion, contact, absorption, sterilization.

Exercise 3. Read and translate the related words:

Clinical, clinician; effect, effective,; effectiveness; indicates, indication, contraindication; practice, practical, practitioner; fail, failure.

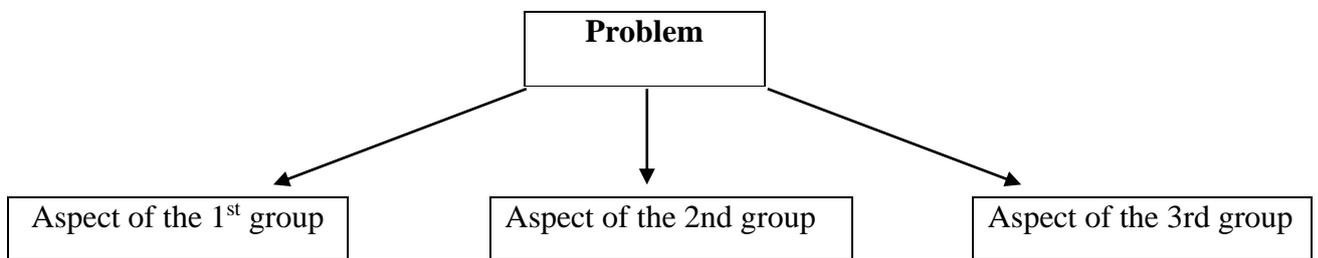
Exercise 5. Answer the questions:

1. How long has local anesthesia been used.
2. Does local anesthesia give effective pain control?
3. Is there any excuse for not achieving good effect when making local anesthesia?
4. What a clinician must know about anesthetic drugs?
5. What does the effectiveness of local anesthesia depend on?
6. How does vasoconstrictor influence the effect of anesthesia?
7. Why is this type of anesthesia called "local"?

Exercise 6. Give the summary of the text.

### **Business game “Mental attack”**

Each group is divided into small groups consisting of 4-5 persons. Questions are given for each small group are written on the blackboard. All answers are checked by the teacher and valued. All members of the group are active during the conducting of this game.



### **Free reading**

The inferior alveolar branch of the mandibular nerve is usually anesthetized by injecting the anesthetic solution in the area of the lingual foramen located approximately midway on the medial wall of the ascending ramus. Usually, this injection is successful and provides dependable, profound anesthesia for the mandibular posterior teeth. Every practitioner, however, has experienced a low, but significant failure rate with current mandibular injection techniques. Various reasons have been suggested for mandibular injections failures including:

1. Injection of the anesthetic solution medial to the Sphenomandibular ligament, resulting in incomplete anesthesia.
2. Injection below the mandibular foramen.
3. Possible presence of supplementary nerves fibers entering the body on the mandible through accessory foramina.

Controlling questions:

1. What is usually anesthetized by injecting the anesthetic solution?
2. Is this injection successful?
3. What does this injection provide?
4. Is there any failure rate with current mandibular injection techniques?
5. What are the reasons for mandibular injections failures?

## **LESSON 9**

### **Preventive dentistry**

The objectives of preventive dentistry, in the broader sense, are<sup>1</sup> to prevent:

- (1) factors which predispose to disease or disorder;
- (2) the disease itself;
- (3) factors which evoke more severe manifestations of acute disease;

- (4) factors which tend to maintain disease in a chronic stage;
- (5) factors which permit the progressive advance of disease;
- (6) the concomitant effects or the complications<sup>2</sup> of disease;
- (7) the sequelae of disease, both local and systemic, including death;
- (8) factors which tend to maintain disability resulting from disease;
- (9) factors which interfere with rehabilitation.

Preventive dentistry should be taught as a philosophy, in all phases of the curriculum,<sup>3</sup> and the methodology of implementing such a philosophy of dentistry should be a joint responsibility of all departments of the dental school, with provision for their effective coordination through, for example, the department of oral diagnosis, or a department of preventive dentistry. The teaching of preventive dentistry should emphasize the various levels of prevention, including:

- (1) measures to promote positive oral and general health, such as improved nutrition and mouth hygiene;
- (2) the application of specific preventive measures, such as fluoridation;
- (3) early diagnosis and treatment, as for neoplasms;
- (4) measures to interrupt or delay the progress of disease, and to limit disability, such as restorative procedures and periodontics;
- (5) measures which will contribute to rehabilitation, such as orthodontics, prosthetic services, and oral surgery.

Preventive dentistry is a large component of dental public health service.

The supreme ideal of the dental profession should be to eliminate<sup>4</sup> the necessity for its own existence.

Exercise 1. Read and translate the words:

Acute - острый, o'tkir, kuchli

Maintain - поддерживать, содержать, quvvatlamoq, ta'minlamoq

To interfere - вмешиваться, вредить, aralashmoq, zarar etkazmoq

Nutrition - питание, пища, ovqatlanish, ovqat

Hygiene - гигиена, gigiena

Application - применение, qo'llash

Disability – неспособность, qobiliyatsizlik

Exercise 2.

Read, analyze and translate the following words.

ability - disability; necessary - unnecessary; pain - painless; order — disorder; use — useless

Exercise 3.

Match the following words logically.

a) acute, ache, to eliminate, temporary teeth, to pay attention

b) adult, to neglect, permanent teeth, milk teeth, pain, chronic, to abolish

Exercise 4.

Answer the following questions:

1. What factors to be prevented are given in the text?
2. How should preventive dentistry be taught?
3. What must be included in the curriculum of preventive dentistry?

Exercise 5.

Remember these notes

1. are to prevent - должны предупреждать
2. complications — осложнения, последствия
3. curriculum — учебная программа
4. to eliminate — уничтожить

### Exercise 6.

Answer the questions:

1. What have many countries set up?
2. What is the basic unit in the towns?
3. Where are these surgeries located?
4. Where are paedodontic surgeries integrated in the school medical services?
5. What is proportional to the number of children under care?

### **Free reading**

#### **Dental care of children**

Many countries have set up State stomatological service for children in parallel with the other health services. In the towns the paedodontic (детская стоматология) surgery is the basic unit. In the Soviet Union these surgeries are located either in the polyclinics, in special departments in the paediatric hospitals or in the schools. In Bulgaria, in Czechoslovakia, in Poland, etc., paedodontic surgeries are integrated in the school medical services. In these services the number of stomatologists is proportional to the number of children under care and is laid down by law.

VI. Insert the missing words given below.

The staff should call... by name, and a child's fear may be alleviated if he has a few ... to observe the office. In the ... room, everything should be .... The ... should not be either obviously displayed or obviously .... They can be shown and explained to the child at the... times.

(treatment, ready, children, appropriate, minutes, hidden, instruments)

### **LESSON 10**

#### **Abnormalities in the number of teeth**

The absence of teeth from the arch may be due to the non-eruption of fully calcified teeth; to non-evolution of the tooth germ; to the failure of the calcification processes in the dental follicle; to injury to the developing tooth germ from traumatism or infectious processes; to the accidental removal of the permanent tooth germ by the extraction of the deciduous tooth; to the transformation of the tooth germ into an odontoma.

Whenever a calcified tooth does not erupt, it is a case of incarceration or impaction according to whether the path leading to normal position in the arch is free or obstructed. This abnormality affects the third molars, upper and lower, the upper second bicuspids, the upper laterals and upper and lower cuspids with greater frequency than other teeth. Incarceration of a permanent tooth is sometimes associated with the retention of the corresponding deciduous tooth until later in life than normal, and occasionally even throughout the life of the individual.

The influence of heredity in these abnormalities of number is well shown in the case of the upper laterals, this tooth being sometimes absent through several generations, in one or several members of the same family.

The absence of the complete dentition, both deciduous and permanent, and of the permanent alone, is an extremely rare occurrence, nevertheless cases of this kind are on record in dental literature.

The absence of the permanent upper right lateral incisor is a rather frequent abnormality. The absence of a lower incisor is a rare abnormality. A lower bicuspid may be absent and when it fails to erupt it is the second more frequently than the first. The permanent first molar may be absent owing to the failure of the fully calcified tooth to erupt, its presence in the substance of the jaw being made evident with the aid of radiography. The absence of the permanent cuspids is rarely the result of the non-development of the tooth, but in most instances is due to the failure of the fully formed tooth to erupt.

The absence of deciduous teeth is occasionally observed. The absence of teeth from the arch should be diagnosed invariably with the aid of carefully secured radiograms. Unquestionably, many cases of absence of teeth are cases of non-eruption or incarceration of fully calcified teeth which remained within the substance of the jaws; in some cases this

incarceration does not cause any apparent discomfort to the patient, while in others it produces reflex manifestations of varying degrees of intensity.

Exercise 1. Read and translate the following words

Germ – зародыш, зачаток

Accidental – случайный, tasodifiy

Retention - задержание, удержание, tutilish, ushlab qolish

Lateral – боковой, yon bosh

Extremely - чрезмерно, крайне, favqulodda, so'nggi

Presence - присутствие, hozirlik

Observe- наблюдать, kuzatmoq

Exercise 2.

Find in the text all the derivatives of the following words.

to erupt, to remove, to occur, to manifest, question, to fail, accident, extreme, present

Exercise 3.

Match the following words and word combinations logically.

a) to be present, extraction, X-ray examination, radiogram, impaction, lower jaw, careful, deciduous, due to, free

b) radiography, upper jaw, permanent, owing to, to be absent, retention, obstructed, X-ray film, careless, mandible, temporary, thanks to, incarceration

Exercise 4.

Read the text and divide it into logical parts.

Exercise 5.

Remember these notes

1. until later in life than normal — позже обычного

2. this tooth being sometimes absent — этот зуб иногда отсутствует

3. rare — редкий

4. are on record - описаны

5. reflex manifestations - рефлексорные проявления

Exercise 6.

Point out in the text the sentences expressing the relationship of cause-effect.

Exercise 7.

Answer the questions:

1. What are the reasons of the absence of teeth from the arch?

2. What teeth does impaction affect?

3. Is there any influence of heredity on the abnormalities of number?

4. How the absence of teeth should be diagnosed?

5. What complications occur as a result of impaction?

### **Free reading** **Periodontal disease**

Frowning links of evidence strongly suggest that the predominant form of periodontal disease, which is characterized by inflammation, is initial by factorial plaque. It has been shown that bacterial toxins can directly assault the gingival tissues and also can trigger local inflammatory reactions. A number of dental scientist now believe that the constant challenge of plague makes the patient allergic to his own oral microbes causing an exaggerated reaction in the gingival tissues and finally periodontal disease.

Once the dent gingival barrier has been broken, bacterial plague substances can into the gingival tissues and interact with the blood leukocytes. Stimulated by the plague, these white blood cells divided and release various products, some of which have the ability the destroy bone and damage the fibroblast cells that make and repair connective tissue.

Controlling questions:

1. What do frowning links of evidence suggest?
2. What has been shown?
3. What do a number of dental scientists believe?
4. Has once the dentogingival barrier been broken?
5. What do write blood cells do when stimulated by the plague?

## LESSON 11

### Orthodontia

Orthodontia is that science which has for its object the correction of malocclusion of the teeth.

The study of orthodontia is indissolubly connected with that of art as related to the human face. The mouth is a most potent factor in making or marring the beauty and character of the face, and the form and beauty of the mouth largely depend on the occlusal relations of the teeth. The best balance, the best harmony, the best proportions of the mouth in its relations to the other features require that there shall be the full complement of teeth, and that each tooth shall be made to occupy its normal position — normal occlusion.

Occlusion is the basis of the science of orthodontia. The shapes of the cusps, crowns, and roots, and even the very structural material of the teeth and their attachment are all designed for the purpose of making occlusion the one grand object, in order that they may serve the chief purpose for which they were intended, namely, the cutting and grinding of food. Occlusion is the normal relations of the occlusal inclined planes of the teeth when the jaws are closed.

Malocclusion of the teeth is but the perversion of their normal relations. It can be studied intelligently only from the basis of the normal, and to begin its study without first being familiar therewith would be as unfruitful as the study of the pathology of any other of the structures of the body without first mastering their anatomy and physiology.

The normal human denture in its completeness includes not only the jaws, alveolar process, dental arches, and especially the teeth and peridental membrane, which are of prime importance, since on them chiefly the operations are performed, but also the muscles of lips, cheeks, tongue, and mouth, the nasal passages, palate, and throat, as these assist the teeth in performing their functions. They are also powerful factors in establishing and maintaining either harmony or inharmony in the development and arrangement of the teeth, and this just in proportion as they are, singly or collectively, normal or abnormal in their own development and functions.

Exercise 1. Read and translate the following words

Malocclusion – неправильный прикус, noto'g'ri

Occlusal – относящийся к прикусу

Attachment – прикрепление, приспособление, mustahkamlash, qurilma

Incline – наклонять (ся), egmoq, egilmoq

Plane – плоскость, плоский, silliqlik, silliq

Nasal – носовой, burunga oid

Palate – нёбо, вкус, tanglay, ta'm

Exercise 2.

Match the following words logically.

a) mouth, to assist, occlusion, maxilla, aim, collectively, upper jaw

b) to help, oral cavity, lower jaw, purpose, singly, malocclusion

Exercise 3.

Pay attention to the meaning of the following pairs of words.

harmony — inharmony

fruitful — unfruitful

normal — abnormal

helpful — unhelpful

Exercise 4.

Look through the text and analyze its structure.

Exercise 5.

Answer the questions:

1. What is the object of orthodontia?
2. What is the study of orthodontia connected with?
3. What do the form and beauty of the mouth depend on?
4. What does "occlusion" mean?
5. What is the way of studying malocclusion?
6. What does the normal human denture include?

Exercise 6.

Define the following terms.

orthodontist, orthodontia, occlusion, pathology, anatomy, paedodontist

Exercise 7.

Put the following sentences in logical order.

1. Malocclusion is an antonym to "occlusion".
2. Orthodontics is that science which deals with the correction of malocclusion of the teeth.
3. Malocclusion should be studied only from the basis of the normal position of the teeth.
4. Occlusion is the normal relations of the occlusal inclined planes of the teeth when the jaws are closed.

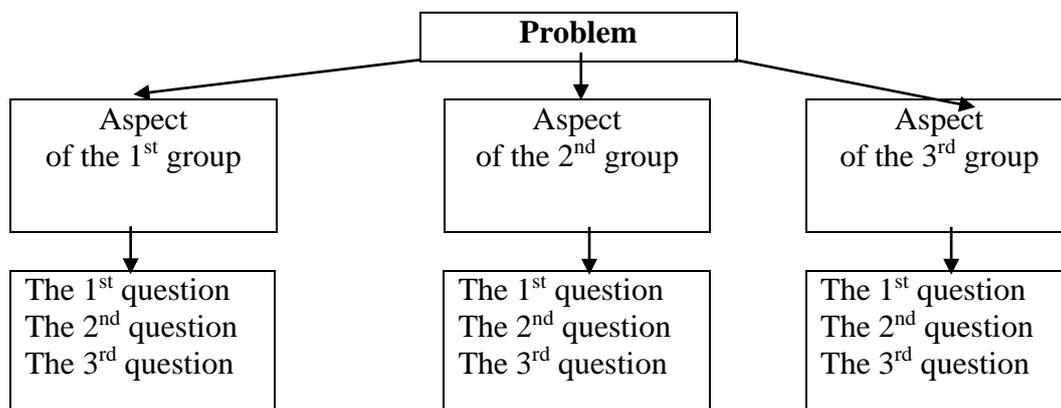
**Business game "Snowball"**

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized.

Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued.

All members of the group are active during the conducting of this game.



## **Free reading**

### **Malocclusion and congenital deformities**

Forty percent of all children have handicapping malocclusions that require orthodontic treatment. Local factors such as premature loss deciduous teeth, poor dentistry and general neglect contribute to this percentage. Most of the severe malocclusions that can be considered disfiguring are to large degree genetically determined and involve discrepancies of the facial skeleton, in the musculature and in its function accompanied by variation in dentition. Unlike caries and periodontal disease, malocclusion is a disease characterized by normal tissues. Thus there is no cause factor to which malocclusion can be related.

There are many forms of facial deformities including cleft palate that must be considered as dental health problems affecting the total well-being of the individual. Due consideration should be given to all abnormalities of the mouth and teeth as they affect the total health of the child.

Controlling questions:

1. How many children have handicapping malocclusion?
2. What are local factors contributing to malocclusion?
3. Is the genetic determination important?
4. What differs malocclusion from caries and periodontal disease?
5. Why is cleft palate a health problem?
6. How is cleft palate treated?

## **LESSON 12**

### **The x-ray as an aid in diagnosis**

With the data now in hand all teeth recorded as non-vital or suspicious should be radiographed to complete the diagnosis. Correct interpretation of dental radiographs cannot be made in the absence of good clinical data, and this point cannot be made strong. Neither can radiographs be properly read by one deficient in the knowledge of normal dental anatomy. The density of the film, the angle from which the exposure has been made, the density of superimposed structures, and the contiguity of other anatomical formations must all be taken into consideration.

In reading a dental X-ray film, the teeth known to be normal should first be studied. The use of a good reading-glass, or denticope, will be of great help. It will be noted in the case of a normal tooth that the pericementum can be traced around the root as a continuous radiolucent line. Adjacent to and surrounding this will be seen the lamina dura or radiopaque line.

It will also be noted that the trabeculae of bone about the apex are homogeneous with the bone which lies adjoining. Infection is microscopical, and cannot be radiographed. What we look for in the film is not

Infection, but the results of infection. Thus it may happen that a tooth recently infected or one long the habitat of organisms of low virulence may present a radiographic record in no way differing from the normal. Again, in the entire absence of infection there may be a rarefying process in the adjacent bone sufficient to cause a most decided radiolucent area. This latter picture is caused by overstimulation, as in traumatic occlusion or orthodontic procedure, and may also be observed about the forming roots of adolescence. Bearing these points in mind, the suspicious tooth should be examined to see in what manner it differs from the normal. The first thing to look for is a thickening or break in the line of the pericementum at the apex of the root. Next the bone about the apex should be examined for radioparency or radiolucency, and the presence or absence of the lamina dura noted; then the periphery of the apex should be studied for evidence of roughness. When any or all of these signs are recorded in the radiograph of a tooth which the clinical examination has shown to be non-vital we may safely conclude that the root is infected, and that we are dealing with periapical disease. Where all of these signs are absent, and the pulp is known to be contaminated or dead, the infection, if present, while confined to the root-canal and dentine is still a constant menace to the periapical tissues.

At this point we are enabled to make a differential diagnosis and the tooth in question must be placed in one of the following classes: pulp exposed and infected; pulp undergoing decomposition; pulp non-vital, but no periapical disturbance; pulp non-vital, with periapical disease.

Exercise 1. Read and translate the following words

Data – данные, факты, ma'lumotlar, dalillar

Density – плотность, густота, zichlik, quyuuqlik

Angle – угол, burchak

Exposure – подвергание воздействию, ta'sirga berilish

Latter – последний, oxirgi, so'nggi

Procedure – методика, процедура, uslub, muolaja

Exercise 2.

Pay attention to the meaning of the following terms.

radiolucency, radioparency, lamina dura, virulence, habitat, trabecule), homogeneous

Exercise 3.

Translate the following words paying attention to the prefix peri-. periapical, peridental, periosteum, pericementum, perioral, pericardial, perinephric

Exercise 4.

Look through the text and divide it into logical parts.

Exercise 5.

Remember these notes:

1. **radiolucent** — пронцаемый для рентгеновских лучей

2. **the habitat of organisms of low virulence** — среда для микроорганизмов с низкой вирулентностью

3. **in no way** — ни в коем случае

4. **bearing ... in mind** — имея в виду

5. **the pulp is known to be contaminated** — известно, что пульпа поражена

6. **the tooth in question** — зд. зуб, находящийся под подозрением

Exercise 6.

Answer the questions:

1. Why all teeth should be radiographed?

2. When correct interpretation of dental radiographs cannot be made?

3. What the first should be studied?

4. What helps in reading a dental x-ray film?

5. Is infection microscopical?

6. How is the suspicious tooth differed from the normal one?

7. What classes of pulp do you know?

### Free reading

#### Treatment considerations of dental patients.

A patient who seeks dental therapy while receiving medication or treatment by a physician may present special problems for the dentist. Certain patients with diseases of the cardiovascular system require special consideration.

Apprehension, worry and ling fatiguing dental procedures must be minimized in these patients. These factors stimulate the discharge of epinephrine and norepinephrine (levarterend) into the circulation and way give rise to an elevation in blood pressure and heart rate.

When injected properly (extravascularly and slowly) the epinephrine that is introduced with a local anesthetic solution is in quantities too small to produce a significant deleterious effect.

Proper premedication should also be used for these patients. Since there is no standard regimen, however, for the sedation of a patient, with cardiovascular disease such medication must be made on an individual basis.

Central nervous system (CNS) depressant, such as barbiturates, narcotics and antianxiety agents should not be administered to patients being treated for hypertension or mental depression with monoamine oxidase inhibitor during the prior two weeks. Epinephrine should be avoided for these patients and postoperative diet of tyramine-containing foods such as aged cheese and chocolate should not be prescribed.

Controlling questions:

1. What dental patients may present a special problem?
2. Is it advisable to consult the patient's GP (general physician) before dental procedures?
3. What must be minimized in the patients with cardiovascular diseases?
4. What may give rise to an elevation of blood pressure?
5. How can you minimize the deleterious effect of epinephrine?
6. Are there any standard regimens for these patients?

### **LESSON 13**

#### **Sources of oral sepsis**

Dental Caries as a **Source of Oral Sepsis**. During the first stage of dental caries, when the enamel only is being dissolved by means of lactic acid, it can scarcely be said that sepsis, in the ordinary sense of the word, is present but as soon as the dentine becomes involved in the morbid process there can be no doubt that sepsis is present, but suppuration.

The proteins of the fibrils and dentinal matrix are being metabolized largely by pyogenic organisms giving rise to poisonous end-products — gases, such as carbon dioxide, sulphuretted hydrogen, indol, and scatol, and liquid toxins, albumoses, etc.,<sup>1</sup> all of which must be swallowed by the patient. Before the pulp is actually exposed, it is frequently infected by organisms passing down the dentinal tubules, and suppuration, either localized or general, occurs in the pulp without there being any external evidence of its presence; the products of this suppuration must, of course, be wholly absorbed by the lymph and blood streams. A stage further, and the pulp is exposed, and sooner or later becomes gangrenous - septic in the highest sense of the word - and again all the gangrenous products are swallowed by the patient. Proteins are decomposed by mouth organisms, firstly into alkaloidal substance, and secondly, in the presence of air, into simpler decomposition products.

In the absence of free oxygen, however, such as in infected pulps without exposure, the process does not proceed further than the alkaloidal stage. These, for the most part poisonous, alkaloids are then absorbed, and produce a condition of toxæmia.

In the final stage the periodontal tissues become infected through the apical foramen, suppuration occurs, and an alveolar abscess develops, which, if not treated, becomes chronic, and is a persistent source of oral sepsis, the septic products in this case being partly absorbed<sup>2</sup> by the lymphatics and partly swallowed. It is therefore quite clear that the most rational method of eliminating these various sources of sepsis and septic absorption is to take means to prevent the commencement of the carious process at the enamel surface.

**Other Sources of Oral Sepsis.** Any chronic inflammatory lesion within the mouth is to be regarded as a source of oral sepsis; in many of these conditions pus is present from the commencement, and in many others suppuration is sooner or later established. Such conditions are the various forms of stomatitis, glossitis, and gingivitis; but the most common of all is that known as "pyorrhœa alveolaris".

Exercise 1. Read and translate the following words

Solve – решать, растворять, hal qilmoq, eritmoq

Doubt – сомневаться, подозревать, ikkilanmoq, shubha qilmoq

Swallow – глотать, глоток, yutmoq, ho'plamoq

Pus – гной, yiring

Pyorrhea – пиорея, pioreya

Condition – условие, состояние, shart, sharoit

Exercise 2.

Give Russian equivalents for the following words and word combinations. morbid, suppuration, to metabolize, poison, to regard, commencement, lactic acid, pyogenic organisms, poisonous end-products, liquid toxins, gangrenous process, alkaloidal substance, lymphatics

Exercise 3

Pay attention to the meaning of the suffix -itis in the following words, pulpitis, periodontitis, stomatitis, glossitis, gingivitis, appendicitis

Exercise 4.

Match the following words logically.

a) Acute, to treat, origin, to begin, to do away, persistent, frequently, localized, morbidity, sooner, absence

b) Later, permanent, chronic, source, to eliminate, general, to cure, often, presence, to commence, pathology

Exercise 5.

Look through the text and analyze its structure.

Exercise 6.

Answer the questions:

1. What are the sources of oral sepsis?
2. In what stage does dental caries become a source of oral sepsis?
3. How does the process of infection occur?
4. In which case does alveolar abscess become chronic?
5. What chronic inflammatory lesions may be found?

### **Free reading**

#### **Age changes of the Pulp Cavity and the Hard Tissues of the Human Premolars**

It is well known that the diametrical size of the enamel, dentin, cement layers and the pulp cavity of the human teeth change with aging. But, only a limited number of the quantitative study of this issue has so far been made. In this study, a total of 325 human premolars were cross-sectionally cut into ten sections with the purpose of examining the age changes of the pulp cavity and hard tissues.

All premolars were classified into four age groups, 10-19, 20-39, 40-49 and over -50. especially, the upper premolars were further classified into following three types according to the morphology of the root. A: a single root with single canal. B: a single root with double canals. C: double roots with double canals.

The age change of diametrical of each hard tissue and pulp cavity was examined both mesio-distally and buccolingually, and relative change was examined.

Controlling questions:

1. At what age does the human teeth change?
2. What's the human teeth change well known?
3. What study has been made?
4. How many premolars were cut?
5. What's the purpose of 325 human premolars were cross sectionally CUT for?
6. How many groups were classified all premolars?
7. How each hard tissue and pulp cavity was examined?

## **LESSON 14**

### **Traumatic diseases of the jaws**

The result of trauma to the jaws depends partly on the severity and partly on the fragility of the bones. It may produce a periostitis, traumatic cyst, or fracture.

**Periostitis.** Periostitis due to trauma uncomplicated by fracture is generally localized. It is frequently seen after surgical operations as a postoperative complication, but it also may follow blows to the jaws, such as occur in sport accidents, fist fights, and other facial injuries.

The affected part of the bone is extremely tender to the touch. There is more or less swelling of the periosteum and overlying soft tissue with discoloration due to ecchymosis. Rise of temperature indicates infection.

Rest and cold applications to the injured part generally are sufficient in simple periostitis. If there is infection, drainage should be established.

**Traumatic Cyst.** The mandible of young patients is plastic so that may cause intraosseous hemorrhage without producing a fracture. It results in the formation of a traumatic or hemorrhagic cyst.

Treatment is surgical, consisting of evacuation of the fluid content and curettage. Healing is by granulation, which is assisted by irrigation and packing with gauze.

**Fracture.** Minor injuries result in subluxation, sometimes dislocation of the mandible may or may not be associated with fracture.

Fracture of the face usually involves one or more bones. Fractures of the jaws almost always interfere with mastication, and fractures of the maxilla predispose to infection of the maxillary sinuses. Depending on the character of the fracture and involvement of adjacent parts, we distinguish several types of fractures. The roentgen picture will show the amount of displacement.

The jaw is reduced under general anaesthesia and immobilized by a suitable method of fixation. The simplest methods are the best. Various splints may be constructed.

V. Point out it in 1-3 paragraphs and say what they refer to.

VI. Sum up the text answering the following questions.

1. What resulting diseases may a trauma to the jaw produce? 2. What are the causes of periostitis? 3. What treatment is prescribed in periostitis? 4. At what age does a traumatic cyst usually occur and why? 5. What measures should be prescribed to heal a traumatic cyst? 6. How many bones does the fracture of the face usually involve? 7. What do the fractures of the jaws interfere with? 8. What methods are used to immobilize the jaw?

VII. Make up sentences using the following words.

1. temperature, rise, infection, indicates, of
2. drainage, in, established, case, is, infection, of
3. with, mastication, interfere, the, jaws, of, fractures, almost, always
4. best, are, the, methods, simplest, the

VIII. Read and translate the following case-histories with a dictionary in 15 minutes.

Exercise 1. Read and translate the following words

Depend – зависит, bog'liq bo'lmoq

Content – содержание, mazmun  
Curettage – выскабливание, qirib tozalash  
Irrigation – промывание, yuvish  
Pack – тампон, tampon  
Mastication – жевание, chaynash

Exercise 2.

Find in the text the derivatives of the following words.

trauma, local, to operate, face, to swell, to infect, form, to fix, dependence, to pack, to masticate

Exercise 3.

Match the following words logically.

a) illness, wound, general, more, cold, complex, mandible, removal, to connect, to chew, kind, film, immobilization

b) lower jaw, to associate, maxilla, type, picture, hot, to masticate, less, local, simple, compound, evacuation, lesion, disease

Exercise 4.

Look through the text and analyze its structure.

Exercise 5.

Sum up the text answering the following questions.

1. What resulting diseases may a trauma to the jaw produce?
2. What are the causes of periostitis?
3. What treatment is prescribed in periostitis?
4. At what age does a traumatic cyst usually occur and why?
5. What measures should be prescribed to heal a traumatic cyst?
6. How many bones does the fracture of the face usually involve?
7. What do the fractures of the jaws interfere with?
8. What methods are used to immobilize the jaw?

Exercise 6.

Make up sentences using the following words:

1. Temperature, rise, infection, indicates, of
2. Drainage, in, established, case, is, infection, of
3. With, mastication, interfere, the, jaws, of, fractures, almost, always
4. Best, are, the, methods, simplest, the

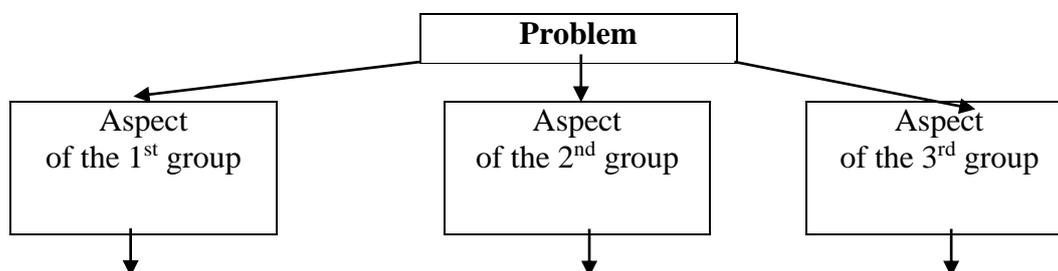
**Business game “Snowball”**

Each group is divided into small groups consisting of 4-5 persons. Leader of each small group is appointed. The theme of the game is given, questions are made up by the members of small groups. Answers are prepared as well and summarized.

Leaders begin the game.

Questions are asked by each team. Answers are checked by the teacher and valued.

All members of the group are active during the conducting of this game.



The 1<sup>st</sup> question  
The 2<sup>nd</sup> question  
The 3<sup>rd</sup> question

The 1<sup>st</sup> question  
The 2<sup>nd</sup> question  
The 3<sup>rd</sup> question

The 1<sup>st</sup> question  
The 2<sup>nd</sup> question  
The 3<sup>rd</sup> question

### Free reading Loss of tissue

The more severe maxillo-facial injuries, and in particular the gunshot injury, will often exhibit loss of tissue. As a result of this loss there may be impairment of function and loss of appearance.

Soft Tissue. Plastic surgery has now reached such a state of technical perfection that it is almost always possible to restore completely soft-tissue losses. The surgical restoration of soft-tissue loss is preferable, as a general rule, to restoration by a prosthesis, and it should always be undertaken unless there are strong indications to the contrary.

Where surgical repair of the soft tissues of the face is impossible or impractical, an external prosthesis may have to be made. This form of appliance is often used for the restoration of an ear or the soft tissues around the eye following a big orbital loss.

Soft-tissue contour depends to a large extent upon the underlying bony framework; this framework will have to be restored by surgical or prosthetic means in order to hold the soft tissue in normal position.

Bony Tissue. The loss of bony tissue does not necessarily entail loss of function, but it may do so, often causing very considerable interference with the patient's normal mastication, phonation, appearance, etc. Its restoration is more difficult than the restoration of soft tissue, and is difficult by surgical means for the upper jaw.

#### Means of Restoration

(a) **Approximation.** Strictly speaking, approximation is not a means of restoring lost tissue; it is a means of restoring lost function.

Where a loss of bone has occurred in the mandible it is possible and desirable, in certain cases, to accept the loss and approximate the fractured surfaces. The restoration of the normal anatomy is not always essential to the restoration of full function — a point of fundamental importance which is commonly overlooked in the erroneous striving for 100 per cent results.

(b) Bone Graft. A loss of bony tissue in the mandible can be restored by the implantation of bone from another part of the body. In this way it is possible to restore the bony loss, even where it is quite extensive.

(c) Prosthesis. Where it is impossible to treat a loss of bone by either of the above methods, recourse will have to be made to a prosthesis. Approximation or bone-grafting is difficult to the upper jaw, which therefore always demands a prosthesis; and in certain instances a prosthesis is the best compromise in the mandible.

(d) Epithelial Inlay. Strictly speaking, the epithelial inlay per se<sup>1</sup> is not a means of restoring anything, but it has many uses in combination with prosthesis.

While it is almost always possible to restore soft tissue by surgery, it is not always possible to restore the underlying bony framework upon which the soft tissue contour depends.

When restoration of the bony framework by bone graft is not possible, the soft-tissue contour can be restored by means of a prosthesis fitting into a sulcus which is made by an epithelial inlay. In addition, the epithelial inlay cavity can be and is often used to aid the retention of the prosthesis.

**Combinations.** The various methods may have to be used in combination one with the other, as, for example, in the treatment of bone loss of the mandible in the symphysis region, where perhaps approximation is used to restore a solid functional mandible and a prosthesis, in combination with an epithelial inlay cavity, is used to restore the contour of the soft tissues of the chin.

Controlling questions:

1. What will often exhibit loss of tissue?
2. What happens as a result of this loss?
3. Is it always possible to restore completely soft tissue losses?
4. When an external prosthesis may have to be made?
5. What does the loss of bony tissue cause?
6. What is more difficult than the restoration of soft tissue?