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# **Basic Dentistry**

**Study guide**





Ministry of Education and Science of Ukraine  
Sumy State University

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# **Basic Dentistry**

## **Study guide**

Recommended by the Academic Council of Sumy State University

Sumy  
Sumy State University  
2022

UDC 811.111'243(075.8)  
K 80

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*Recommended for publication  
by the Academic Council of Sumy State University  
as study guide  
(minutes № 4 of 20.10.2022)*

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K 80      **Basic Dentistry : study guide / Y. S. Kozachenko, O. I. Nefedchenko, N. V. Maliovana. – Sumy : Sumy State University, 2022. – 132 p.**

The study guide is intended for students of the stomatological faculty when studying English in higher medical educational institutions. The material of the study guide is presented in the form of the main part and an appendix.

**UDC 811.111'243(075.8)**

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## INTRODUCTION

The manual **Basic Dentistry** is intended for students of the stomatological faculty when studying English in higher medical educational institutions.

The manual is built in accordance with the requirements of the curriculum.

The material of the manual is presented in the form of the main part and an appendix. The main part consists of fifteen sections units, which have subsections: Vocabulary, Pre-Reading, Reading, Post-Reading, Speaking, Just For Fun.

Each section contains: the original text of dental orientation; a series of various training exercises to activate the mastering of the learned lexical material; a variety of interesting exercises, tests, crosswords for relaxation and, at the same time, consolidating professional vocabulary. The manual provides a block of additional original texts for reading dental orientation.

The goals of the guide: to expand the vocabulary of students by mastering modern terminology that is widely used in modern dentistry; to prepare students for reading original literature on dentistry; development of communication skills.

## MODULE 1. HISTORY OF DENTISTRY

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>science</b>	наука
<b>root</b>	корінь
<b>exist</b>	існувати
<b>decay</b>	карієс
<b>worm</b>	черв'як
<b>suffer</b>	страждати, хворіти
<b>toothache</b>	зубний біль
<b>treat</b>	лікувати
<b>gum</b>	ясна
<b>jaw</b>	щелепа
<b>bristle</b>	щетина
<b>treatise</b>	трактат, наукова праця
<b>prosthesis</b>	протез
<b>extraction</b>	видалення
<b>barber</b>	перукар, цирульник
<b>filling</b>	пломба
<b>engine</b>	бор-машина
<b>nitrous oxide</b>	окис азоту
<b>procedure</b>	процедура
<b>alleviate</b>	полегшувати, пом'якшувати

### II PRE-READING

**Exercise 1. Translate words and word combinations from English into Ukrainian:**

Branch of medicine, suffered from, dental diseases, toothache, tooth decay, dental instruments, was caused by, a variety of illnesses, jacket crown, discovered, cosmetic dentistry, oral hygiene, preventive dentistry and dental education.



**Exercise 2. Insert the missing letters and translate the words:**

Sci\_\_nce, br\_\_nch, ro\_\_ts, s\_\_ffer, dise\_\_se, c\_\_use, d\_\_cay,  
c\_\_vity, tre\_\_t, g\_\_m, j\_\_w, bl\_\_od, proced\_\_re, pa\_\_n, br\_\_sh,  
h\_\_giene.

III READING

**Exercise 3. Read and translate the following text:**

**History of Dentistry.**

Each science has its own history. Dentistry is not very old branch of medicine but its roots came from the early years of existing of the human being.

It is known that prehistoric man suffered from the same dental diseases as people do nowadays. The first mention about toothache was found in Mesopotamia. Some inhabitants of Mesopotamia stated that the cause of tooth decay (caries) was the worm. This is logical, as the holes created by cavities are somewhat similar to those bored by worms into wood. The ancient Hindus inserted gold into holes. They used extraction tools and other dental instruments; they also treated gum diseases. In ancient China toothache was treated by acupuncture. In Egypt lost teeth were replaced with extracted ones from slaves and they were held by gold wire.

Ancient Greek scholars Hippocrates and Aristotle wrote about dentistry, including the eruption pattern of teeth, treating decayed teeth and gum disease, extracting teeth with forceps, and using wires to stabilize loose teeth and fractured jaws. Galen was the founder of theory that decay was caused by disturbance in the blood.

Historically, dental extractions have been used to treat a variety of illnesses. During the Middle Ages and throughout the 19th century, dentistry was not a profession in itself, and often dental procedures were performed by barbers or general physicians. Barbers usually limited their practice to extracting teeth which alleviated pain and associated chronic tooth infection.

The first dental textbook written in English was called

“Operator for the Teeth” by Charles Allen in 1685. It was between 1650 and 1800 that the science of modern dentistry developed. It is said that the 17th century French physician Pierre Fauchard started dentistry science as we know it today, and he has been named “the father of modern dentistry” because his book “The Surgeon Dentist, A Treatise on Teeth” was the first to describe a comprehensive system for caring for and treating the teeth. Among many of his developments were the extensive use of dental prosthesis, the introduction of dental fillings as a treatment for dental caries.

The first dental foot engine was built in 1790 by John Greenwood and one of George Washington’s dentists. It was made from an adapted foot-powered spinning wheel. In 1871, George F. Green invented the first electrical dental engine.

1790 was a big year for dentistry, as this was also the year the first specialized dental chair was invented. It was made from a wooden chair with a headrest attached.

The First Dental School was founded in 1840. Chapin Harris and Horace Hayden founded the Baltimore College of Dental Surgery, the first school dedicated solely to dentistry. The college merged with the University of Maryland School of Dentistry in 1923, which still exists today.

Dentistry has seen a great deal of innovation over the past 100 years. In 1903 Charles Land devised the porcelain jacket crown. In 1905, Alfred Einhorn, a German chemist, discovered Novocain. In 1938, the first tooth brush with synthetic nylon bristles hit the market. In 1945, the water fluoridation era began when the cities of Newburgh, NY and Grand Rapid decided to add fluoride to the public water supply. In 1950, the first fluoride toothpastes are marketed. In 1957, John Borden invented the first high speed electric hand drill. In the 1960s, the first dental lasers are developed and used for soft tissue procedures. The 1960s also saw the invention of the first electric toothbrush.

The 1990s marks the beginning of the era of cosmetic dentistry, with the increased popularity of veneers, bleaching, and dental implants.

With the advent of the 20<sup>th</sup> century dentistry continued to progress on many fronts including technology, oral hygiene, preventive dentistry and dental education.

#### IV POST-READING

#### **Exercise 4. Find in the text the equivalents for the following words and word-combinations:**

Профілактична стоматологія, хвороби зубів, страждати від захворювання зубів, видалення зубів, зламана щелепа, хвороби ясен, утримувати зуби разом, карієс, лікувати каріозний зуб, стоматологічні процедури, хронічна інфекція зуба, застосування зубних протезів, винахід, електрична бормашина, електрична зубна щітка, порцелянова коронка, зубна паста з умістом фтору, м'які тканини, косметична стоматологія, відбілювання зубів, фторування водопровідної води, ручна бормашина.

#### **Exercise 5. Answer the following questions:**

1. Is dentistry is a new branch of medicine, isn't it?
2. What was the cause of tooth decay (caries)?
3. What did the ancient Hindus insert into holes?
4. What was toothache treated in ancient China by?
5. How were lost teeth replaced in ancient Egypt?
6. What was the idea of tooth worm hypothesis?
7. What did ancient Greek scholars Hippocrates and Aristotle write about dentistry?
8. When was the science of modern dentistry developed?
9. Who is said to be the father of modern dentistry?
10. When was the first dental foot engine built?
11. What was the first dental foot engine made from?
12. When was the first dental chair invented?
13. What was the first school dedicated solely to dentistry?
14. What are dental inventions of the XX century?
15. What dentists-scientists do you know?

**Exercise 6. Insert the missing words:**

1. Dentistry has seen a great deal of \_\_\_\_\_ over the past 100 years. 2. The first dental foot \_\_\_\_\_ was built in 1790 by John Greenwood. 3. Barbers usually limited their practice to extracting teeth which alleviated \_\_\_\_\_ and associated chronic tooth infection. 4. Prehistoric man suffered from the same dental \_\_\_\_\_ as people do nowadays. 5. Galen was the founder of theory that \_\_\_\_\_ was caused by disturbance in the blood. 6. John Borden invented the first high speed electric hand \_\_\_\_\_. 7. The 1990s marks the beginning of the era of \_\_\_\_\_ dentistry. 8. The first tooth brush with synthetic nylon \_\_\_\_\_ hit the market.

**Exercise 7. Put the letters in the correct order and write the resulting word.**

- |                        |                   |
|------------------------|-------------------|
| 1. h b u s r           | 6. c r e l e p a  |
| 2. c p c r t i e a     | 7. t a t e r      |
| 3. f s u r f e         | 8. e d n l a t    |
| 4. o t h o t a c e h   | 9. e d y a c      |
| 5. n o i o v n a t i n | 10. n h y i e g e |

V SPEAKING

**Exercise 8. Skim through the text “History of Dentistry” and find sentences expressing its main idea.**

**Exercise 9. Make up a plan of the text “History of Dentistry”. Tell your groupmates about history of Dentistry according this plan.**

VI JUST FOR FUN

**Amazing facts about dentistry history. One is false. Can you guess which?**

Natural bristle brushes were invented by the ancient Chinese who made toothbrushes with bristles from the neck of cold climate pigs.

Long ago, people used to ground up chalk or charcoal, lemon juice, ashes or even a mixture of tobacco and honey to clean their teeth.

The Greek physician Hippocrates (400 BC) suggested a toothpaste made from three mice and the head of a hare to cure toothache.

Before toothpaste was invented people used dry, rough things as an abrasive to clean their teeth – like crushed eggshell, pumice or the burnt hooves of animals!

In early 1600 Japanese women made their teeth black to show loyalty to their husbands.

In roman times, the ancient Gauls, as well as other people, used urine as a mouth rinse to whiten their teeth.

The ancient Chinese wrapped tiny pieces of parchment around painful teeth, all of which contained written prayers and incantations.

Aztec dentists used to mix Iron fillings, water and navel lint bake and insert into the cavities to seal it.

In the old days when dentures weren't invented yet, dentists would do a quick surgery in implanting teeth in the mouth of a person, by obtaining the teeth from a dead person's mouth.

The electric chair was invented by a dentist.

The most valuable tooth was that of Sir Isaac Newton purchased by a businessman for \$ 4560, which he used as a ring.

A couple of hundred years ago bad teeth were considered to be a rich man's disease. It was only the rich people who could afford to eat sweet things like Queen Elizabeth I, who had very bad teeth.

In the dark ages, superstitions held that a person could cure his/her toothache or re-grow a lost tooth by obtaining a tooth from someone else. This tooth would have preferably come from a hanged criminal.

In the 18th century people would sell their teeth to the rich people, who then used to make false teeth with them, (so replacement of teeth was seen from as early as 18th century)

Chewing gum is indigestible and it stays in the stomach for seven years.

38.5 days is the number of days a person spends brushing his teeth in his whole lifetime.

The following disgusting list are other cures for tooth problems in the past.

Toothache: apply the following mixture to the corresponding shoulder: figs, saffron, mustard seed, and plaster of myrrh; boil earthworms in oil and drop the oil into the ear holes; rub the tooth with dried cow's dung!

Tooth decay: rinse with a mouthwash made by boiling dogs' teeth in wine. To make loose teeth firm, tie a frog to your jaw.

## MODULE 2. CAREERS IN DENTISTRY

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>demand</b>	вимога
<b>prevent</b>	запобігати
<b>hygiene</b>	гігієна
<b>denture</b>	протез
<b>procedure</b>	процедура
<b>affect</b>	вразити, пошкоджувати
<b>filling</b>	пломба
<b>root canal</b>	кореневий канал
<b>bite</b>	прикус
<b>straighten</b>	вирівнювати, виправляти
<b>cavity</b>	порожнина
<b>appliance</b>	прилад
<b>pulp</b>	пульпа зуба
<b>prescription</b>	рецепт
<b>flossing</b>	чищення зубів зубною ниткою
<b>palate</b>	піднебіння
<b>braces</b>	ортодонтичні скоби

<b>patient</b>	пацієнт
<b>sealant</b>	пломбувальний матеріал; пломба

## II PRE-READING

### Exercise 1. Translate the following words and word-combinations:

Prevention, the increasing demand, restorative treatments, provide advice, affect oral health, fill cavities, correct bite, dental care, dental needs, infected teeth, taking care of teeth, oral lesions, infancy, oral healthcare, blood supply, variety, use of fluoride, measurements, nearby areas, give anesthetics, remove decay, diet choices, patient's teeth, related structures.

### Exercise 2. Insert the missing letters and translate the words and word-combinations:

Di\_\_gnosis, h\_\_gienist, b\_\_te, t\_\_erapy, s\_\_rgeon, pediatri\_\_ian, di\_\_gnose, tre\_\_t, car\_\_er, fl\_\_oride, aff\_\_ct, pr\_\_scription, ane\_\_thetic.

### Exercise 3. Match the following English word combinations with the Ukrainian ones:

- |                          |                                   |
|--------------------------|-----------------------------------|
| 1. preventive treatments | a. терапевт                       |
| 2. cleft lip             | b. засіб для відбілювання зубів   |
| 3. general practitioners | c. профілактичні процедури        |
| 4. imaging technologies  | d. ретинований зуб                |
| 5. impacted teeth        | e. розщеплена губа (“заяча губа”) |
| 6. whitening agents      | f. технології візуалізації        |

## III READING

### Exercise 4. Read the following text and translate it.

#### Careers in Dentistry.

Dentistry is the branch of medical science that deals with the prevention, diagnosis and treatment of the teeth, gums, jaws and

other related structures of the mouth. The field of dentistry is constantly growing to meet the increasing demand for dental care and there are many opportunities in this field for dentists, dental hygienists, dental assistants, and dental laboratory technicians.

Dentists are healthcare professionals who provide preventive and restorative treatments for problems that affect the mouth and teeth. Dentists diagnose and treat problems with a patient's teeth, gums, and related parts of the mouth. They provide advice and instruction on taking care of teeth and gums and on diet choices that affect oral health.

Dentists typically do the following:

- ✓ remove decay from teeth and fill cavities;
- ✓ repair cracked or fractured teeth and remove teeth;
- ✓ straighten teeth to correct bite;
- ✓ place sealants or whitening agents on teeth;
- ✓ give anesthetics to keep patients from feeling pain during procedures;
- ✓ write prescriptions for antibiotics or other medications;
- ✓ examine x-rays of teeth, gums, the jaw, and nearby areas for problems;
- ✓ make models and measurements for dental appliances, such as dentures, to fit patients;
- ✓ teach patients about diet, flossing, use of fluoride, and other aspects of dental care. Most dentists are general practitioners and handle a variety of dental needs. Other dentists practice in one of nine specialty areas:

**Dental public health specialists** promote good dental health and the prevention of dental diseases in specific communities.

**Endodontists**, also called pulp specialists, perform root-canal therapy, by which they remove the nerves and blood supply from injured or infected teeth.

**Oral and maxillofacial radiologists** diagnose diseases in the head and neck through the use of imaging technologies.

**Oral and maxillofacial surgeons** operate on the mouth, jaws, teeth, gums, neck, and head, including procedures such as



surgically repairing a cleft lip and palate or removing impacted teeth.

**Oral pathologists** diagnose oral diseases, such as oral cancer or oral lesions.

**Orthodontists** straighten teeth by applying pressure to the teeth with braces or other appliances.

**Pediatric dentists** are specialists in the field of dentistry, which includes oral healthcare for children from infancy through the teenage years. In guiding children and teens through their dental growth and development, pediatric dentists often work closely with pediatricians, family physicians, and other dental specialists in providing comprehensive medical and dental care.

**Periodontists** treat the gums and bone supporting the teeth.

**Exercise 5. Translate the following words and word-combinations from Ukrainian into English:**

Щелепа, ясна, стоматологічна допомога, здоров'я порожнини рота, давати поради та рекомендації, давати знеболювальне, виписувати рецепт, вирівнювати зуби, лікування пульпи зуба, видаляти нерви, розщеплена губа, ранній дитячий вік, підлітковий вік, зубні протези, кореневий канал.

**Exercise 6. Answer the following questions:**

1. What is Dentistry?
2. Why is the field of dentistry constantly growing?
3. What dental specialties do you know?
4. What are dentist's duties?
5. What do dental public health specialists promote?
6. What do oral and maxillofacial radiologists diagnose diseases through?
7. What are orthodontists primarily concerned with?
8. How may teeth irregularities be corrected?
9. What procedures does oral surgeon perform?
10. What kind of dentist is pediatric dentist?
11. What specialist deals with the prevention and treatment of gum diseases?

12. Who treats the gums and bone supporting the teeth?  
 13. What do dental public health specialists promote?

**Exercise 7. Match the following terms with their definitions, one definition is extra:**

<b>1. Dental assistant</b>	<b>a)</b> the specialist who is primarily concerned with the prevention and correction of irregularities of the teeth
<b>2. Oral pathologist</b>	<b>b)</b> the specialist who performs extractions, remove cysts, correct palates
<b>3. Oral surgeon</b>	<b>c)</b> the specialist who deals with the prevention and treatment of gum diseases
<b>4. Orthodontist</b>	<b>d)</b> the person who prepares patients for treatment, hand instruments and material
<b>5. Endodontist</b>	<b>e)</b> promote good dental health and the prevention of dental diseases in specific communities
<b>6. Periodontist</b>	<b>f)</b> the specialist who is concerned with root canal work
	<b>g)</b> the specialist who is concerned with the diagnosis, study and treatment of mouth infections

**Exercise 8. Read the following text and translate it:**

A dentist's training enables him to undertake, without assistance, all of the treatment necessary for his patients, including construction of their dentures, crowns, gold inlays, etc. Except for the actual treatment performed within the mouth, however, much of the work, which a dentist is qualified to do, can be performed by others.

**Dental hygienist.** Dental hygienists (sometimes also known as oral health practitioners) are dental care professionals and work as part of the dental team. While dentists concentrate on treating tooth and gum conditions, the dental hygienist has a vital role in helping to prevent problems from arising. Dental hygienists carry out

procedures such as scaling and polishing teeth, and applying topical fluoride and fissure sealants. The dental hygienist assesses the patient's oral tissues and overall health determining the presence or absence of disease, other abnormalities and disease risks; develops a dental hygiene diagnosis based on clinical findings; formulates treatment care plans; educates patients regarding oral hygiene and preventive oral care.

**Dental laboratory technician** is generally a highly skilled person who constructs artificial dentures, bridges and other dental appliances. Some of technicians perform all types of laboratory work, but others specialize in one aspect of constructing dentures.

**Dental assistants** greatly increase the efficiency of the dentist in the delivery of quality oral health care and are valuable members of the dental care team. The duties of a dental assistant are among the most comprehensive and varied in the dental office. The dental assistant's responsibilities may include:

- assisting the dentist during a variety of treatment procedures
- taking and developing dental radiographs (x-rays)
- asking about the patient's medical history and taking blood pressure and pulse
- preparing and sterilizing instruments and equipment
- helping patients feel comfortable before, during and after dental treatment
- providing patients with instructions for oral care following surgery or other dental treatment procedures, such as the placement of a restoration (filling)
- teaching patients' appropriate oral hygiene strategies to maintain oral health (e.g., toothbrushing, flossing and nutritional counseling)
- taking impressions of patients' teeth for study casts (models of teeth)
- performing office management tasks that often require the use of a personal computer
- communicating with patients (e.g., scheduling appointments, answering the telephone)

- helping to provide direct patient care in all dental specialties, including orthodontics, pediatric dentistry, periodontics and oral surgery

#### IV POST-READING

##### **Exercise 9. Insert the missing words given below:**

*assistant, hygienist, assistant, materials, procedures, treatments, technician*

Dentists provide preventive and restorative \_\_\_\_\_ for problems that affect the mouth and teeth. The dental \_\_\_\_\_ has a vital role in helping to prevent problems from arising. He carries out \_\_\_\_\_ such as scaling and polishing teeth. Dental laboratory \_\_\_\_\_ constructs artificial dentures, bridges and other dental appliances. The duties of a dental \_\_\_\_\_ are taking and developing dental radiographs (x-rays), preparing and sterilizing instruments and equipment and so on.

##### **Exercise 10. Translate the following sentences into English:**

1. Стоматолог виконує різні види робіт. 2. Ортодонт виправляє неправильне положення зубів. 3. Хірурги-стоматологи видаляють зуби та виконують інші хірургічні процедури у ротовій порожнині. 4. Дитячі стоматологи пломбують зуби дітей, лікують інфекції ясен, попереджають виникнення аномалій прикусу. 5. Пародонтолог – це спеціаліст, який займається профілактикою та лікуванням захворювань ясен. 6. Існує певний перелік робіт, які дозволяють виконувати гігієністам-стоматологам. 7. Зубні техніки виготовляють протези, а протезисти займаються заміщенням втрачених зубів за допомогою штучних протезів.

##### **Exercise 11. Translate words and word combinations from English into Ukrainian.**

Oral surgery, tooth extraction, major surgery on the mouth, artificial replacements, orthopedic dentistry, oral diseases, prosthetic

dentistry, mechanical devices, practitioner, vital function, brace.

## V SPEAKING

**Exercise 12. Tell your groupmates about the specialists who work in dentistry and their duties.**

## VI JUST FOR FUN

### English Idioms & Idiomatic Expressions

1. *by the skin of one's teeth*

If you manage to do something *by the skin of your teeth*, you succeed in doing it but you almost fail

2. *grit your teeth*

When you are determined to do something in spite of the difficulties involved, you *grit your teeth*.

3. *with a fine-tooth comb*

If you examine something *with a fine-tooth comb*, you examine every part of it carefully.

## MODULE 3. DENTISTRY TODAY

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>governing body</b>	керівний орган
<b>duty</b>	обов'язок
<b>currently</b>	на даний момент, нині
<b>primary care</b>	первинна медична допомога
<b>rehabilitative</b>	реабілітаційний
<b>curative</b>	лікувальний
<b>handicapped adults</b>	дорослі з обмеженими можливостями
<b>salary</b>	заробітна плата, оклад
<b>charge</b> плата	за обслуговування
<b>(free of charge</b> –	безоплатно)

<b>fee</b>	плата за послуги, гонорар
<b>contribution</b>	взнос, налог

## II PRE-READING

### **Exercise 1. Translate the following words and word-combinations into Ukrainian:**

Community service, routine treatment, health center, priority group patients, school dental service, hospital dental service, community dental offices, specialist consultant advice, long (short) stay hospital patients, routine dental care, emergency treatment.

## III READING

### **Exercise 2. Read the text 1 and say whether the UK dental care system is an ideal one? Why?**

#### **The Organization of Dental Services in the United Kingdom.**

The General Dental Council is the governing body of the dental profession in the United Kingdom. Its duties are set out in the Dentists Act, 1957. The Dentists Register kept by it contains the name, address and qualification of every person legally entitled to practice dentistry in the United Kingdom. The registered dentist has a wide choice of *opportunities* within his profession: general practice, school dental service, hospital service, university teaching and research, industrial dental service and the armed forces.

There are currently over 20,000 dentists registered in the United Kingdom. The majority work within the National Health Service. Dental services are concerned largely with primary care. Some 80 percent of dentists work as independent contractors in the general dental service, around 10 per cent work in the salaried community service and only 7 per cent are employed in hospitals. The number of dentists per head of population in Britain is around 1 to 3500.

Dentists in general practice work on a fee for *item* of service basis and are paid for courses of treatment completed. The service is

oriented to curative and *rehabilitative* treatment rather than prevention.

Patients do not register with a particular *practitioner*. While the NHS *guarantees* everyone a doctor, no one is guaranteed a dentist.

Adult patients are obliged to pay a contribution towards the cost of routine dental treatment with higher charges for dentures and some of the more costly items of restorative treatment. Some items such as examination and report, arrest of bleeding are free under the NHS.

Dentists working in the community service are *remunerated* by salary. The service is organized in clinics and health centers and is devoted to dental care of defined *priority* groups. Priority group patients can obtain dental treatment free of charge. These groups include children of all ages, expectant and nursing mothers and *handicapped* adults.

The hospital dental service provides specialist consultant advice and treatment in oral and *maxillofacial* surgery, orthodontics and restorative dentistry. In addition, it has responsibility for routine dental care for long stay hospital patients and the emergency treatment of short stay patients.

**Notes:** The General Dental Council – Генеральна стоматологічна рада

The Dentists Register – Офіційний список зубних лікарів та стоматологів, які мають право займатися медичною практикою

The general dental service – Стоматологічна практика загального профілю

The community service – Районна громадська служба

#### IV POST-READING

##### **Exercise 3. Insert the missing words:**

1. The Dentists Register kept by it contains the name, address and \_\_\_\_\_ of every person.

2. The registered dentist has a wide choice of \_\_\_\_\_ within his profession.
3. Dental services are concerned with primary \_\_\_\_\_.
4. The majority of dentists work as independent \_\_\_\_\_ in the general dental service
5. Dentists working in the community service are \_\_\_\_\_ by salary.
6. Patients do not register with a particular \_\_\_\_\_.

**Exercise 4. For each of the words in italics, find another word with the same meaning which could also be used in the same sentence.**

*Example:* Dentists working in the community service are rewarded by salary. *remunerated*

1. *At present* there are over 20,000 dentists registered in the U.K.
2. The Dentists Register contains the name, address and qualification of every person *empowered* to practice dentistry in the United Kingdom.
3. The dentists in general practice are oriented to curative and rehabilitative treatment rather than *prophylaxis*.
4. Some dental procedures such as examination of the oral cavity and arrest of *hemorrhage* are free under the National Health Service.
5. Children of all ages are given dental services *without compensation*.

**Exercise 5. Read and translate the text 2.**

### **The College of Dentistry of New York University**

Being founded in 1865, the New York College of Dentistry became an integral part of New York University in 1925.

The College houses patient clinics, research and teaching facilities, educational programs, and administrative offices. These facilities house a total of 506 operatories. The operatories are designed in modules, each containing a waiting room, offices, X-ray facilities, and a seminar room for instruction and consultation.



The College of Dentistry maintains one of the largest dental libraries in the United States. The NYUCD library contains over 36,000 bound volumes, 440 professional journals, a large collection of audiovisual and CD-ROM materials, student and classroom materials, 18 public access computer workstations and one of the largest dental rare book collections in the United States. The students have 24-hour access to the library.

The four-year curriculum is a synthesis of many areas of knowledge, including biology, physics, biochemistry, aesthetics, manual skills and social sciences. The educational program focuses on prevention as a much-desired goal in dental practice and research. The educational goal is to train clinically competent and sophisticated general practitioners, fully prepared to adapt to changes in dental care needs and ready to keep up-to-date with the developing dental knowledge.

During the first and second years, the course includes both basic and clinical sciences. Students receive instruction in principles of human behavior, practice management and other areas relating to the organization of work. They also have courses in nutrition, normal mastication, physical diagnosis and life support and cardiopulmonary resuscitation. During the third-year extensive didactic instruction is given in endodontics, prosthodontics, occlusion, operative dentistry, oral and maxillofacial surgery, oral diagnosis, orthodontics, pedodontics, periodontics, and radiology.

Clinical practice during the first and second years begins with a series of lectures on the dental patient aimed at preparing the student for the duties and responsibilities of every day practice. During the second, and continuing into the third and fourth years, each student is assigned patients. Duties begin with examination of the patient and end only when the patient's dental health is restored to the best possible state. The students are responsible for treatment planning, making appointments and providing dental treatment.

## IV POST-READING

### Exercise 6. Fill in the gaps with the verbs from the list.

*receive, have, assign, restore, train, make, be responsible for.*

1. \_\_\_\_\_ the patient's dental health
2. \_\_\_\_\_ patients
3. \_\_\_\_\_ courses in
4. \_\_\_\_\_ instruction in
5. \_\_\_\_\_ clinically competent general practitioners
6. \_\_\_\_\_ treatment planning
7. \_\_\_\_\_ appointments

### Exercise 7. Match two parts of the sentences:

1. The New York College of Dentistry became
  2. The College of Dentistry maintains
  3. During the first- and second-years students receive instruction in
  4. They also have courses in
  5. The educational goal is
  6. The four-year curriculum is a synthesis of many areas of knowledge,
  7. Clinical practice during the first and second years begins
  8. During the second, and continuing into the third and fourth years,
  9. During the third-year extensive didactic instruction is given in
- 
- a. nutrition, normal mastication, physical diagnosis and life support and cardiopulmonary resuscitation.
  - b. each student is assigned patients.
  - c. an integral part of New York University in 1925.
  - d. to train clinically competent and sophisticated general practitioners.
  - e. with a series of lectures on the dental patient.
  - f. one of the largest dental libraries in the United States.

- g.** endodontics, fixed prosthodontics, occlusion, operative dentistry, oral and maxillofacial surgery, oral diagnosis, orthodontics, pedodontics, periodontics, radiology and removable prosthodontics.
- h.** principles of human behavior, practice management and other areas relating to the organization of work.
- i.** including biology, physics, biochemistry, aesthetics, manual skills and social sciences.

## V SPEAKING

**Exercise 8. Put the sentences from exercise 7 in the right order to make a story.**

**Exercise 9. Tell your groupmates about the Dental Services in Ukraine.**

## VI JUST FOR FUN

### **English Idioms & Idiomatic Expressions**

1. *fight tooth and nail*

If you *fight tooth and nail* you fight very hard to achieve something.

2. *lie through your teeth*

If you *lie through your teeth*, you lie openly and brazenly, knowing that what you are saying is completely false.

3. *like pulling teeth*

Something that is *like pulling teeth* is extremely difficult to obtain, especially if trying to extract information from someone.

### **Find 8 words in the “snake”**

student treatment tooth hygiene each human name emergency

## MODULE 4. ORAL CAVITY

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>buccal</b>	щічний
<b>primary</b>	первинний
<b>accessory</b>	допоміжний
<b>digestion</b>	травлення
<b>chewing</b>	жування
<b>mastication</b>	жування
<b>swallowing</b>	ковтання
<b>gingiva</b>	ясна
<b>palate</b>	піднебіння
<b>roof</b>	склепіння
<b>pharynx</b>	глотка
<b>rugae, pl</b>	складки
<b>uvula</b>	язичок
<b>fleshy</b>	м'ясистий
<b>socket</b>	лунка зуба
<b>aid</b>	допомога
<b>projection</b>	виступ
<b>papillae, pl</b>	сосочки
<b>maxilla</b>	верхня щелепа
<b>mandible</b>	нижня щелепа
<b>release</b>	виділяти, секретувати
<b>saliva</b>	слина
<b>enzyme</b>	ензим, фермент
<b>series</b>	ряд, серія
<b>speech</b>	мовлення
<b>mucous</b>	слизовий
<b>membrane</b>	оболонка

## II PRE-READING

### **Exercise 1. Translate the following words and word-combinations from English into Ukrainian:**

The buccal cavity, surrounded by, organs of digestion, fleshy tissue, hard palate, irregular ridges, mastication, small projections, salivary glands, narrow ducts, released from, three sets of.

### **Exercise 2. Insert the missing letters and translate the words:**

C\_\_vity, ac\_\_essory, ch\_\_wing, sk\_\_ll, tiss\_\_e, tong\_\_e, sw\_\_llowing, sal\_\_vary, enz\_\_mes.

## III READING

### **Exercise 3. Read and translate the following text:**

#### **Oral cavity.**

The oral cavity (mouth) is sometimes called the buccal cavity. It contains both primary and accessory organs of digestion. The mouth is designed to support chewing, swallowing and speech. Two rows of teeth are supported by facial bones of the skull, the maxilla above and the mandible below. Teeth are surrounded by gingiva, or gums. The gums are made of fleshy tissue and surround the sockets in which the teeth are found. In addition to the teeth, other structures that aid chewing are the lips, cheeks, tongue, hard palate, soft palate, and floor of the mouth.

The cheeks form the walls of the oval-shaped mouth cavity, while the lips form the opening to this cavity. The hard palate forms the anterior portion of the roof of the mouth. The muscular soft palate lies posterior to it and separates the mouth from the pharynx (throat). Rugae are the irregular ridges in the mucous membrane covering the anterior portion of the hard palate. A small, soft tissue, hanging from the soft palate, is called uvula. It is composed of connective tissue and muscle and aids in the production of sounds and speech.

The tongue extends across the floor of the oral cavity and is

attached by muscles to the mandible. It moves food around during mastication and swallowing. The tongue is covered with a series of small projections called papillae which contain cell sensitive to the chemical nature of food. The functions of the tongue are swallowing, speech, taste and cleansing the mouth. There are three sets of salivary glands: the parotid, the submandibular and the sublingual glands. These glands secrete saliva for proper mixing of food and provide enzymes to start chemical digestion. Saliva is released from the salivary glands through narrow ducts which carry the saliva into the mouth. The protective tissue of the oral cavity is called mucosa or mucous membrane.

#### IV POST-READING

##### **Exercise 4. Translate the following words and word-combinations into English:**

Ротова порожнина, губи, щоки, ясна, язик, тверде піднебіння, м'яке піднебіння, язичок, нижня щелепа, верхня щелепа, слинні залози, слизова оболонка, привушна залоза, під'язична залоза, сполучна тканина, вузька протока.

##### **Exercise 5. Insert the missing words:**

1. The oral cavity is sometimes called the \_\_\_\_\_ cavity. 2. The teeth are supported by \_\_\_\_\_ bones of the skull. 3. The lips form the \_\_\_\_\_ to the oral cavity. 4. The hard palate forms the \_\_\_\_\_ portion of the roof of the mouth. 5. The soft palate separates the \_\_\_\_\_ from the \_\_\_\_\_. 6. The tongue is attached by \_\_\_\_\_ to the mandible. 7. There are three sets of salivary glands: the parotid, the \_\_\_\_\_ and the sublingual glands.

**Exercise 6. Match two parts of the word combinations:**

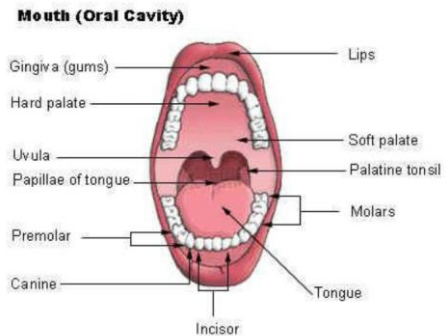
1. buccal	a tissue
2. facial	b glands
3. fleshy	c digestion
4. soft	d membrane
5. mucous	e bones
6. salivary	f cavity
7. chemical	g palate

**Exercise 7. Answer the questions:**

1. What organs compose the oral cavity?
2. What bones are the teeth supported by?
3. What are teeth surrounded by?
4. Where are the teeth found?
5. What is the hard palate?
6. What does the soft palate separate?
7. What is uvula?
8. What is uvula composed of?
9. What is the tongue covered with?
10. What are the functions of the tongue?
11. What salivary glands do you know?
12. What is the function of saliva?
13. What is the protective tissue of the oral cavity?

**V SPEAKING**

**Exercise 8. With the help of the picture retell the text about oral cavity.**



## VI JUST FOR FUN

### English Idioms & Idiomatic Expressions

#### 1. *sink one's teeth into*

If you *sink your teeth into something*, you do it with a lot of energy and enthusiasm.

#### 2. *sweet tooth*

Someone who has *a sweet tooth* enjoys eating sweet things like sugar, pastries, chocolate, etc.

#### 3. *teeth chattering*

If *your teeth are chattering*, you are extremely cold.

## MODULE 5. TOOTH ANATOMY

### I VOCABULARY

#### Learn new words and pay attention to the translation:

<b>crown</b>	коронка
<b>enamel</b>	емаль
<b>dentine</b>	дентин
<b>cementum</b>	цемент
<b>pulp</b>	пульпа зуба
<b>extend</b>	розширити
<b>canal</b>	канал
<b>apex</b>	верхівка
<b>foramen</b>	отвір
<b>tissue</b>	тканина
<b>core</b>	серцевина
<b>nutrient</b>	поживна речовина
<b>resistant</b>	стійкий
<b>rod</b>	стрижень
<b>underneath</b>	під, нижче
<b>hole</b>	отвір
<b>tip</b>	кінчик
<b>tough</b>	щільний, міцний, стійкий



<b>periodontal</b>	періодонтальний
<b>attachment</b>	прикріплення
<b>layer</b>	шар
<b>sheath</b>	оболонка
<b>cushion</b>	амортизатор, буфер
<b>jaw</b>	щелепа
<b>supply</b>	постачати
<b>resistant</b>	стійкий

## II PRE-READING

### **Exercise 1. Translate the following words and word-combinations:**

Portion, the junction, extends through, makes up, quite resistant, attached to, bulk of the tooth, dentinal tubules, nourish the dentin, apical foramen, responsible for, reparative dentin, brittle by, moisturized and nourished, visible, to be attached, a soft tissue sheath.

## III READING

### **Exercise 2. Read and translate the following text:**

#### **Tooth Anatomy.**

Each tooth consists of three main parts – the crown, the neck and root. The crown is the visible part of the tooth; it is the portion that lies above the gum tissue. A protective layer called enamel covers the crown. The neck is the area of the tooth between the crown and the root. The root is the portion of the tooth that extends through the gum and into the bone of the jaw.

Every tooth consists of hard and soft tissues. The hard tissues are enamel, dentin, cementum. The soft tissue is the pulp. Enamel is the hardest material in your body and makes up the outside of your teeth, above the gum line. Dentin is the tissue that makes up the core of each tooth. Pulp is the living part of the tooth, located inside the dentin. It contains the nerve tissue and blood vessels that supply nutrients to the tooth. Cementum is located at the root of the tooth.

**Enamel** is the substance that covers the crown of the tooth. It is very hard and quite resistant to mechanical and chemical attack. The enamel is made up of microscopic enamel rods. Each enamel rod is attached to the dentin underneath it.

**Dentin** is the hard, yellow bone-like material that underlies the enamel and surrounds the entire nerve. It composes the bulk of the tooth, and is sensitive to touch and other stimuli. Dentine consists of dentinal tubules.

**The dental pulp** (the nerve of the tooth) is the soft center of the tooth.

Pulp is composed of connective tissue, blood vessels, and nerves; it nourishes the dentin. A root canal is actually only a part of the dental pulp. Blood vessels and nerves enter through a hole at the tip of each root. The tip of the root is called the apex, and the hole that allows the nerve tissue, with its blood vessels to enter the tooth is called the apical foramen. The apical foramen is simply the hole in the tip of the root where the nerve and all its accompanying blood vessels must enter the tooth.

The pulp has several functions, such as:

*Sensory function* – pain from trauma to the dentin and/or pulp, differences in temperature, and pressure are caused by stimulation of the pulp.

*Formation of dentin* – the pulp is responsible for the formation of dentin. In response to trauma, the pulp forms secondary dentin, also known as reparative dentin.

*Nourishment* – the pulp contains blood vessels that help to prevent the tooth from becoming brittle by keeping it moisturized and nourished.

**Cementum** is a layer of tough, yellowish, bone-like tissue that covers the root of a tooth. It helps hold the tooth in the socket. The cementum contains the periodontal membrane.

Cementum is to the root of a tooth as enamel is to the crown. Its main function is to act as an attachment layer for the periodontal ligament which is a soft tissue sheath that acts as a cushion between the bony socket and the tooth itself.

## IV POST-READING

### Exercise 3. Translate the following word-combinations into English:

Видима частина зуба, над яснами, репаративний дентин, захисний шар, серцевина зуба, постачати поживні речовини, кріпильний шар для періодонтальної зв'язки, стійкий до механічних та хімічних пошкоджень, подразники, житити дентин, проходити через отвір, кінчик кореня, сполучна тканина, покривати корінь, утримувати зуб в ясеневій кишені.

### Exercise 4. Answer the following questions:

1. What main parts does each tooth consist of?
2. What is the crown?
3. What is enamel?
4. Where is the neck located?
5. What is the root?
6. What is the hardest material in your body?
7. What is located inside the dentin?
8. What does the pulp contain?
9. Where is cementum located?
10. What is the enamel made up of?
11. What does dentine consist of?
12. What is apex?
13. What is apical foramen?
14. What is the main function of cementum?

### Exercise 5. Match the terms with the definitions.

1. Root	a a hole or a space inside something
2. Crown	b something artificial that is put into body in a medical operation
3. Implant	c the part of the tooth that is visible
4. Cavity	d the portion of a tooth that is covered by cementum
5. Pulp	e the part of the inside of a tooth

**Exercise 6. Fill in the correct word.**

*Connective, nerve, blood, stem, mineralized, hard*

- |              |                 |
|--------------|-----------------|
| _____ fibers | _____ vessels   |
| _____ cells  | _____ substance |
| _____ tissue | _____ layer     |

**Exercise 5. Read the definitions, then label the tooth below:**

*Bone* — the hard supportive tissue in which the tooth's root is anchored.

*Crown* – the visible part of a tooth.

*Dentin* — the hard but porous tissue located under both the enamel (and cementum) of the tooth. Dentin is harder than bone.

*Enamel* — the tough, shiny, white outer surface of the tooth.

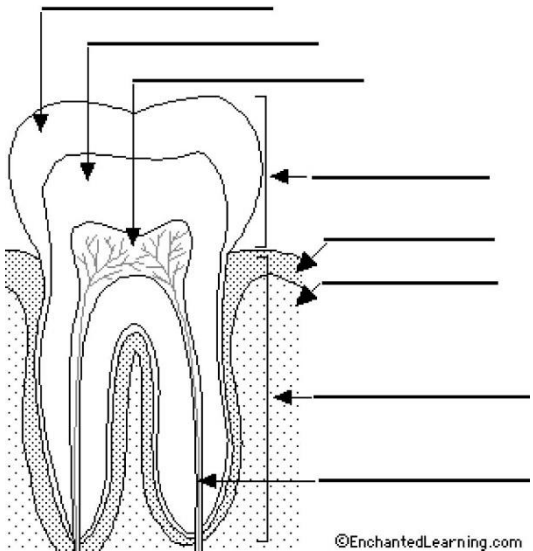
*Gum* – the soft tissue that surrounds the base of the teeth. Nerves and

*Blood Vessels* – nerves

transmit signals, and blood vessels carry nutrients to the tooth – they run through the tooth's root within the pulp.

*Pulp* – the soft center of the tooth. The pulp contains blood vessels and nerves; it nourishes the dentin.

*Root* – the anchor of a tooth that extends into the bone of the jaw. The number of human tooth roots ranges from one to four.



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**V SPEAKING**

**Exercise 6. With the help of the picture tell your group mates about the structure of teeth.**

## VI JUST FOR FUN

### Match the idioms with their definitions.

1. *Tooth and nail* - rather old
2. *Long in the tooth* - to fight and struggle for smth
3. *To get one's teeth into smth* - to work with energy
4. *To lie through one's teeth* - to lie greatly

**Find 12 words in the crossword that are written from left to right and from top to bottom**

q	w	e	d	e	n	t	i	n
a	p	e	x	r	r	i	t	m
y	u	n	i	p	o	s	g	a
o	s	a	d	f	o	s	u	t
c	e	m	e	n	t	u	m	e
r	g	e	b	o	n	e	h	r
o	j	l	k	l	z	x	c	i
w	v	b	l	o	o	d	b	a
n	v	e	s	s	e	l	n	l

## MODULE 6. TYPES OF TEETH

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>to digest</b>	перетравлювати
<b>incisor</b>	різець
<b>to erupt</b>	прориватися
<b>canines</b>	ікла
<b>tearing</b>	розривання
<b>reversed</b>	перевернутий

<b>grinding</b>	шліфування
<b>deciduous</b>	deciduous
<b>wisdom teeth</b>	зуб мудрості

## II PRE-READING

### Exercise 1. Translate the following words and word-combinations into Ukrainian:

On top, on bottom, to take bites, to erupt, used for ripping and tearing, ahead of, take the places of, known as, cause crowding, to be impacted, take for granted.

### What Are the Different Types of Teeth?

Every tooth has a specific job or function:

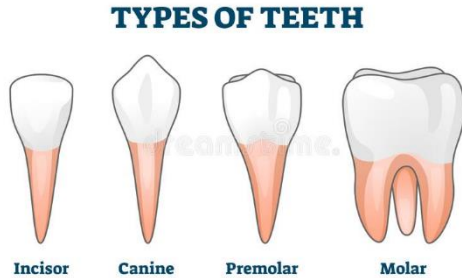
*Incisors* – the sharp, chisel-shaped front teeth (four upper, four lower) used for cutting food.

*Canines* – sometimes called cuspids, these teeth are shaped like points (cusps) and are used for tearing food.

*Premolars* – these teeth have two pointed cusps on their biting surface and are sometimes referred to as bicuspid. Premolars have a flatter chewing surface because they're meant for crushing food.

*Molars* are the last teeth towards the back of your mouth. Molars are much bigger than the premolars and have bigger, flatter chewing surfaces because their job is to chew and grind the food into smaller pieces.

Molars have several cusps on the biting surface.



### III READING

#### **Exercise 2. Read and translate the text:**

##### **Types of Teeth and What They Do.**

Teeth help you chew your food, making it easier to digest. Each type of tooth has a slightly different shape and performs a different job. Types of teeth include:

Incisors are the eight teeth in the front of your mouth (four on top and four on bottom). These are the teeth that you use to take bites of your food. Incisors are usually the first teeth to erupt – at around 6 months for your baby teeth, and between ages 6 and 8 for your adult set.

Your four canines (fangs) are the next type of teeth to develop. These are your sharpest teeth and are used for ripping and tearing food apart. Primary canines generally appear between 16 and 20 months, with the upper canines coming in just ahead of the lower canines. In permanent teeth, the order is reversed, with lower canines erupting around age 9 and the uppers arriving between ages 11 and 12.

Premolars, or bicuspids, are used for chewing and grinding food. Adults have four premolars on each side of their mouths – two on the upper and two on the lower jaw. There are no primary premolars; the first premolars appear around age 10, with the second premolars arriving about a year later. These take the places of the first and second primary molars (described below).

Molars are also used for chewing and grinding food. Primary molars, also known as deciduous molars, appear between 12 and 28 months, and are replaced by the first and second premolars (four upper and four lower) described above.

The permanent molars (also four upper and four lower) do not replace any primary teeth, but come in behind all of them, further back in the jaw. The first permanent molars erupt at around age 6 (before the primary molars fall out), while the second molars come in between ages 11 and 13.

The third molars are commonly known as wisdom teeth. These are the last teeth to develop and don't typically erupt until age 18 to 20. Some people never develop third molars at all. For those who do, these molars may cause crowding and need to be removed. If they don't fully erupt, they are said to be impacted, and are commonly removed.

Your mouth is important, so don't take your teeth or oral health for granted. "For good dental health, brush and floss your teeth regularly, don't smoke, eat a healthy diet, and see your dentist regularly for dental cleanings and checkups," advises Lal. A healthy mouth makes for a healthy body – and a pretty smile.

#### IV POST-READING

##### **Exercise 3. Answer the following questions:**

1. What is the function of teeth?
2. How many types of teeth do you know?
3. How many incises are there in our mouth and what is their function?
4. What are the sharpest teeth? When do they appear?
5. How can we name premolars?
6. When do the first permanent molars erupt?
7. What are the last teeth to develop?
8. What should you do for good dental health?

##### **Exercise 4. Match the terms with the definitions, one definition is extra:**

1. molar teeth	a) one of the two teeth with two cusps situated between the canine and the first molar
2. premolar teeth	b) the teeth of the first dentition, milk teeth; deciduous teeth
3. temporary teeth	c) a multicuspidate tooth used



	for crushing
4. eye tooth	d) the last teeth to develop
5. canine tooth	e) the upper canine tooth
	f) a tooth with a conical crown situated between the lateral incisor and the first premolar; cuspid tooth

**Exercise 5. Fill in the correct word.**

*Primary, lower, permanent, central, set, extremely*

\_\_\_\_\_ of teeth                      \_\_\_\_\_ hard  
 \_\_\_\_\_ jaw                              \_\_\_\_\_ incisors  
 \_\_\_\_\_ teeth                              \_\_\_\_\_ molars

**Exercise 6. Match the adjectives in column A with their opposites in column B**

Column A	Column B
Permanent	interior
Lower	soft
Tiny	temporary
Hard	upper
Flat-surfaced	large
Exterior	convex

**Exercise 7. Insert the missing words:**

- \_\_\_\_\_ – the sharp, chisel-shaped front teeth (four upper, four lower) used for cutting food.
- \_\_\_\_\_ – sometimes called cuspids, these teeth are shaped like points (cusps) and are used for tearing food.
- \_\_\_\_\_ – these teeth have two pointed cusps on their biting surface and are sometimes referred to as bicuspid.
- Primary \_\_\_\_\_, also known as deciduous molars, appear between 12 and 28 months

5. If \_\_\_\_\_ don't fully erupt they are said to be impacted, and are commonly removed.

**Exercise 8. Translate words and word combinations from English into Ukrainian**

Soft tissue, deciduous teeth, to be responsible for pain, alveolar arch, very sensitive to pain, slight heaping up, enamel organ, connective tissue, dental papilla, permanent tooth, opposing arch, alveolar process, visible, the junction, to be composed of, the hardest substance in the body, to run roughly, to be associated, to be attached.

**Exercise 9. Write down the words in the correct order to make sentences.**

1. similar bone cementum in to is structure.
2. very to dentine pain sensitive is.
3. the part root is jaw inside the hidden the
4. shock a periodontal as membrane absorber acts.
5. the meets neck cementum at of enamel tooth the.

V SPEAKING

**Exercise 10. With the help of the picture tell your group mates about types of teeth.**

VI JUST FOR FUN

**English Idioms & Idiomatic Expressions**

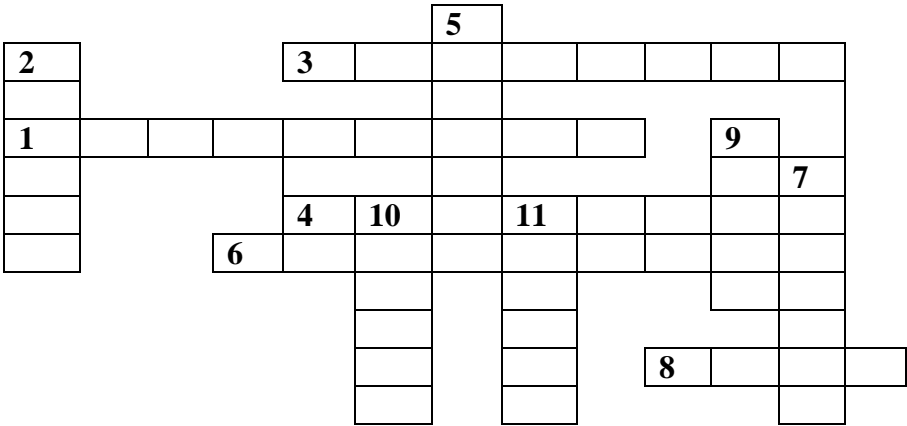
1. *long in the tooth*

If you are *long in the tooth*, you are very old.

2. *teething problems*

The difficulties encountered during the initial stage of an activity or project are called *teething problems*.

**Complete the crossword.**



**Clues across:**

- 1. живлення
- 3. пов'язка
- 4. функція
- 6. поверхня
- 8. корінь

**Clues down:**

- 2. зубний
- 5. ураження
- 7. різець
- 9. коронка
- 10. терміновий, невідкладний
- 11. ікло

**MODULE 7. DISEASES OF THE TEETH**

**I VOCABULARY**

**Learn new words and pay attention to the translation:**  
**general state of health** загальний стан здоров'я

<b>lesion</b>	ушкодження
<b>occur</b>	траплятися
<b>invasion</b>	інвазія, початок захворювання
<b>insulate</b>	ізолюваний, відділений
<b>severe</b>	занадто сильний
<b>gain</b>	досягати, добиратися
<b>poor oral hygiene</b>	погана гігієна порожнини рота
<b>a common disease</b>	поширене захворювання
<b>to suffer from</b>	страждати від, хворіти
<b>consumption</b>	споживання
<b>to spread</b>	поширюватися
<b>to result in</b>	призводити до, викликати
<b>to result from</b>	бути результатом
<b>due to (because of)</b>	внаслідок, через
<b>arrest a disease</b>	купірувати захворювання
<b>arrest</b>	зупиняти
<b>inevitable</b>	незмінний, постійний
<b>plaque</b>	пляма висипки, бляшка
<b>susceptible</b>	чутливий; уразливий
<b>viability</b>	життєздатність
<b>dressing</b>	пов'язки, перев'язки

## II PRE-READING

### Exercise 1. Translate the following words and word-combinations into Ukrainian:

Poor oral hygiene, character of nutrition, physiological state of the human body, carious lesions, preventive measures, remove the carious tissues, gain, sedative dressings.

### Exercise 2. Insert the missing letters and translate the words:

Dise\_\_\_se, ac\_\_\_te, he\_\_\_lth, en\_\_\_mel, p\_\_\_lp, po\_\_\_r,  
pa\_\_\_nful, lesi\_\_\_n, di\_\_\_gnosis, sev\_\_\_re, p\_\_\_s.

### III READING

**Exercise 2. Dental caries (tooth decay) is probably the commonest of all diseases of the highly developed countries. Read the text 1 and find out the sentences characterizing:**

1. the main causes;
2. the onset of the disease;
3. factors necessary to produce it;
4. signs and symptoms;
5. treatment;
6. prevention.

#### **Dental Caries.**

Diseases of the teeth develop primarily due to poor oral hygiene but the general state of health is also of some importance. Depending on the state of the whole-body diseases of the teeth may run a more acute course and may quickly involve a number of teeth.

The main causes of dental caries are poor oral hygiene, the character of nutrition (high consumption of sweets), the temperature of the food and physiological state of the human body. The disease begins with decalcification of the enamel and ends in destruction of the hard dental tissues. Carious *lesions* usually occur in those parts of the teeth that cannot be well cleaned by a toothbrush, the molars being most frequently affected.

Dental caries is a disease of the calcified tissues of the teeth caused by the action of microorganisms on fermentable carbohydrates. It is characterized by demineralization of the mineral portion of enamel and dentine followed by disintegration of their organic material. As the disease approaches the pulp, it produces changes in the form of pulpitis (possibly giving pain), and may result in bacterial *invasion* and *death* of the pulp. The infected necrotic pulp then produces further changes in the periapical tissues.

On the other hand, the disease can be arrested in its early stages since it is possible for remineralization to occur. In addition, progress of the disease to a clinical cavity is not inevitable, and can be completely prevented by relatively simple measures.

Four factors are necessary to produce dental caries:

- dental *plaque*
- a suitable carbohydrate (mainly sugar)
- a susceptible tooth surface
- time.

Unfortunately, caries presents symptomatically at a relatively late stage. The patient may feel a “*hole* in a tooth” with the tongue, brown or black discoloration or cavities may be seen, or *frank pam* may be suffered.

Caries, even in dentine, is not painful per se, but cavitation may occasionally cause a mild pain with sweet things or with heat or cold. Normally, the enamel and the necrotic dentine insulate the sensitive dentine and pulp from these stimuli. However, a much more common cause of pain, which maybe intense, is pulpitis (the commonest “toothache”) which occurs late in the development of a carious lesion when caries is very close to the pulp or actually exposing it.

There are four approaches to the *management* of caries:

- attempt to *arrest* the disease by preventive measures
- remove and replace the carious tissues (operative dentistry)
- a combination of these two approaches
- pull out the tooth.

Early diagnosis of the carious lesion has become even more important since the realization that caries is not simply a process of demineralization but an alternating process of destruction and *repair*. Saliva is an excellent remineralizing fluid and the balance can be tipped in favor of repair by modifying diet, careful use of fluoride, and removing plaque. Modern dentistry states that the best way of managing caries is by prevention.

#### IV POST-READING

**Exercise 3. Complete the sentences with information from the text.**

1. Dental caries generally occurs when ...

2. Dental caries is characterized by ...
3. The earliest evidence of caries is ...
4. When the disease approaches the pulp it may cause ...
5. Prevention of dental caries can be done by ...
6. Apart from prevention there are two other approaches to the management of caries ...

**Exercise 4. For each of the words in italics, find another word with the same meaning which could also be used in the same sentence.**

1. *Dental caries* is a *wide-spread diseases* in the highly developed countries.
2. Dental caries develops mainly *because of* poor oral hygiene.
3. The character of our *diet* is a significant cause of caries.
4. Normally, the enamel mid the necrotic dentine *protects* the sensitive dentine and pulp from thermal stimuli.
5. As a cavity approaches the pulp toothache becomes more *severe*.
6. *Prophylaxis* can be done by modifying diet, careful use of fluorine and removing plaque.

**Exercise 5. Finish the following definitions using the words in the box.**

*caries, pulpitis, plaque, enamel, lesion, pulp, saliva*

1. A condition when caries extends through the dentine to reach the pulp is called \_\_\_\_\_ .
2. The hardest substance in the body is called \_\_\_\_\_ .
3. A change in some part of the body caused by an injury or a disease is known as a \_\_\_\_\_ .
4. A sticky layer of harmful bacteria formed on the tooth surface is called \_\_\_\_\_ .
5. The liquid in the mouth is known as \_\_\_\_\_ .
6. Soft tissue containing blood vessels and nerves in the centre of the dentine is called \_\_\_\_\_ .
7. A breakdown of tooth structure is known as \_\_\_\_\_ .

**Exercise 6. Read the text 2 and say what reversible pulpitis differs from irreversible on.**

**Pulpitis.**

If caries is left untreated microorganisms can gain entrance into the pulp and cause its inflammation (pulpitis). During pulpitis teeth are sensitive to chemical, mechanical and thermal stimuli. Spontaneous severe pains are the most characteristic symptom of pulpitis. The pains may spread over the jaw, ear or temple. They may be very severe and last for a long time. Pulpitis may result in gangrene of the pulp and its decomposition.

The treatment of pulpitis must consist in mortification and removal of the pulp tissue and filling the tooth.

Pulpitis may be painful or painless, but even the painless form may become painful in response to certain stimuli. For example, the tooth with painless pulpitis may become painful when percussed or may produce prolonged pain in response to electrical or thermal stimulation. Pulpitis may produce spontaneous pain, which may become severe.

Pulpitis does not always develop from caries. It may result from trauma, internal resorption or both. Apparently, pulpitis from caries is reversible until the pulp is invaded by microorganisms. Its reversibility then depends on the number and virulence of the organisms and on therapy. Following invasion of the pulp by microorganisms, the prognosis for prolonged pulp viability is poor.

Irreversible pulpitis continues to progress at varying rates through the pulp chamber and along the root canal. This progression leaves the contents of the pulp chamber necrotic or filled with pus and unable to respond to electrical or thermal stimuli. As the disease process passes through the apical foramina, it becomes apical periodontitis. Reversible pulpitis is treated by sedative dressings, while irreversible pulpitis is managed with endodontic therapy or extraction of the tooth.



## IV POST-READING

### **Exercise 7. Look through the text and find out what italicized words refer to.**

1. ... and cause *its* inflammation...
2. ... and *its* decomposition.
3. ... may become painful in response to *certain* stimuli.
4. ... *which* may become severe.
5. *It* may result from trauma...
6. *Its* reversibility then depends on...
7. *This* progression leaves the contents of the pulp chamber necrotic...
8. ... *it* becomes apical periodontitis.

### **Exercise 8. Say if the following statements are TRUE or FALSE. Correct the false statements.**

1. The condition of pulpitis is very painful and leads to death of the pulp.
2. An integral part of periodontal treatment is plaque control.
3. Pulpitis can occur due to trauma.
4. The initial approach to the pit or fissure cavity is done by a small round bur.
5. In case of reversible pulpitis endodontics or extraction is necessary.
6. The first symptom of caries is a small crack or a spot in tooth enamel.
7. A decayed tooth is treated by amalgam or inlay restoration.
8. Pulpitis presents clinically as pain that may radiate to the jaw.
9. Dental decay is the only cause of pulpitis.
10. The most common form of gingival disease is gingivitis, inflammation of the gingiva.

### **Exercise 9. Match the terms with the definitions.**

1. Plaque            a process of becoming bad
2. Acid            b substance used to stop air entering smth

- 3. Decay            c crack in smth
- 4. Sealant        d substance that destroy things it touches
- 5. Fissure        e substance encourages growth of harmful bacteria

**Exercise 10. Write down the words in the correct order to make sentences.**

- 1. was the of dentistry art ancient to peoples known the.
- 2. appear oral not do suddenly diseases.
- 3. treated chronic of the gingiva are inflammatory enlargements by sealing and curettage.

## V SPEAKING

**Exercise 11. Summarize two texts (“Dental Caries” and “Pulpitis”) using the following introductory phrases. Retell one of them.**

*The text deals with ... It is said that...*

*I'd like to note / to point out that...*

*I'd like to draw your attention to the fact that...*

*According to the text...*

*I wouldn't go into detail, but the main idea is ...*

*In addition, I'd like to mention that...*

*Summing it up ...*

*In conclusion I'd like to say that...*

*It may be concluded that...*

## VI JUST FOR FUN

**Did you know there are two main dental diseases?**

**There are many factors that may increase your risk for these diseases - are you aware of what they are? Tooth decay is one of the most common diseases affecting adults and children in the US today second only to the common cold.**

*Questions to ask yourself? Keep track of your points.*

Do you use a toothpaste that contains fluoride?

If NO 2 points

Do you drink beverages that contain sugar or do you add sugar to drinks such as coffee or tea more than three times a day?

If YES, 2 points

Have you had more than two new cavities in the last three years?

If YES, 2 points

Do you snack on candy or other sugary foods more than twice a day?

If YES, 2 points

Have you lost a tooth in the last three years due to decay?

If YES, 2 points

Do you brush your teeth less than twice a day?

If YES, 1 point

Does the water you drink and cook with contain fluoride?

If NO, 1 point

Do you have your teeth cleaned at least once a year by a dentist or a dental hygienist?

If NO, 1 point

Do you take any medicine that makes your mouth dry or is your mouth dry as a result of radiation therapy or some other condition?

If YES, 1 point

Do you clean between your teeth with dental floss or an interproximal brush at least once a day?

If NO, 1 point

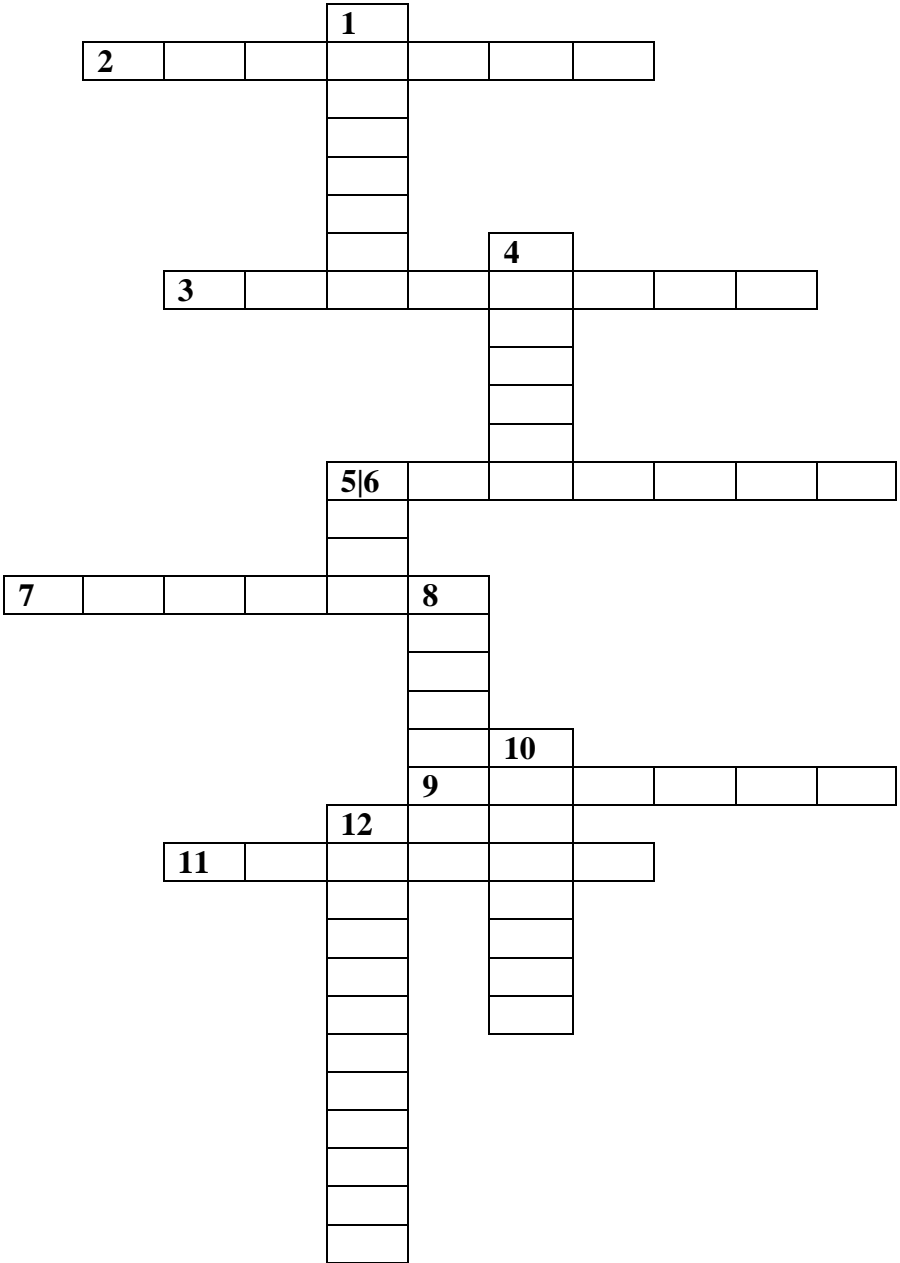
Is it uncomfortable to brush areas where your gums have receded?

If YES, 1 point

*Now, total up your points* If your score is 5 points or more you may be at higher risk for tooth decay. **See your dentist today and discuss how you can lower your risk for decay.**

### Complete the crossword.

1. The disease can be \_\_\_\_\_ in its early stages.
2. Pulpitis is managed with endodontic \_\_\_\_\_ or extraction of the tooth.
3. Reversible pulpitis is treated by \_\_\_\_\_ dressings.
4. During pulpitis teeth are sensitive to chemical, mechanical and thermal \_\_\_\_\_ .
- 5 Pulpitis may be painful or \_\_\_\_\_ .
6. Diseases of the teeth develop primarily due to \_\_\_\_\_oral hygiene
7. \_\_\_\_\_ are the last teeth towards the back of your mouth.
8. Spontaneous \_\_\_\_\_ pains are the most characteristic symptom of pulpitis.
  
9. \_\_\_\_\_ is the substance that covers the crown of the tooth.
10. \_\_\_\_\_ are usually the first teeth to erupt.
11. \_\_\_\_\_ is the hard, yellow bone-like material that underlies the enamel and surrounds the entire nerve.
12. Microorganisms of untreated caries can gain entrance into the pulp and cause its \_\_\_\_\_ .



## MODULE 8. DENTAL EXAMINATION

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>inspection</b>	огляд, обстеження
<b>intraoral</b>	внутрішньоротовий
<b>identification</b>	вияв, визначення
<b>complete</b>	повний
<b>deterioration</b>	погіршення, руйнування
<b>issue</b>	проблема
<b>restoration</b>	відновлення
<b>detailed</b>	докладний
<b>indentations</b>	заглиблення
<b>evaluate</b>	оцінювати
<b>probe</b>	зонд
<b>measure</b>	вимірювати
<b>sulcus</b>	борозна
<b>magnify</b>	збільшувати
<b>calculus</b>	зубний камінь
<b>electric toothbrush</b>	електрична зубна щітка
<b>to prevent tooth decay</b>	запобігати карієсу
<b>to give some tips</b>	давати поради
<b>care for someone's teeth</b>	турбота за зубами
<b>proper brushing</b>	ретельне чищення зубів
<b>bone loss</b>	втрата кістки
<b>a thick covering</b>	товста поверхня
<b>a protective shield</b>	захисний шар
<b>to check the bite</b>	перевірити прикус
<b>to check the roof and floor of your mouth</b>	– перевірити верхню та нижню поверхню ротової порожнини
<b>to use a medicated mouth rinse</b>	– робити полоскання ротової порожнини медичними засобами
<b>flossing removes plaque</b>	зубна нитка видаляє наліт
<b>replace your toothbrush</b>	замінити зубну щітку

## II PRE-READING TASKS

### **Exercise 1. Read and translate the following word combinations:**

Dental examination, dental treatment plan, tooth sensitivity, early signs, soft tissues, swollen and sore gums, salivary glands, supporting structures, medical history, eating habits, taste and breath, caries development, floor of the mouth, pathological changes, dental insurance, radiographic record, steel instrument, periodontal probe, tooth decay, tooth surface, each tooth, root defect, healthy mouth, treatment plan.

### **Exercise 2. Match two parts of the sentences:**

- 1) The dentist or dental hygienist uses instruments
  - 2) The jaw joint and bite are evaluated, since an irregular bite
  - 3) Every tooth is checked
  - 4) The fit of dentures and bridges,
  - 5) Dentists frequently order other diagnostic tests
  - 6) To keep your mouth healthy, you'll need to take good care of your teeth and gums
  - 7) Eat a healthy diet, avoiding or limiting sweets and sugary drinks,
  - 8) The dose of radiation in an x-ray is very low but x-rays are not usually recommended for pregnant women,
  - 9) In addition to the above checks, a pediatric dentist may check to see
  - 10) The cleaning may be uncomfortable,
- a) but it is not usually painful.
  - b) if worn, are inspected.
  - c) such as x rays, blood tests, and dental casts as well.
  - d) for cavities.
  - e) such as a mouth mirror, periodontal probe, and explorer to examine the teeth.
  - f) if you do eat or drink sweets, brush your teeth soon after.
  - g) both by having regular dental exams and practicing good dental habits at home.

- h) if your child's teeth are developing normally.
- i) unless it's an emergency.
- j) can lead not only to excessive wear on the teeth but other dental problems as well.

### III READING

#### **Exercise 3. Read and translate the text:**

Dental exams are an essential piece of preventative dentistry. Since most oral health problems are preventable and best treated as early as possible, it's vital to see your dentist for regular evaluations and x-rays.

A dental examination is usually combined with the regular "teeth cleaning" visit scheduled with dental hygienists. During the dental exam, your dentist will screen for gum disease, tooth decay, oral cancer and ask about any underlying medical conditions. The dentist or dental hygienist may also want to discuss certain lifestyle factors as they affect dental health. Dental x-rays are taken to evaluate areas that aren't visible to the naked eye. Assessing for bone loss, periodontal disease, tooth decay, and other oral health issues is essential, as these issues can be present, but cause no symptoms or signs such as pain or discoloration.

A typical dental exam and dental hygiene appointment can last around 45-60 minutes. For a child, exams and cleanings tend to be shorter. The patient's age, dental health, and frequency of regular dental exams can affect the appointment's length.

Remember that as part of your checkup, your hygienist will also want to review things like brushing and flossing techniques to ensure you're taking the best care of your teeth as possible.

People with healthy teeth and gums are encouraged to book their dental hygiene visit depending on their needs, which your dentist and hygienist will let you know. The exam portion done by the dentist is typically done once yearly, but can differ depending on your needs. However, if you have continual dental health issues, your dentist may suggest more frequent dental care appointments. For



instance, people with a history of underlying gum disease tend to respond better to dental care when they see their dental team for teeth cleaning as frequently as every 3-4 months.

Dentists provide different variations of dental exams, depending on the issue or problems the patient is experiencing.

Comprehensive exams are completed at your initial checkup and occasionally repeated every several years. They consist of a full mouth series of x-rays, oral cancer screening, gum disease evaluation, TMJ exam, review of underlying health problems, and thorough assessment of each of your teeth. The goal of a comprehensive exam is for dentists to establish a baseline reading of your entire mouth. That way, periodic exams can pinpoint changes in your health (such as gum disease).

Regular dental exams are typically referred to as a “recall” exam. These are the types of evaluations your dentist will complete during a routine hygiene visit. They allow your dentist to check for problems inside your mouth that may have developed since the last exam.

A limited exam is for specific problems related to your teeth. For example, if you have a severe toothache, sudden tooth loss, or a broken tooth, your dentist may need to order a single x-ray and then thoroughly evaluate that specific area of your mouth. They are not looking elsewhere or screening for problems in other teeth.

After your cleaning, the recall evaluation will be to check for any problems with your teeth or gums. If you have concerns about specific teeth, let your dentist know. As your dentist monitors changes from one visit to the next, they can help you address common concerns while also reducing your chances of disease complications.

Recall visits make up the majority of your oral health appointments. Unless you’re in pain, have a broken tooth, or are actively addressing a specific dental disease, most of your visits will consist of this type of encounter. Again, that’s because your oral health only changes slightly between sessions. Intercepting issues

when they're first visible can save both the integrity of your teeth as well as your budget!

#### IV POST-READING TASKS

##### **Exercise 4. Find in the text English equivalents for the following words and word combinations:**

Візит, огляд, здорові зуби, ясна, складатися з, чистка, надавати послуги, ясна, втрата зуба, зубний біль, ротова порожнина, регулярні огляди, хвороби ясен, доглядати за зубами, тривати, превентивні заходи, зламати зуб, видимий, сильний біль, змінювати, ускладнення, повторювати процедуру, лікування, злегка.

##### **Exercise 5. Answer the following questions:**

1. What is dental examination?
2. What is a typical dental exam?
3. How long can last a typical dental exam and dental hygiene appointment?
4. In what cases is dental examination complete?
5. What do comprehensive exams consist of?
6. What is the goal of a comprehensive exam?
7. What is a limited exam for?
8. What are the main procedures after cleaning?
9. When is done x-ray?
10. What does it mean "recall exam"?

##### **Exercise 6. Fill in the gaps:**

*Receive, pulp, plaque, harden, polishing, cause, appointment, cavities, calculus, restoration, scaling*

It is important to 1) \_\_\_\_\_ dental hygiene treatment regularly. However, many patients do wonder what is done during the 2) \_\_\_\_\_ and why it is important. At a dental hygiene appointment, you usually will receive 3) \_\_\_\_\_ and/or prophylaxis (polishing). Scaling and 4) \_\_\_\_\_ are carried out to remove dental plaque,

5) \_\_\_\_\_ (tartar) and external stains. You may ask what is plaque and tartar? 6) \_\_\_\_\_ is a biofilm that can form inside your mouth if you have not been cleaning your mouth adequately. Overtime plaque can 7) \_\_\_\_\_ up and form tartar. Plaque and tartar can 8) \_\_\_\_\_ oral health damage in multiple ways. Plaque may cause 9) \_\_\_\_\_ if it is not dealt with. A tooth with a cavity will necessitate a 10) \_\_\_\_\_ which can range from a simple filling to crowning (capping) of the tooth. A deep cavity will usually lead to 11) \_\_\_\_\_ (nerve) exposure and the tooth may require root canal therapy and/or extraction.

## V SPEAKING

**Exercise 7. Imagine that you have to examine your patient. Describe your actions.**

**Exercise 8. Act out the dialogue: you are a doctor and your patient has a toothache. Make the diagnose, ask about his symptoms and duration of his pain.**

**Exercise 9. Imagine situation that you are an editor of the medical site. You have to write a new article about dental examination. Use the following categories:**

- dental examination: definition
- purpose
- precautions
- teeth
- gums
- tissues of the mouth
- patient education
- insurance
- preparation
- aftercare
- complications
- result

## VI JUST FOR FUN

**Read funny statements. What are the funniest for you?  
What do you think about jokes in medicine?**

The most common operation in a hospital made out of LEGO is plastic surgery!

Why do nurses bring red markers to work? Just in case they need to draw blood.

What do you call a fish with a medical degree? A Surgeon.  
The medical student failed anatomy because she just couldn't cut it.

## MODULE 9. AT THE DENTIST'S

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>check-up</b>	перевірка
<b>urgent</b>	терміновий
<b>hold on, please</b>	не кидайте слухавку, будь-ласка
<b>to keep awake</b>	не давати спати
<b>to tap (the tooth)</b>	постукувати по зубам
<b>X-ray film</b>	рентгенівський знімок
<b>to appreciate</b>	цінувати
<b>to make an injection</b>	робити ін'єкцію
<b>spit out, please</b>	сплюньте, будь-ласка
<b>bleeding</b>	кровотеча
<b>pain and discomfort</b>	біль та дискомфорт
<b>cause</b>	спричинити
<b>dental treatment</b>	лікування зуба
<b>treatment or restoration</b>	лікування та реставрація
<b>a toothache or some mouth disturbance</b>	– зубний біль або певне порушення в ротовій порожнині
<b>present complaints</b>	наявні скарги
<b>suffer from</b>	страждати від
<b>examine someone's teeth</b>	обстежувати зуби пацієнта

<b>floss daily</b>	використовувати зубну нитку щодня
<b>top and bottom</b>	зверху та знизу
<b>good eating habits</b>	правильні харчові звички
<b>dentally healthy foods</b>	правильна здорова їжа для зубів
<b>raw vegetables</b>	сирі овочі
<b>maintain a balanced diet</b>	підтримувати збалансоване харчування
<b>limit the number of snacks</b>	обмежити кількість перекусів
<b>lessen the effects of harmful acids</b>	зменшувати вплив шкідливих кислот
<b>lose teeth</b>	втрачати зуби
<b>freshness of your breath</b>	свіжість подиху
<b>provide a high level of care</b>	надавати високий рівень догляду
<b>diet varieties</b>	– харчове різноманіття

## II PRE-READING TASKS.

### Exercise 1. Read and translate the words-combinations:

Харчове різноманіття, свіжість подиху, правильні харчові звички, використовувати зубну нитку щодня, надавати високий рівень догляду, втрачати зуби, робити ін'єкцію, терміновий, перевірка, правильна здорова їжа для зубів, хвороби серця, зверху та знизу, сирі овочі, підтримувати збалансоване харчування, наявні скарги, лікування та реставрація, може спричинити, не кидайте слухавку будь-ласка, постукувати по зубам, біль та дискомфорт, лікування зуба, зубний біль або певне порушення в ротовій порожнині.

### Exercise 2. Fill in the gaps:

P..n and discom...t, c.se, den..l treatm..t, t..atment or restorat..n, a toothac.. or some mo..h distur..nce, p..sent compla...s, patie.. suff..s from, hea.. d..eases, exa..nes someone's tee..., fl..s d...y, t.p and botto go.d eati.. hab..s, g.m di.eas., dental.. healt.. f..ds, r.w vegetabl...,mai..ain a balance.. diet, lim.. the number of snack, le..en

the effects of harmful ac..., lose tee..., freshness of your brea..., provide a hi.. level of care, diet ..rieties.

### III READING

#### **Exercise 3. Read and translate the text:**

Michael hated it. He hated sitting in the chair and feeling helpless. The bright light above his head and the clean, hygienic walls that surrounded him.

It all made him feel incredibly uneasy.

“Michael, I can assure you there is nothing to worry about,” said Mr Crane. He wore his dentist’s white coat and had perfect white teeth. He gazed back at Michael with a relaxed air. Like there was nothing to worry about.

It was all right for him. He wasn’t sitting in the chair. He was not about to have treatment for a new crown to be fitted.

Michael shifted his weight in the chair and grimaced.

“I’m sorry about last time,” he said. “It’s just a stupid fear I have.”

“Fear of going to the dentist?” asked Mr Crane. “Don’t worry about it. I get this all the time from patients.”

He leaned forward. “Some are a lot of trouble, I can assure you.”

He gave Michael an encouraging smile.

This did nothing for Michael’s nerves. He would rather be anywhere else than in this dentist chair. He could accept the pain in his tooth. That was much better than sitting here while Mr Crane drilled into the offending tooth.

“Michael, I have something I want to show you,” said Mr Crane, going to a small tray to the side of the room. He turned and held a small vial to show Michael. It was filled with a clear liquid.

“This is a new anaesthetic on the market,” he went on. “It is brand new and only my private students are allowed to have it. The company that makes it wants it to be very secret.”

Mr Crane sat on the stool next to Michael and looked down on him. “But this is an incredible formula. It is probably the best pain-killer on the market.”

The dentist continued to hold Michael’s gaze. “Would you like to try it?”

“I don’t want to be any trouble,” said Michael.

But his eyes were fixed on the small vial in Mr Crane’s fingers.

“It’s no trouble at all,” said Mr Crane. “Our little secret.”

The thought of being given something so powerful that he would not experience any pain at all sent a calm soothing feeling through Michael’s nerves. He could feel himself relaxing already as if he were already under the influence of the new anaesthetic.

“Are you sure?” asked Michael.

“No problem,” said Mr Crane.

Michael lay back in the chair while Mr Crane filled the syringe from the tiny bottle. He hummed a small tune as he did it and Michael recognised it as a popular song that was on the radio. Through the window, he could make out normal life carrying on outside. He heard a bus drive by and the sound of a bell on a bicycle. People’s voices and children laughing.

Everything was fine. There was nothing to worry about at all.

“Shall we?” said Mr Crane and he raised the syringe in front of him.

Michael nodded. He would pass by all this pain and torture and not feel a thing. He was so happy. So relieved.

Mr Crane leaned forward. “You’ll just feel a little jab as the needle goes in. Then nothing to worry about.”

Michael tensed as the needle entered his gum. Yes, very uncomfortable, but in a few minutes nothing but deep relaxation.

“All done,” said Mr Crane. “I’ll be back in a few minutes and we can begin.”

Michael lay deeper into the chair and half-closed his eyes. The muscles of his arms, legs, his entire body felt relaxed. A warm

soothing feeling washed over him and he felt as if all the worries and anxieties he ever felt left him for good.

His body was so relaxed that all he could do was breathe. He tried to lift the little finger of his right hand and it felt as if it moved a little but he couldn't be sure. He forgot about it and allowed the dream-like quality of the anaesthetic to wave over him.

A little nagging thought tapped at his inner-most mind and he tried to move the little finger again.

It felt as if it moved but he could not feel it really move. It was like he imagined it moving only.

He went to move his head to the right to see his hand more clearly. He could not.

A small jab of tension cleared his mind a little and he tried again. Nothing. He could not move his head at all.

He took a deep breath of air into his lungs and automatically tried to lift both of his hands. But they stayed on the arm-rests of the chair like they were glued there.

No resistance. No feeling at all.

He simply could not move his arms or head at all.

He kicked out and neither foot moved.

Michael sucked in a chest full of air and went to call out to Mr Crane. No sound came.

He could not move and he had lost the power to make any sound.

He was paralysed. Stuck to the chair but wide awake.

A shadow appeared beside him.

"We should be about ready by now," said Mr Crane.

His voice sounded like an echo and far away.

And where was the nurse? The dental assistant. There was usually a young woman helping. It was just him and Mr Crane. Why was he alone with him?

The dentist's face loomed up in front of Michael.

"Shall we see if this new drug has taken effect yet?" he asked.

He had a bright, shiny scalpel in his hand.



Michael tried to scream but no sound came. He just lay in the chair unable to move.

Mr Crane opened Michael's mouth and jabbed the scalpel against his tongue. A dagger of pain soared through Michael's mouth and into his brain.

Inside his head, he let out a scream.

"Let's get to work then," said Mr Crane, closing the blind of the window.

Michael slept and it was just few minutes. Suddenly he opened his eyes and saw Mr. Crane. Mr. Crane finished all treatment and said that everything was ok. "Michael, you could continue to sleep but we finished" Don't worry," said Mr. Crane.

#### IV POST-READING TASKS

##### **Exercise 4. True or false:**

1. Michael adores sitting in the chair and feeling helpless.
2. Mr Crane drilled into the offending tooth.
3. This is a new anaesthetic on the pharmacy.
4. It is brand new and only state students are allowed to have it.
5. The thought of being given something so powerful that he would not experience any pain at all sent a nervous feeling through Michael's heart.
6. Michael lay back in the chair while Mr Crane filled the syringe from the big bottle.
7. Michael tried to scream but no sound came.
8. He could move and he had lost the power to make any sound.
9. He was a bit paralysed.
10. Mr Crane opened Michael's mouth and jabbed the scalpel against his tongue.

##### **Exercise 5. Match the halves:**

a) He simply could not move	1) all he could do was breathe.
b) His body was so relaxed that	2) the chair and half-closed his eyes.

c) He tried to lift the little finger of his right hand	3) shiny scalpel in his hand.
d) Michael tried	4)to scream but no sound came.
e) He just lay in	5) the needle entered his gum.
f) Michael lay deeper into	6) and it felt as if it moved.
g) Inside his head,	7) the chair unable to move.
h) Shall we see if this	8) new drug has taken effect yet?
i) He had a bright,	9) he let out a scream.
j) Michael tensed as	10) his arms or head at all.

**Exercise 6. Answer the questions:**

1. What did Michael hate?
2. What did the doctor wear?
3. Was it a new brand and only private students are allowed to have it?
4. Was his body so relaxed that all he could do was breathe?
5. Could he simply move his arms or head at all?
6. How did his voice sound?
7. What did he try to do after injection?
8. What was with his body?
9. What did Michael try to say?
10. What emotions did he have after injection?

**V SPEAKING**

**Exercise 7. Imagine situation that you have to make the content for patients who have a great fear in dental chair. Think about information, facts and pictures which you want to use in your video.**

**Exercise 8. Speak about your fears. How do you manage with it? Imagine that your fears are connected with doctors. What can you recommend?**

## VI JUST FOR FUN

**Read funny statements. What are the funniest for you?  
What do you think about jokes in medicine?**

Our bodies are absolutely amazing. We can push boundaries and do so much with them. Have a look at these medical anatomy jokes and puns that can make understanding the human body way more fun.

Legs are hereditary. They run in your jeans!

The nose is in the middle of the face because it is the scent-er!

Urine: the opposite of ‘you’re out.’

## MODULE 10. DENTAL FACILITIES AND TOOLS

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>mouth mirror</b>	стоматологічне дзеркало
<b>to view places</b>	проглядати ділянки
<b>to move tongue</b>	рухати язиком
<b>oral problems</b>	проблеми ротової порожнини
<b>dental explorer</b>	стоматолог
<b>to push</b>	товкати
<b>visible cavity</b>	видима порожнина
<b>to investigate</b>	досліджувати
<b>removal</b>	видалення
<b>periodontal disease</b>	пародонтоз
<b>dental tools</b>	стоматологічні інструменти
<b>is required</b>	необхідний
<b>inside your cheek</b>	всередині щоки
<b>small areas of tartar</b>	маленька ділянка зубного каменю
<b>to stick</b>	прикладати, прилипати
<b>loosing your tooth</b>	втрачати зуб
<b>dental drill</b>	зубне сверло
<b>to damage the tooth</b>	пошкоджувати зуб

<b>sickle probe</b>	серповидний зонд
<b>saliva ejector</b>	слиновідсмоктувач
<b>scaler</b>	очисник
<b>dental syringe</b>	стоматологічний шприц
<b>molds</b>	форми
<b>harmful bacteria</b>	шкідливі бактерії
<b>local anaesthetic</b>	місцева анестезія
<b>brushing and flossing</b>	чищення та використання зубної
НИТКИ	

## II PRE-READING TASKS.

### **Exercise 1. Read and translate the following word combinations:**

Шкідливі бактерії, пошкоджувати зуб, сеповидний зонд, місцева анестезія, зубне сверло, втрачати зуб, прилипати, маленька ділянка зубного каменю, необхідний, досліджувати, видима порожнина, стоматолог, руйнування зуба, чищення та використання зубної нитки, стоматологічний шприц.

### **Exercise 2. Answer the questions:**

1. How often do you go to the dentist?
2. What is harmful bacteria?
3. Do you have dental floss?
4. What dental tools do you know?
5. How often do you use dental floss?
6. How do you brush your teeth?
7. What dental brush do you use?
8. How do you care about your teeth?
9. Do you have any problems with your teeth or gums?

### III READING

#### **Exercise 3. Read and translate the text:**

##### **Mouth Mirror**

This is probably the least scary of all the dental instruments, but it's important nevertheless. The mouth mirror is a small mirror attached to a metal stick. The purpose of this instrument is two-fold. First, it allows the dentist to view places in the mouth that ordinarily would take an act of physical contortion to see. This makes it easier to find tooth decay or other potential oral problems that would otherwise go undetected. Second, it gives the dentist an easy way to move your tongue or push on the inside of your cheek without doing so with their hands.

##### **Sickle Probe**



A sickle probe, also known as a dental explorer, is one of the scarier dental tools, but it's beneficial in finding signs of cavities or periodontal (gum) disease. This instrument has a long handle with a sharp-looking hook on the end. This is primarily used to explore the pockets between teeth, while also scraping away tartar and plaque. If you have a visible cavity, the dentist may also use the sharp tip to investigate. It may look medieval, but it's a necessary tool for preventative dentistry.

## **Scaler**

While a sickle probe is effective at removing small areas of plaque and tartar, scalers are more essential for the removal of a greater buildup. Most patients who require scaling have more significant issues with periodontal disease, but everyone experiences some form of plaque buildup. When you eat or drink, tiny particles such as sugars and acids stick to your teeth, and bacteria forms. This harmful bacteria eventually causes tooth decay, and while brushing and flossing help remove most of this plaque, additional removal is sometimes required. A scaler scrapes off excess plaque, and while it's not necessarily comfortable, it will prevent you from losing your teeth to decay.

## **Saliva Ejector or Suction Device**

Unlike some other dental tools, a saliva ejector is one of the easier to deal with, and many times, the source of a bit of comedy. When a dentist is exploring your mouth, they often need a dry surface. A suction device is a long tube attached to a vacuum that removes saliva from your mouth. You may hear some vacuum sounds and feel the ejector stick to your cheek or tongue, but it's nothing that should startle you. During treatments that involve the use of water, you may be regularly instructed to close your mouth in order to help the device clear the accumulated water.

## **Dental Drill**

Perhaps the most feared of all tools is the dental drill. The sound of it is enough to send some patients into a frenzy. However, it's the most effective way to remove tooth decay before filling a cavity. This electric drill spins at over 250,000 rpm while shooting water into your mouth. If the drill didn't administer water, it would get hot enough to damage the tooth. While the dental drill can feel uncomfortable because of vibrations on your teeth, it's usually not painful when you receive a local anaesthetic.

## **Dental Syringe**

Speaking of anaesthetics, the dental syringe is what delivers the numbing blow to your mouth. They're a bit longer than a typical needle or syringe so the dentist can hit the correct spot when

administering the anaesthetic. As with a shot, the initial injection may cause discomfort for a moment, but this is quickly numbed by the anaesthetic. If you're a bit squeamish around needles, it's probably in your best interest not to look at it, but it happens so quickly that it's nothing you should fear. Many dentists also administer a topical anaesthetic prior to using the syringe, in order to dull the initial needle prick.

### **Molds**

If you need a crown, cap, or mouthguard, your dentist may have to get a mold (or mould) of your teeth. These molds are nothing to fear, however; they're small frames filled with a soft substance and are placed in your mouth. When you bite down, it provides a perfect mold of your teeth. The molding material doesn't taste great, but it's nothing you can't tolerate for a few seconds, and some dentists even have flavoured versions available for kids of all ages. Now that you know a bit more about the tools that go into routine dental practices, you don't have to hide under a blanket of fear – or under any blanket for that matter. In the hands of your dental professionals, these tools are harmless, and the ones that sound or look menacing are typically offset by something, such as an anaesthetic, that will help you to remain comfortable. You might even impress your dentist by showing how much you know about each instrument.

## **IV POST-READING TASKS**

**Exercise 4. Put the questions to the text.**

**Exercise 5. Write about your last visit to the doctor.**

**Exercise 6. Give recommendations to the patients how to take care of their teeth.**

## V SPEAKING

**Exercise 7. Imagine situation that you have to make the advertisement about new tools which are used in dentistry now. What tools do you want to describe?**

**Exercise 8. Speak about your tools which are necessary to treat patients. Describe them.**

## VI JUST FOR FUN

**Read funny statements. What are the funniest for you? What do you think about jokes in medicine?**

- 1) We be-lung together!
- 2) When neurons commit a crime, they are put in a nerve cell.
- 3) A kidney's favorite instrument is the organ.
- 4) If you steal someone's heart, do you get cardiac arrested?

## MODULE 11. MEDICINES. DENTAL ANESTHESIA

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>depend on</b>	залежати від
<b>anesthesia</b>	анестезія
<b>medications</b>	ліки
<b>successful procedure</b>	успішна процедура
<b>better effect</b>	кращий вплив
<b>short-acting</b>	короткої дії
<b>is added to</b>	доданий до
<b>local anesthesia</b>	місцева анестезія
<b>less complicated</b>	менш ускладнений
<b>negative impact</b>	негативний вплив
<b>lower jaw</b>	нижня щелепа



<b>upper jaw</b>	верхня щелепа
<b>cavity filling</b>	пломбування
<b>dental appointment</b>	відвідування стоматолога
<b>a negative impact</b>	негативний вплив
<b>prescription</b>	рецепт
<b>anxiety</b>	хвилювання
<b>light sedation</b>	легке знеболювальне
<b>a lack or loss of sensation</b>	нестача або відсутність відчуттів
<b>able to respond</b>	здатний відповідати
<b>to respond to commands</b>	відповідати на команди
<b>surrounding</b>	оточуючий
<b>heart rate</b>	серце биття
<b>given orally</b>	давати внутрішньо
<b>painful stimulation</b>	болісна стимуляція
<b>anesthesia care</b>	використання знеболювального
<b>a face mask</b>	маска на обличчя
<b>intramuscularly</b>	внутрішньо-м'язево
<b>intravenously</b>	внутрішньо-венно
<b>side effects</b>	побічні ефекти
<b>pretreatment discussion</b>	обговорення перед лікуванням
<b>longer procedures</b>	довші процедури

## II PRE-READING TASKS

### Exercise 1. Read and translate the words-combinations:

Здатний відповідати, болісна стимуляція, побічні ефекти, обговорення перед лікуванням, довші процедури, залежати від , анестезія, ліки, успішна процедура, кращий вплив, короткої дії, доданий до, нестача або відсутність відчуттів, використання знеболювального, рецепт, хвилювання, внутрішньо-м'язево, давати внутрішньо.

### III READING

#### **Exercise 2. Read and translate the text:**

Are you scheduled for a dental procedure and have questions about anesthesia?

Around 10 to 30 percent of people have anxiety and concerns about pain with dental procedures. Anxiety can delay getting treatment and that can make the problem worse.

Anesthetics have been around for over 175 years! In fact, the first recorded procedure with an anesthetic was done in 1846 using ether.

We've come a long way since then, and anesthetics are an important tool in helping patients feel comfortable during dental procedures.

With lots of different options available, anesthesia can be confusing. We break it down so you'll feel more confident before your next dental appointment.

What are the types of dental anesthetics?

Anesthesia means a lack or loss of sensation. This can be with or without consciousness.

Today there are many options available for dental anesthetics. Medications can be used alone or combined for better effect. It's individualized for a safe and successful procedure.

The type of anesthetics used also depends on the age of the person, health condition, length of the procedure, and any negative reactions to anesthetics in the past.

Anesthetics work in different ways depending on what's used. Anesthetics can be short-acting when applied directly to an area or work for longer times when more involved surgery is required. The success of dental anesthesia depends on:the drug. Other things that may effect dental anesthesia include the timing of the procedure. ResearchTrusted Source also shows that inflammation can have a negative impact on the success of anesthetics.

Also, for local anesthesia, teeth in the lower jaw (mandibular) section of the mouth are harder to anesthetize than the upper jaw (maxillary) teeth.

There are three main types of anesthesia: local, sedation, and general. Each has specific uses. These can also be combined with other medications.

Local anesthesia is used for simpler procedures like a cavity filling, which requires a shorter time to complete and is generally less complicated.

You will be conscious and able to communicate when you get a local anesthetic. The area will be numb, so you won't feel pain.

Most local anesthetics take effect quickly (within 10 minutes) and last 30 to 60 minutes. Sometimes a vasopressor such as epinephrine is added to the anesthetic to increase its effect and to keep the anesthetic effect from spreading to other areas of the body.

Local anesthetics are available over the counter and as a prescription in gel, ointment, cream, spray, patch, liquid, and injectable forms.

They can be used topically (applied directly to the affected area to numb) or injected into the area to be treated. Sometimes, light sedation is added to local anesthetics to help relax a person.

Sedation has several levels and is used to relax a person who may have anxiety, help with pain, or keep them still for the procedure. It can also cause procedure amnesia.

You might be fully conscious and able to respond to commands, semiconscious, or barely conscious. Sedation is categorized as mild, moderate, or deep.

Deep sedation can also be called monitored anesthesia care or MAC. In deep sedation, you're generally not aware of your surroundings and can only respond to repeated or painful stimulation.

The medication might be given orally (tablet or liquid), inhaled, intramuscularly (IM), or intravenously (IV).

There are more risks with IV sedation. Your heart rate, blood pressure, and breathing must be carefully monitored in moderate or deep sedation.

General anesthesia is used for longer procedures, or if you have a lot of anxiety that might interfere with your treatment.

You'll be completely unconscious, have no pain, your muscles will be relaxed, and you'll have amnesia from the procedure. The medication is given through a face mask or IV. The level of anesthesia depends on the procedure and the individual patient. There are different risks with general anesthesia.

### GENERAL ANESTHESIA MEDICATIONS

Propofol, ketamine, etomidate, midazolam, diazepam, methohexital, nitrous oxide, desflurane, isoflurane, sevoflurane.

What are the side effects of dental anesthesia?

Side effects of dental anesthesia depend on the type of anesthetic used. General anesthesia has more risks involved with its use than local anesthesia or sedation. Reactions also vary based on individual factors.

Some reported side effects with sedation and general anesthesia medications include:

nausea or vomiting, headache, sweating or shivering, hallucinations, delirium, or confusion, slurred speech, dry mouth or sore throat, pain at the site of injection, dizziness, tiredness, numbness, lockjaw (trismus) caused by trauma from surgery; the jaw opening is temporarily reduced.

Vasoconstrictors such as epinephrine added to anesthetics can also cause heart and blood pressure problems.

These are some reported side effects of anesthetics. Ask your dental care team about your specific medication and any concerns you may have about the medication.

Special precautions when taking dental anesthetics.

There are conditions and situations in which you and your doctor or dentist will discuss if dental anesthesia is the best choice for you.

Treatment consent is an important part of the pretreatment discussion. Ask questions about risks and safety precautions that will be taken to ensure a positive outcome.

### PEOPLE AT RISK FROM DENTAL ANESTHESIA

## IV POST-READING TASKS

### Exercise 3. True or false.

1. Around 10 to 20 percent of people have anxiety and concerns about pain with dental procedures.
2. Anesthetics have been around for over 175 years!
3. Local anesthesia is used for difficult procedures like a cavity filling, which requires a shorter time to complete and is generally less complicated.
4. Sedation has several levels and is used to relax a person who may have diseases, help with pain, or keep them still for the procedure. It can also cause procedure algia.
5. Local anesthetics are available over the counter and as a prescription in gel, ointment, cream, spray, patch, liquid, and injectable forms.
6. Most local anesthetics take effect quickly (within 5 minutes) and last 30 to 70 minutes.
7. Deep sedation can also be called monitored anesthesia care or MC.
8. Side effects of dental anesthesia depend on the type of anesthetic used.
9. General anesthesia has less risks involved with its use than local anesthesia or sedation.
10. Vasoconstrictors such as epinephrine added to anesthetics can also cause heart and blood pressure problems.

### Exercise 4. Fill in the gaps:

Around 10 to 30 percent of people have \_\_\_\_\_ and concerns about pain with dental procedures. Anxiety can \_\_\_\_\_ getting treatment and that can make the problem worse.

\_\_\_\_\_ have been around for over 175 years! In fact, the first recorded procedure with an anesthetic was done in 1846 using ether. \_\_\_\_\_ means a lack or loss of sensation. This can be with or \_\_\_\_\_ consciousness. Today there are many \_\_\_\_\_ available for dental anesthetics. \_\_\_\_\_ can be used alone or combined for better effect. It's \_\_\_\_\_ for a safe and

successful procedure. Local anesthetics are \_\_\_\_\_ over the counter and as a prescription in gel, ointment, cream, spray, patch, liquid, and injectable forms.

They can be used \_\_\_\_\_ (applied directly to the affected area to numb) or injected into the area to be treated. Sometimes, light \_\_\_\_\_ is added to local anesthetics to help relax a person. General anesthesia is used for longer \_\_\_\_\_, or if you have a lot of anxiety that might interfere with your treatment. You'll be completely \_\_\_\_\_, have no pain, your muscles will be relaxed, and you'll have amnesia from the procedure.

## V SPEAKING

**Exercise 5. Imagine situation that you have make an article about medicines. What medicines do you write about? There have to be not more than 200 words.**

**Exercise 6. Speak about dental anesthesia which are necessary to treat patients. Describe it.**

## VI JUST FOR FUN

**Read funny statements. What are the funniest for you? What do you think about jokes in medicine?**

1. A cardiologist keeps sending me x-rays of his chest. A bit weird I know but shows his heart is in the right place.
2. When the lung fell in love it took its breath away.
3. What do your organs do on your birthday? They cell-ebrate!
4. You know, the heart is the hungriest organ. It has the heartiest appetite.
5. We be-lung together!
6. When neurons commit a crime, they are put in a nerve cell.
7. A kidney's favorite instrument is the organ.
8. If you steal someone's heart, do you get cardiac arrested?

9. The brain is an amazing organ. It really makes you think  
 10. It takes some guts to be an organ donor.  
 11. The kidney said to the other "urine my thoughts!"

## **MODULE 12. ENDODONTICS**

### **I VOCABULARY**

**Learn new words and pay attention to the translation:**

<b>detect</b>	визначати
<b>associated with</b>	асоціюватися з
<b>dental canals</b>	стоматологічні канали
<b>endodontic treatment</b>	лікування у ендодонта
<b>remove</b>	видаляти
<b>prepare the root canal</b>	підготувати корінь
<b>primary treatment</b>	первинне лікування
<b>remove tartar</b>	видаляти камінь
<b>infected tissues</b>	інфіковані тканини
<b>treated unsuccessfully</b>	безуспішно лікований
<b>take the necessary measures</b>	приймати необхідні заходи
<b>implantation</b>	імплантувати
<b>pus</b>	гній
<b>sharp pain</b>	гострий біль
<b>inflammation</b>	запалення
<b>teeth loss</b>	втрата зуба
<b>pocket</b>	карман
<b>clinical procedures</b>	клінічні процедури
<b>low-quality tooth</b>	низької якості зуб

### **II PRE-READING TASKS**

**Exercise 1. Answer the questions:**

1. What is endodontics?
2. What is acute pulpitis?
3. How is provided treatment of dental canals?

4. What is primary treatment?
5. What do you know know about secondary treatment?
6. What is implantation?
7. What is preparation for endodontic treatment?
8. How is rebuilding procedure of the coronal part made?
9. What is the goal of endodontic treatment?
10. Can endodontic treatment be treated in one visit?

**Exercise 2. Complete the sentences:**

Endodontics is the science which studies \_\_\_\_\_ .  
 Treatment of dental canals \_\_\_\_\_ .  
 Dental injuries can be \_\_\_\_\_ .  
 Implantation is used when \_\_\_\_\_ .  
 Acute pulpitis is a disease characterized by \_\_\_\_\_ .  
 Endodontic treatment is \_\_\_\_\_ .  
 A doctor applies apex locator and X-ray in order to \_\_\_\_\_ .  
 When treatment is completed, it is necessary \_\_\_\_\_ .

**III READING**

**Exercise 3. Read and translate the text:**

Endodontics is a science that studies the endodontic anatomy, as well as detects and treats pathologies associated with changes in the tooth pulp and periodontal ligament, injuries in the dental cavity. Treatment of dental canals is provided within this section of dentistry.

Endodontic treatment has the following objectives:

- To remove the infected tissues (dentin substance and tooth pulp) from the periapical tissues and root canal.
- To prepare the root canal for tooth filling.
- To fill the root canal.

Endodontic treatment can be primary and secondary. Primary treatment implies root canal filling and chemomechanical cleaning. Then, the rebuilding procedure of the dental crown is carried out with the help of filling material or a post-and-core inlay. When the



filling takes about 2/3 of the dental crown, the crown has to be replaced. Secondary endodontic treatment implies retreatment of the root canals which have already been treated unsuccessfully. A doctor removes old root canal fillers, cleans the canal thoroughly, then inserts the filling again. All actions are carried out in order to reduce inflammation and chronic toothache, as well as to preserve the tooth. Secondary treatment can be called more difficult, since not always a successful result is long term. It is necessary to be followed up by a dentist in order to react and take the necessary measures in case of infection development.

Dental injuries can be nonreversible and lead to teeth loss if they are not treated in due time. Only dental prosthetics and implantation can help in neglected cases.

Root canal treatment is indicated in the following cases:

Different forms of periodontitis are inflammation of the surrounding tissues of the tooth root. As a result, a pus pocket appears in the root. A specific symptom of this disease is a sharp pain in the tooth. Causes of periodontitis can be infectious, traumatic, medicamental and allergic ones.

Acute pulpitis is a disease characterized by the inflammation of the tooth pulp which comes to be called the nerve. In most cases, this is the infectious inflammation which arises from the penetration of bacteria through the carious canal. Initially, the patient may feel dull pain that becomes acute. There may be the enamel darkening of the affected tooth, swelling of the surrounding tissues, slight dental bleeding.

Chronic pulpitis is the inflammation of the tooth pulp which is the chronic one. In the case of this health problem, there are episodes of toothache from time to time in response to mechanical and/or thermal (hot most of all) influence. The causes of the disease may be different from the acute periodontitis and parodontitis to low-quality tooth treatment provided earlier.

There are contraindications for endodontic treatment as well. They are as follows: vertical root fracture, periodontal disease,

impossibility to treat root canal of the tooth, inability to restore the tooth.

Endodontic treatment is a staged process that requires a correct approach and compliance with the following plan of actions:

- Diagnostics. Each patient who seeks endodontic treatment must be diagnosed. Except for the examination and clinical procedures, the tooth vitality is tested, and the marginal periodontium is explored (to determine the vertical tooth fracture). CT scan might be performed.
- Assessment of the tooth health and prognosis of treatment options, decision making. A doctor analyzes the results of the diagnostic testing in order to perform afore-named actions. If the patient has a dental core or a crown on the affected tooth, such dentures should be removed.

Preparation for endodontic treatment. It may involve the following procedures: treatment of periodontal diseases;

- filling of tooth cavities affected by caries (unrelated to the endodontic access);
- restoration of missing parts of the tooth;
- in the case of excessive salivation, the patient gets atropine in the form of collutory 30 minutes before the initiation of endodontic treatment.

At first, it is necessary to give the patient anesthetic and then initiate the procedure. In a certain manner, a dentist opens the carious cavity to get easy endodontic access. Then he removes the pulp cavity and gets access to the pulp canal. Next step is to remove the tooth pulp and foreign substance. A doctor applies apex locator and X-ray in order to know the length of the root canal (it is very important and helps to avoid complications). Then, the doctor treats the root canal with special tools and medications. If there is the inflammation in the periodontal ligament, it is reduced. Then, the dentist fills the root canal.

- Rebuilding procedure of the coronal part should be completed no later than 2 weeks after the endodontic treatment.

- Follow-up. It is impossible to assess the result of treatment at once, so the patient has to do first medical check-up via computer tomography in 6 months. Then it should be done in 1 year, 2 and 4 years.

In the case of apical pathology enhancement, apical surgery is indicated. It includes surgical revision and obligatory control of the result.

A noteworthy detail is that it is not recommended to complete endodontic treatment in one visit. It can last for several days or even weeks.

When treatment is completed, it is necessary to restore the anatomy and function of the tooth. Filling materials or dental prostheses can be used for this.

Certus clinic provides endodontic treatment with the help of modern hardware. There are manual endodontic instruments, rotating systems, X-smart equipment for rotary dental instruments, thermaprep (equipment designed to heat up gutta-percha and it is used during root canal filling as well), apex locator. Treatment is provided under x-ray control on a mandatory basis. Due to the modern equipment, the high-quality instruments, as well as innovative materials, our experts cope even with complicated endodontic cases successfully.

#### IV POST-READING TASKS

##### **Exercise 4. True or false:**

1. In the case of apical pathology enhancement, apical surgery is indicated.
2. When treatment is completed, it is necessary to restore the anatomy and function of the gum.
3. CT scan might be performed for treatment.
4. Endodontic treatment can be primary and secondary.
5. Primary treatment implies nerves.
6. When the filling takes about 2/3 of the dental crown, the crown has to be replaced.

7. Different forms of periodontitis are inflammation of the nerves.
8. Chronic pulpitis is the inflammation of the tooth pulp which is not chronic one.
9. In the case of this health problem, there are episodes of toothache from time to time in response to mechanical and/or thermal (hot most of all) influence.
10. Rebuilding procedure of the coronal part should be completed no later than 2 weeks after the endodontic treatment.

**Exercise 5. Title the paragraphs of the text.**

**Exercise 6. Answer the questions:**

1. What is the difference between acute and chronic pulpitis?
2. How is treated acute pulpitis?
3. What are the main endodontic tools?
4. What is chronic pulpitis?
5. How do you describe endodontics?
6. What is the treatment of endodontic problems?
7. How is rebuilding procedure made?

V SPEAKING

**Exercise 7. Imagine situation that you have to explain your patients about pulpitis. Give them recommendations about care and treatment.**

**Exercise 8. Work in pairs, discuss with your groupmate: diseases of oral cavity, treatment and care of teeth and the whole oral cavity.**

VI JUST FOR FUN

**Read funny stories. What are the funniest for you? What do you think about jokes in medicine?**

1. During a patient's two-week follow-up appointment with his cardiologist, he informed me, his doctor, that he was having

trouble with one of his medications. “Which one?” I asked. “The patch. The nurse told me to put on a new one every six hours and now I’m running out of places to put it!” I had him quickly undress and discovered what I hoped I wouldn’t see. Yes, the man had over fifty patches on his body! Now, the instructions include removal of the old patch before applying a new one. —Submitted by Dr. Rebecca St. Clair to Ridiculously Funny Medical Stories.

2. “Here,” says the nurse, handing the patient a urine specimen container. “The bathroom’s over there.” A few minutes later, the patient comes out of the bathroom.

“Thanks,” he says, returning the empty container. “But there was a toilet in there, so I didn’t need this after all.”

## MODULE 13. PROTHODONTICS. ORTHODONTICS

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>complete</b>	завершувати
<b>orthodontic treatment</b>	лікування в ортодонта
<b>growth</b>	ріст
<b>lacking</b>	нестача
<b>dental braces</b>	стоматологічний міст
<b>treatment plan</b>	лікувальний план
<b>appliances</b>	прилади
<b>untreated</b>	нелікований
<b>scientific evidence</b>	науковий факт
<b>require</b>	потребувати
<b>tooth position</b>	зубна позиція
<b>permanent</b>	постійний
<b>premolars</b>	премоляри
<b>poor oral hygiene</b>	погана гігієна ротової порожнини
<b>fit</b>	підходити
<b>mild</b>	м’який
<b>treatment plan</b>	план лікування

severity

серйозність

## II PRE-READING TASKS.

### Exercise 1. Read and translate the following word combinations:

Премоляри, серйозність, м'який, зубна позиція, підходити, постійний, потребувати, наукий факт, прилади, лікувальний план, стоматологічний міст, погана гігієна ротової порожнини, завершувати.

### Exercise 2. Fill in the gaps and translate the the following words:

co..lete –

orthodont.. treat..nt –

g..wth –

l..king –

dent.. b..ces –

treatment pl.. –

a..liances –

untrea..d –

scientific e..dence –

r..uire –

too.. posit..n –

ja. -

permane.. –

p..molars –

poo. or.l hygi..e –

fi. -

mil. –

treatme.. pl.. –

## III READING

### Exercise 3. Read and translate the text:

Orthodontics is a dentistry specialty that addresses the diagnosis, prevention, management, and correction of mal-positioned

teeth and jaws, and misaligned bite patterns. It may also address the modification of facial growth, known as dentofacial orthopedics.

Abnormal alignment of the teeth and jaws is very common. Nearly 50% of the developed world's population, according to the American Association of Orthodontics, has malocclusions severe enough to benefit from orthodontic treatment: although this figure decreases to less than 10% according to the same AAO statement when referring to medically necessary orthodontics. However, conclusive scientific evidence for the health benefits of orthodontic treatment is lacking, although patients with completed orthodontic treatment have reported a higher quality of life than that of untreated patients undergoing orthodontic treatment. Treatment may require several months to a few years, and entails using dental braces and other appliances to gradually adjust tooth position and jaw alignment. In cases where the malocclusion is severe, jaw surgery may be incorporated in the treatment plan. Treatment usually begins before a person reaches adulthood, insofar as pre-adult bones may be adjusted more easily before adulthood.

A typical treatment for incorrectly positioned teeth (malocclusion) takes from one to three years, with braces being adjusted every four to 10 weeks by specialists called orthodontists, university-trained dental specialists versed in the prevention, diagnosis and treatment of dental and facial irregularities. Orthodontists offer a wide range of treatment options to straighten crooked teeth, fix irregular bites, and align the jaws correctly. There are many ways to adjust malocclusion. In growing patients there are more options to treat skeletal discrepancies, either by promoting or restricting growth using functional appliances, orthodontic headgear or a reverse pull facemask. Most orthodontic work begins in the early permanent dentition stage before skeletal growth is completed. If skeletal growth has completed, jaw surgery is an option. Sometimes teeth are extracted to aid the orthodontic treatment (teeth are extracted in about half of all the cases, most commonly the premolars).

Orthodontic therapy may include using fixed or removable appliances. Most orthodontic therapy is delivered using appliances that are fixed in place, for example, with braces that are adhesively bonded to the teeth. Fixed appliances may provide greater mechanical control of the teeth; optimal treatment outcome is improved by using fixed appliances.

Fixed appliances may be used, for example, to rotate teeth if that do not fit the arch shape of the other teeth in the mouth, to adjust multiple teeth to different places, to change tooth angle of teeth, or to change the position of a tooth's root. This treatment course is not preferred where a patient has poor oral hygiene, (as decalcification, tooth decay or other complications may result. If a patient is unmotivated (insofar as treatment takes several months and requires commitment to oral hygiene), or if malocclusions are mild.

Biology of tooth movement and how advances in gene therapy and molecular biology technology may shape the future of orthodontic treatment.

#### Dental braces.

Braces are usually placed on the front side of the teeth, but they may also be placed on the side facing the tongue (called lingual braces). Brackets made out of stainless steel or porcelain are bonded to the center of the teeth using an adhesive. Wires are placed in a slot in the brackets which allows for controlled movement in all three dimensions.

Apart from wires, forces can be applied using elastic bands, and springs may be used to push teeth apart or to close a gap. Several teeth may be tied together with ligatures and different kinds of hooks can be placed to allow for connecting an elastic band.

Clear aligners are an alternative to braces, but insufficient evidence exists to determine their effectiveness.

The time required for braces varies from person to person as it depends on the severity of the problem, the amount of room available, the distance the teeth must travel, the health of the teeth, gums, and supporting bone, and how closely the patient follows instructions. On average, however, once the braces are put on, they



usually remain in place for one to three years. After braces are removed, most patients will need to wear a retainer all the time for the first six months, then only during sleep for many years.

Orthodontic headgear – sometimes referred to as an “extra-oral appliance” – is a treatment approach that requires the patient to have a device strapped onto his or her head to help correct malocclusion – typically used when the teeth do not align properly. Headgear is most often used along with braces or other orthodontic appliances. While braces correct the position of teeth, orthodontic headgear – which as the name suggests is worn on or is strapped onto the patient's head – is most often added to orthodontic treatment to help alter the alignment of the jaw, although there are some situations in which such an appliance can help move teeth, particularly molars.

Full orthodontic headgear with headcap, fitting straps, facebow and elastics.

Whatever the purpose, orthodontic headgear works by exerting tension on the braces via hooks, a facebow, coils, elastic bands, metal orthodontic bands, and other attachable appliances directly into the patient's mouth. It is most effective for children and teenagers because their jaws are still developing and can be easily manipulated. (If an adult is fitted with headgear, it is usually to help correct the position of teeth that have shifted after other teeth have been extracted.) Thus Headgear is typically used to treat a number of jaw alignment or bite problems such as overbite and underbite.

Palatal expansion can be best achieved using a fixed tissue born appliance. Removable appliances can push teeth outwards but is less effective at maxillary sutural expansion. The effects of a removable expander may look the same as they push teeth outwards but should not be confused with actually expanding the palate. Proper palate expansion can create more space for teeth as well as improve both oral and nasal airflow.

Jaw surgery may be required to fix severe malocclusions. The bone is broken during surgery and is stabilized with titanium (or bioresorbable) plates and screws to allow for healing to take

place. After surgery, regular orthodontic treatment is used to move the teeth into their final position.

To reduce pain during the orthodontic treatment, low-level laser therapy (LLLT), vibratory devices, chewing adjuncts, brainwave music, or cognitive behavioral therapy can be used. However, the supporting evidence is of low quality, and the results are inconclusive.

After orthodontic treatment has completed, there is a tendency for teeth to return, or relapse, back to their pre-treatment positions. Over 50% of patients have some reversion to pre-treatment positions within 10 years following treatment. To prevent relapse, the majority of patients will be offered a retainer once treatment has completed and will benefit from wearing their retainers. Retainers can be either fixed or removable.

Removable retainers are made from a clear plastic, and they are custom-fitted for the patient's mouth. It has a tight fit and holds all of the teeth in position. There are many types of brands for clear retainers including Zendura Retainer, Essix Retainer, and Vivera Retainer. Hawley retainer is also a removable orthodontic appliance made from a combination of plastic and metal that is molded custom to fit the patient's mouth. Removable retainers will be worn for different periods of time depending on patient need to stabilise the dentition.

Fixed retainers are a simple wire fixed to the tongue-facing part of the incisors using dental adhesive and can be specifically useful to prevent rotation in incisors. Other types of fixed retainers can include labial or lingual braces, with brackets fixed to the teeth.

#### IV POST-READING TASKS

##### **Exercise 4. Answer the questions:**

1. What is orthodontics?
2. How many per cent of people are with orthodontic problems?
3. What is a typical treatment for incorrectly positioned teeth?
4. How does most orthodontic work begin?

5. What can you say about biology of tooth movement?
6. What is orthodontic headgear?
7. When does jaw surgery is made?
8. What is LLLT?
9. How is used fixed retainers?
10. When are used braces?

**Exercise 5. Write an email to your patient. Explain when it is better to use braces. Give recommendations.**

## V SPEAKING

**Exercise 6. Imagine situation that you have to explain your patients about braces. Give them recommendations about care and treatment.**

**Exercise 7. Work in pairs, discuss with your groupmate: orthodontic diseases, treatment and care of teeth.**

## VI JUST FOR FUN

**Read funny statements. What are the funniest for you? What do you think about jokes in medicine?**

How can you tell if a bucket is not well? When it is a little pale.

I had a gut feeling I had food poisoning.

When the cat was sick it wasn't feline well!

A little joke when you're sick never hurt anybody.

All these medical puns. They make me sick!

Conjunctivitis.com – that's a site for sore eyes.

The plague, the flu, and common cold walk into the room. I asked, "What is this? Some kind of sick joke?"

What did one tonsil say to the other tonsil? "Did you hear? The doctor's taking us out tonight".

## MODULE 14. ORAL SURGERY

### I VOCABULARY

**Learn new words and pay attention to the translation:**

<b>inspection</b>	огляд, обстеження
<b>oral surgery</b>	стоматологічна операція
<b>missing teeth</b>	втрачений зуб
<b>oral cancer</b>	рак ротової порожнини
<b>wide range</b>	широкий спектр
<b>jaw surgery</b>	операція на щелепі
<b>training</b>	підготовка
<b>corrective</b>	правильний
<b>bone loss</b>	втрата кістки
<b>keeping</b>	зберігання
<b>nutrients</b>	поживні речовини
<b>to stimulate the nerves</b>	стимуляція нервів

### II PRE-READING TASKS.

**Exercise 1. Read and translate the following word combinations:**

Поживні речовини, операція, кістка, правильний, стоматологічна операція, огляд, рак ротової порожнини, втрачений зуб, підготовка, зберігання, правильний, стимуляція нервів.

**Exercise 2. Fill in the gaps:**

Inspect..n , or.l surge.. , mi..ing tee.., oral canc.. , wi.. rang, bo.e ja, surge..., t.aining, co..ective , bone lo.. , k..ping, nutrien.. .

### III READING

**Exercise 3. Read and translate the text.**

Oral surgery refers to any surgical procedure performed on your teeth, gums, jaws or other oral structures. This includes

extractions, implants, gum grafts and jaw surgeries. Oral surgery is usually performed by an oral and maxillofacial surgeon or a periodontist. These are dental specialists who have advanced training in oral surgery procedures. Oral surgery is a broad term for any operation performed on your teeth, gums, jaw or surrounding oral and facial structures. It includes a wide range of procedures, including teeth extractions, dental bone grafts, periodontal (gum) grafts and corrective jaw surgery.

You could need oral surgery for a number of reasons. Your dentist might recommend it if you have:

- a) extensive tooth decay;
- b) badly broken teeth;
- c) gum disease;
- d) impacted teeth;
- e) missing teeth;
- f) temporomandibular joint disorders (TMD);
- g) bone loss in your jaw;
- h) sleep apnea;
- i) oral cancer.

Benign oral pathology (noncancerous lumps or bumps).

There are several types of oral surgery procedures performed each year. Some of the most common include tooth extraction, dental bone grafts, dental implants, periodontal surgery, corrective jaw surgery, sleep apnea surgery and cleft lip and palate repair.

The most common type of oral surgery is tooth extraction (tooth removal). An extraction might be recommended if you have severe tooth decay, gum disease (periodontitis), dental trauma or wisdom teeth complications. Sometimes tooth extractions are performed to prepare you for dentures or other prosthetic devices.

Most dentists prefer to save natural teeth, when possible, but sometimes extractions are necessary to preserve your overall oral health. Additionally, many dentists recommend wisdom tooth extraction as a preventative measure to reduce your risk for cavities, bone loss and other problems.

A dental bone graft is necessary when bone loss has occurred in your jaw. There are a couple of reasons why this may occur. When your natural teeth are present, the roots stimulate the nerves in your jaw. This signals your brain to send nutrients to your jaw, keeping it strong and healthy. If a tooth has been missing for some time, bone deterioration can occur in that area because there are no roots to stimulate the nerves. A dental bone graft restores volume and density in your jawbone so that dental implants can be placed later on.

Sometimes, your provider might place a bone graft during periodontal surgery. Advanced gum disease can cause the bone around your teeth to erode. A bone graft reduces mobility and provides a solid foundation, keeping your teeth strong and healthy.

Dental implants are widely considered the most reliable and longest-lasting teeth replacement option available. These small threaded posts – made of medical-grade titanium or zirconia – are embedded into your jaw to replace missing teeth roots. Once the implants are healed, they can be restored with dental crowns, dental bridges or dentures.

If you have moderate or severe periodontitis, a gum specialist may recommend gum disease treatment. During this procedure, incisions are made along your gum line and the tissue is temporarily moved back away from your teeth. Your surgeon will then clean your teeth roots, flushing away plaque and bacteria that have accumulated under your gums. Finally, the gum tissue is repositioned and sutured into place.

Sometimes, gum recession can occur as a result of periodontitis. In these instances, you may need a gum graft. During this procedure, your surgeon reinforces the area of tissue loss with donor tissue. This tissue may be taken from the roof of your mouth or purchased at a certified tissue bank.

#### IV POST-READING TASKS

##### **Exercise 4. Match the halves:**

a) Oral surgery refers to any surgical procedure

- b) Most dentists prefer to save natural teeth, when possible,
  - c) This signals your brain to send nutrients to your jaw,
  - d) Oral surgery is a broad term for any operation performed on your teeth, gums,
  - e) Sometimes, your provider might place a bone graft during periodontal surgery.
  - f) Sometimes, gum recession can occur as a result of periodontitis,
  - g) Dental implants are widely considered the most reliable
- 
- 1) advanced gum disease can cause the bone around your teeth to erode.
  - 2) performed on your teeth, gums, jaws or other oral structures.
  - 3) in these instances, you may need a gum graft.
  - 4) and longest-lasting teeth replacement option available.
  - 5) but sometimes extractions are necessary to preserve your overall oral health.
  - 6) jaw or surrounding oral and facial structures.
  - 7) keeping it strong and healthy.

**Exercise 5. Put the questions to the text.**

## V SPEAKING

**Exercise 6. Imagine situation that you are a doctor. You need to make a surgery but your patient is afraid of any oral surgery. Explain your patient that everything will be good, give reasons why it is very important to make this surgery. Give him recommendations about care and treatment.**

**Exercise 7. Work in group, discuss with your groupmates: reasons of oral surgery, treatment and care of teeth.**

## VI JUST FOR FUN

### **Read funny stories. What are the funniest for you? What do you think about jokes in medicine?**

1) My patient announced she had good news ... and bad. "The medicine for my earache worked," she said. "What's the bad news?" I asked. "It tasted awful."

Since she was feeling better, I didn't have the heart to tell her they're called eardrops for a reason.

2) A woman came in for a baby check with her 6-month-old and she had what looked like chocolate milk in the baby's bottle. So, I started explaining to her as kindly as I could that she shouldn't be giving her baby chocolate milk. At which point she interrupts me and says, "Oh that isn't chocolate milk. It's coffee! He just loves it!"

## **MODULE 15. PREVENTIVE DENTISTRY. ORAL HYGIENE**

### I VOCABULARY

#### **Learn new words and pay attention to the translation:**

<b>intraoral</b>	внутрішньоротовий
<b>identification</b>	вияв, визначення
<b>reduce cavities</b>	зменшувати порожнини
<b>healthy dental habits</b>	здорові стоматологічні звички
<b>to provide</b>	надавати
<b>basic dental care</b>	базовий догляд
<b>specialize in</b>	спеціалізуватися в
<b>preventive dentistry –</b>	профілактика в стоматології
<b>damage</b>	руйнувати
<b>regular teeth cleanings</b>	регулярне чищення зубів
<b>routine X-rays</b>	рентген зубів
<b>identify problems</b>	визначати проблеми
<b>chronic medical condition</b>	хронічний стан



**do a full exam**  
**harm tooth enamel**  
**sealants**

робити повне обстеження  
шкодить емалі  
герметики

## II PRE-READING TASKS.

### **Exercise 1. Read and translate the following word combinations:**

Developing tooth decay, good oral hygiene habits, reduce dental problems, eating disorders, promote good dental habits, a mouth guard, harm tooth enamel, help improve dental health, developing tooth decay, preventive care, chronic conditions, avoid acidic foods.

### **Exercise 2. Answer the questions:**

1. What do you know about preventive medicine in dentistry?
2. What food can the patient eat to be healthy?
3. What is pediatric dentistry?
4. What food is it better to avoid?
5. What is necessary to do if you grind at night?
6. What good dental habits can you name?

## III READING

### **Exercise 3. Read and translate the text.**

Much of your preventive dental care starts with you. Developing healthy dental habits early in life can help reduce cavities, gum disease, and gingivitis. Here are the basics of good oral health:

- Brush your teeth at least 2 times a day – usually morning and night – using a soft bristled brush and a fluoride toothpaste. Your dentist can recommend the best toothbrush and toothpaste for you. They can also instruct you on how to properly brush.
- Floss daily to get food that's stuck between teeth before it turns to plaque.

- Use a mouthwash to rinse out food particles after flossing.
- Avoid acidic foods that can harm tooth enamel.
- Be cautious with hard foods, like some candies, foods with bones, seeds, or pits that could damage or chip teeth.
- Don't smoke or use tobacco products – these can lead to cancer and other dental problems.
- Use a mouth guard when participating in certain sports.
- If you grind your teeth at night, ask your dentist for a nighttime mouth guard to help reduce gum recession.

There are a lot of different types of dentists and dental specialties. Those that provide preventive dentistry include:

**General dentist:** A general dentist may also be called a family dentist. This is your go-to provider when you need routine preventive care like regular teeth cleanings, exams, and X-rays. They will also do fillings and provide other basic dental care. One of your general dentist's key roles is guiding you in proper dental care for yourself. They can identify any potential problems before they become large, help you build healthier habits, and refer you to dental specialists if you need further care.

**Pediatric dentist (children's dentist):** Pediatric dentists specialize in dental care for kids. Most kids will start out with dental care sometimes as soon as their first tooth appears. In many cases, a pediatric dentist will continue to see children through their teen years. A pediatric dentist provides both preventive dentistry services as well as more specialized care when needed, including extractions, fillings, and oral surgery in some cases.

As soon as a child gets their first tooth, preventive dental care can begin. Preventive dentistry for kids can help identify problems early on in your child's life before dental problems become worse and often more costly. Services typically include the following:

- Promote good dental habits – including brushing and flossing, guidance on thumb sucking, as well as advice on eating habits that help improve dental health
- Regular teeth cleanings and oral exams, usually every 6 months

- Fluoride application (usually up to a certain age)
- Sealants
- Routine X-rays to help track jaw and teeth development
- Fitting athletic mouth guards
- Referrals to orthodontists if teeth are crooked
- Referrals to other dental specialists as needed
- Helping identify related health issues that may impact a child's dental health

Before scheduling a dental visit, review the details of your dental plan so you know what's covered and when.

Regular preventive dental exams provide the following benefits to your oral health:

- Lowers your risk for developing tooth decay, gum disease, and more serious dental problems.
- Helps promote good oral hygiene habits, such as brushing your teeth at least twice a day and flossing.
- Early identification of dental problems may help minimize treatment and cost.
- Enables your dentist to do a full exam of your mouth, jaw, neck, etc. to identify any related problems.
- Helps reduce dental problems related to some chronic medical conditions. Diabetes, osteoporosis, certain cancers, and eating disorders can all have an effect on dental and oral health. For people with chronic conditions, regular preventive dental care is an important part of whole person health.

#### IV POST-READING TASKS

##### **Exercise 4. Complete word-combinations:**

brush your ...	harm tooth ...
healthy dental ...	do a full ...
to provide ...	chronic medical ...
basic dental ...	identify ...
specialize ...	routine ...
preventive ...	regular ...

damage ... fillings ...  
healthier ...

**Exercise 5. Put questions to the text.**

V SPEAKING

**Exercise 6. Work in group, discuss with your groupmates: preventive measures, treatment and care of oral cavity.**

**Exercise 7. Speak about preventive recommendations for patients. Explain what the main actions are important to do to have healthy teeth and oral cavity.**

VI JUST FOR FUN

**Read funny stories. What are the funniest for you? What do you think about jokes in medicine?**

1) During surgery, my fellow resident bumped heads with the surgeon.

“Ah, Dr Jones, a meeting of the minds,” he said, laughing it off. The surgeon mumbled, “Yes. And I felt so alone.”

2) While in dental school my friend pulled out several bombed out (technical term) teeth on an adult male. After the procedure was finished and post-op instructions we given, the man asked, “So when should I expect my new teeth to grow in?” He was serious.

3) Not a doctor, dental hygienist...

Had to explain that brushing your teeth with Comet (the cleaner) was not a good way to clean your teeth to a 40-year-old woman.

Also had to tell a woman that painting her teeth with white finger nail polish was a bad idea.

## **APPENDIX**

### **Dental Eruption (Text 1)**

Most people have two sets of teeth during their life: a set of primary or “baby” teeth and the permanent or “adult” teeth. Besides helping children chew and pronounce words, the primary teeth hold a place in the jaws for the permanent teeth, which begin to push through the gums as the primary teeth are shed.

While most children have 20 primary teeth – 10 in each of the upper and lower jaws – these teeth eventually are replaced by 32 permanent teeth, 16 in each jaw.

The first permanent molars usually erupt between ages 6 and 7 years. For that reason, they often are called the “six-year molars”. They are among the “extra” permanent teeth in that they don’t replace an existing primary tooth. These important teeth sometimes are mistaken for primary teeth. However, they are permanent and must be cared for properly if they are to last throughout the child’s lifetime. The six-year molars also help determine the shape of the lower face and affect the position and health of other permanent teeth. Most children have 28 of their permanent teeth by age 13 years. These include four central incisors, four lateral incisors, eight premolars, four canines and eight molars.

### **Dental Eruption (Text 2)**

The last of the permanent teeth to appear are called “third molars”, or “wisdom teeth”. They usually begin to erupt—pushing their way through the gums – between ages 17 and 21 years. Because they are so far back in the mouth, third molars often are not needed for chewing and are difficult to keep clean. Your dentist may recommend their removal to prevent potential complications when third molars are erupted. Heredity and other factors may influence the approximate ages at which children’s primary teeth shed and their permanent teeth emerge. Thorough brushing and flossing help to remove food particles and plaque (a sticky film of bacteria) from the smooth surfaces of teeth. But toothbrush bristles cannot reach into the pits and fissures (depressions and grooves) of the chewing

surfaces to remove food and plaque. Dental sealants protect these vulnerable areas by sealing out debris and plaque bacteria. A sealant is a plastic material that usually is applied to the chewing surfaces of the back teeth – premolars and molars – where decay occurs most often. The plastic resin bonds into the pits and fissures of the chewing surfaces of back teeth. The sealant acts as a barrier, protecting enamel from plaque and acids.

### **The Causes of Sensitive Teeth**

Sensitive Teeth problem or dentinal hypersensitivity is called the condition when a cold or hot, sweet or sour stimuli in the mouth or even regular brushing causes an intense pain to some teeth. *The most usual causes of a tooth sensitivity problem are:*

- ^ Exposed root areas due to receding gums or periodontal disease.

- ^ Dentin exposure caused by vigorous brushing with a hard bristled toothbrush or incorrect way of brushing teeth.

- ^ Worm out enamel because of teeth grinding.

- ^ Enamel erosion caused by chemical agents or acidic diet.

- ^ Tooth decay, due to the lesions of the enamel surface.

Sensitivity can occur following routine dental procedures like teeth cleaning, root planning or tooth restoration. Teeth sensitivity caused by dental procedures is temporary, usually disappearing in 4 or 6 weeks.

- ^ Teeth whitening, as a result of high abrasivity or/and chemical action of the whitening products' active ingredients on the tooth tissue. Teeth sensitivity during bleaching process has become a very common problem due to the wide spread use of at home whitening products.

*What causes the pain in Tooth Sensitivity?*

- ^ Sensitive teeth have become one of the most common teeth problems as people keep their original teeth longer. Gums are receding by age exposing the tooth below the gumline where dentin is covered by cementum that is much softer than the enamel of the tooth crown.

^ The dentin contains a network of micro-tubules which run the full width of the dentin, from the pulp in the center of the tooth up to the outer edge below the enamel. If a tooth area loses its protective layer of the enamel or cementum, the dentin (and also the pulp via the tubules) becomes exposed to the outside oral environment.

^ Nerve cells of the pulp extending inside these tubules can be stimulated by external heat, cold or touch applied from the outside.

^ The external simulation is thought to produce movement of the fluids within the tubules and tension of the nerve, making the teeth sensitive to hot and cold, and causing a strong pain signal to be sent by the nerve.

*Potential risks of Teeth Sensitivity.*

^ Whatever the sensitive teeth cause, the real problem is not the pain itself but its consequences.

People who suffer from sensitive teeth problems, due to the pain caused during brushing, usually start avoiding their regular oral hygiene. Gradually this may lead to much more serious dental problems as tooth decay and gum disease.

^ Tooth sensitivity can also be a sign of tooth decay or cavities or a sign of a broken tooth or cracked filling.

^ If you have problem with sensitive teeth, consult your dentist to identify the root cause of the problem and advise you on the proper.

### **The Potential risk of teeth sensitivity.**

*As a remedy for sensitive teeth, you should:*

^ Maintain good oral hygiene. Keep your gums healthy to prevent gums recession.

^ Use a soft bristled toothbrush.

^ Brush correctly without using excessive force. Horizontal movements of the toothbrush can cause abrasions of the enamel or cementum along the gum line.

^ Avoid very acidic foods and drinks to prevent teeth erosion.

^ Use a low abrasivity toothpaste. Whitening and anti-tartar toothpastes are usual causes of tooth sensitivity.

#### *Treatment for Sensitive Teeth problems.*

A sensitivity toothpaste, is the simplest way to fight a tooth sensitivity problem. Sensitivity toothpastes contain special ingredients as strontium or potassium which are de-sensitising agents. Strontium chloride works by blocking the dentin microtubules that enable cold and heat sensations to reach the tooth's nerve. Potassium citrate and Potassium nitrate work in a different way by blocking the mechanism of pain transmission between nerve cells.

For many years Sensodyne was considered as the best toothpaste for sensitive teeth treatment. Today, you can find in the market many sensitivities toothpaste brands. Due to the different way of action of the active ingredients between brands, the best sensitivity toothpastes for each person can be identified only after trial. When testing a toothpaste for sensitive teeth, you must have in mind that most of the sensitivity toothpastes do not show results immediately but only after being used for a period of at least two weeks.

Dentist prescribed fluoride gels or high fluoride level toothpastes, work by enhancing the enamel remineralisation, “closing” the dentine microtubules.

Fluoride varnishes may be applied on sensitive teeth by your dentist in more severe cases of teeth sensitivity.

If none of these proves to be a successful sensitive teeth treatment, the last solution is tooth bonding that covers the exposed surfaces and closes the pores of the dentin.

### **The Cause of Dental Plaque**

Dental Plaque is a sticky, soft and colorless film of bacteria that constantly builds up on the surfaces of teeth and gums. Not removing tooth plaque bacteria from the mouth regularly, can lead to tooth decay and dental cavities (caries) or periodontal problems (such as gingivitis and periodontitis).

#### *What causes dental plaque on teeth?*



Dental plaque is comprised of colonies of bacteria and other microorganisms mixed with bacteria by-products, dead cells and food residuals.

Tooth plaque formation starts immediately after a tooth is cleaned. The microorganisms of dental plaque are all naturally present in the oral cavity, and are normally harmless.

Failure to remove dental plaque by regular tooth brushing allows its build up in a thick layer. As it matures, different types of microorganisms appear. At the lower layers of plaque, nearest the tooth surface, the composition of dental plaque changes in favour of anaerobic bacteria.

Their anaerobic respiration is producing acids which consequently lead to:

- demineralization of the adjacent tooth surface, and dental caries,

- irritation of the gums around the teeth (gum inflammation), leading to gingivitis (red, swollen, bleeding gums), periodontal disease and tooth loss,

- tooth plaque build up can also become mineralized and form calculus.

The main health problems of the oral cavity can be related to the accumulation of dental plaque on teeth. Dental plaque removal is essential for maintaining good oral health. It's easy to prevent plaque build up with proper care. *Follow these tips on how to remove plaque from teeth*

- Brush thoroughly at least twice a day, with a fluoride toothpaste, to remove plaque from your teeth

- Use dental floss daily to remove plaque from between your teeth and under your gum line, where your tooth brush may not reach

- Check your teeth with disclosing tablets to ensure removing tooth plaque.

- Control your diet. Limit sugary or starchy foods, especially sticky snacks

- Ask your dentist or dental hygienist if your plaque removal techniques are ok.

-Visit your dentist regularly for professional cleanings and dental examinations.

You must know that some treatments are not always covered by dental insurance plans. Learn how to check the terms and choose a dental insurance plan that will provide the best coverage for you and your family.

### **How to check for plaque – Plaque disclosing tablets**

Patients often believe that they brush correctly and deny to accept that they fail in tooth plaque removal, even if their dentist tells them about dental plaque accumulation when examining their teeth. Plaque on teeth is usually colorless and therefore can be difficult to see it and remove it during brushing.

Dental disclosing tablets and solutions stain the plaque build up on your teeth, allowing you to see how thoroughly you are brushing and flossing your teeth. They stain the bacteria making it easier to see where you have to brush again to remove dental plaque.

Disclosing tablets and solutions are available without prescription from most pharmacies and they work by dyeing tooth plaque.

The active ingredients of disclosing products are usually dyes also used as food colourings. Erythrosine is the most common dental plaque dye in disclosing tablets and solutions.

#### *How to use disclosing tablets?*

- Use the disclosing tablets or solution after brushing and flossing, following package instructions.

-Put some dental disclosing solution in your mouth or chew a disclosing tablet and allow it to mix with your saliva. Swish the mixture around in your mouth for about 30 seconds and then spit it out.

-Gently rinse your mouth with water, and examine your teeth for plaque colored by the dye. Because the dye stains all bacteria the tongue and gums also may get dyed.

-Check for stained (not properly cleaned) areas, usually the inside of the back teeth and behind the front teeth. Clean the stained

areas to complete dental plaque removal. Next time you brush your teeth pay special attention to these areas.

-Use disclosing products regularly until you find no more areas of stained dental plaque after you brush and floss. Recheck after some weeks.

### **The Cause of Tooth Decay**

Tooth Decay or Cavities or Dental Caries is one of the most common human diseases. Main cause of dental caries is the loss of minerals from the tooth enamel due to the action of acids produced by dental plaque.

Cavities are most likely to develop in pits on the chewing surfaces of the back teeth, and near the gum line or at the unprotected root if it is exposed by gum recession. If left untreated the tooth decay can destroy the tooth through the enamel, to the dentin and down to the pulp of the tooth.

Factors as nutrition habits, quality of oral hygiene, dry mouth problems, presence of fluoride in water or toothpaste and heredity play a significant role in how susceptible your teeth may be to tooth decay.

#### *The Cause of Tooth Decay.*

Dentists use the term “acid attack” to summarize the cause of tooth decay. After having a meal, snack or drink, the bacteria of the dental plaque start to convert sugar and carbohydrates of foods into acids. The normal mouth pH of 6.2 to 7.0 starts to drop to acidic values. If the mouth environment becomes too acidic (pH below 5,5-6,0), the acids start to dissolve the mineral (calcium and phosphate) of the tooth's surface creating microscopic lesion on tooth enamel (demineralization), weakening its structure. Streptococcus mutants is the most destructive bacterial strain in the mouth as it attaches easily to teeth and produces a lot of acid. Other common but less destructive acid - producing bacteria are lactobacillus and actinomyces. After all the sugars are consumed by the bacteria, acid production eventually stops and the tooth has a chance to repair itself (remineralization) helped by the minerals of saliva and toothpaste's

fluoride. If dental plaque is not removed regularly, or if sugar is consumed too often, then the remineralization periods are not enough to repair the damage. Eventually a small cavity appears on the tooth enamel. The continuous exposure of the tooth to acidity is what causes tooth decay. Tooth decay can then penetrate through the protective enamel down to the softer, vulnerable dentine and continue to the soft tooth pulp and the sensitive nerves within it. Although the metabolic activity of plaque bacteria in our mouth is what actually causes dental caries, the underlying causes of tooth decay are in most cases the poor oral hygiene and high sugar consumption.

#### *Symptoms – How to check for Dental Caries – Diagnosis.*

Early caries may have no symptoms. Tooth decay begins with a small patch of demineralized enamel at the tooth surface, often hidden from sight in the fissures or in between the teeth. At this phase tooth decay can be visually only by your dentist. When the decay has progressed deeper in the enamel, the teeth may be sensitive to foods or to hot and cold temperatures. The dentist will examine the teeth for damaged by probing teeth with a special instrument called explorer. Later, when the cavity has reached the pulp, the acute pain or swelling will be a clear sign of dental caries. The best way to spot dental caries and treat them before they become serious cavities is by visiting your dentist regularly for check-ups.

#### **The Stages of Tooth Decay.**

The pictures of tooth decay below, provide an explanation of the destructive process of teeth decay, from the initial stages' acid attack up to the total decay of tooth tissues.

1. The first indication of tooth decay are white spots on the enamel caused by the loss of calcium. Acids have started to dissolve and weaken the tooth enamel (demineralization). At this stage the tooth can remineralize and fix the weakened area itself the help of minerals in saliva and fluoride.

2. If the demineralization process outruns the natural remineralization process, the lesion grows. Over time, the tooth enamel begins to break down beneath the surface while the surface

remains intact. Once the decay continues and breaks through the surface of the enamel, the damage is permanent.

3. Left untreated, the decay will continue to dentine. When enough of the sub-surface collapses, forming a cavity. The decay must be cleaned out and the cavity filled by a dentist.

4. The living part of the tooth, the pulp, becomes damaged. The bacteria invade and infect the pulp of the tooth. The blood vessels and nerves may die due to the infection. Root canal therapy is required to repair the tooth.

5. The infection can then spread to form a tooth abscess (collection of pus) around the root tip. As the infection inside the tooth's root canal builds up, the bone around it gets infected. The tooth pain is consistent, especially during the night.

6. If the infection is not stopped on time and a root canal therapy is not carried out by the dentist, the tooth might be lost or need to be extracted.

#### *Types of tooth decay.*

Coronal cavities are the most common form in all ages. Coronal cavities are cavities of the visible part of the tooth (crown), usually on chewing surfaces or between teeth. Root caries is more common in older adult as they are more likely to have receding gums that leave part of the tooth root exposed. Recurrent caries is decay those forms beneath or around existing dental fillings or crowns. Bacteria and food particles can get tooth and the dental fillings if a filling hasn't been placed properly or if the filling is cracked. Baby bottle tooth decay, a very destructive form of dental caries is common in children who use fall asleep with a bottle of milk or other sweet liquid in the mouth. Caries may be acute or chronic, depending on how fast they progress in destroying the enamel. In children and young adult acute decay can create a cavity in a few months while in older adults with chronic caries the process of tooth decay can last for years.

## **How dental calculus is created**

Dental Calculus or Dental Tartar is a yellow or brown layer of mineral deposits on the teeth surface created by hardened dental plaque. Besides the cosmetic problem, dental plaque that is accumulated on calculus causes inflammation of gums, and can lead to gum recession and gum disease.

Dental tartar is too hard to be remove by normal toothbrushing or by flossing.

Only professional teeth cleaning by a dentist or dental hygienist can remove it. Dentists use special instruments to remove tartar (above and below gumline) in a procedure called tooth scaling.

### *How dental calculus is created*

^ The bacteria of dental plaque produce acids that cause the loss of calcium from the tooth enamel (demineralization).

^ Calcium, phosphorus and other minerals from saliva form crystals and harden the plaque structure. The main ingredient of this compound is calcium phosphate. It is a hard insoluble material that bonds to the tooth enamel along the gum line.

^ Tartar's calcium deposits on teeth, make the surface of the tooth rough providing an ideal medium for further accumulation and growth of dental plaque.

^ The repeating new cycles of acid production, calcium loss and calcium phosphate composition results to the build-up of new dental calculus layers on teeth.

### *Types of dental calculus.*

^ Calculus above the gum margin (supra-gingival calculus) is the most common. This form of tartar is less harmful as it is visible and can be identified easily allowing us to visit our dentist early.

^ The below the gums type (sub-gingival calculus) is more dangerous as it forms pockets between teeth and gums, harboring plaque under the gum margin and preventing it from being brushed off. As it is hidden, we might be unaware of its existence until suddenly some serious dental problem as periodontitis reveals it.

## **How to check for calculus / tartar.**

Instead of dental plaque that is an almost invisible thin layer, supra-gingival tartar deposit is easier to detect.

^ Look for yellowish and rough areas along the gumline and between teeth.

^ Usually tartar starts to accumulate on the lingual (inside) surface of the bottom front teeth (incisors) and on the outside of the upper, anterior molars.

^ But be aware that the most harmful sub-gingival (below the gums) dental calculus is very hard to detect without a visit to the dentist. How to Prevent Tartar Buildup.

^ Proper brushing and flossing are necessary to reduce plaque and tartar buildup.

^ Regular dental cleaning visits to the dentist should also be scheduled.

^ Preventive tooth scaling once a year is recommended if you teeth tend to accumulate tartar.

^ Use Tartar Control toothpastes.

*Tartar Control Toothpastes.*

^ Tartar Control toothpastes can help in reducing new tartar build-up but they can't remove the already formed tartar.

^ The special ingredient of Tartar Control toothpastes are the pyrophosphates.

^ Pyrophosphates as Tetra sodium Pyrophosphate (TSPP) are water-softening agents that bond to the calcium phosphate in the saliva, creating a soluble compound that is dissolved by water and washed away during brushing.

^ By this way calcium phosphate is removed from the saliva and it can't create calcium deposits on teeth forming new tartar.

^ Most of the tartar control toothpastes also contain fluoride and antibacterial agents to fight the root cause of the problem, the bacteria of dental plaque.

While tartar control toothpastes can significantly reduce tartar buildup on teeth above the gumline, they show only minimal results on preventing dental calculus formation below the gumline.

^ A tartar control toothpastes, in some cases, may cause sensitivity to hot and/or cold in some teeth or irritation to the soft tissues of the mouth.

^ Those who are prone to canker sores formation should avoid toothpastes with high levels of sodium-based compounds, like the sodium pyrophosphate contained in tartar control toothpastes.

### **Gingivitis or periodontal disease**

Gum disease, (gingivitis or periodontal disease), starts as an inflammation of the gums that if left untreated affect and gradually destroy the tissues surrounding and supporting the teeth.

Periodontal diseases are infections of the periodontal tissues, which include the gums, periodontal ligament and alveolar bone. Gingivitis and periodontitis are the two main stages of gum disease. Without proper treatment of gum disease, the teeth will finally become loose, fall out or have to be removed by a dentist. General health risks caused by Periodontal Diseases.

Over the recent years there is increasing evidence to support the fact that dental problems like periodontal diseases can cause serious health problems. As stated by the American Academy of Periodontology, periodontal disease is a bacterial infection, and all infections cause concern. Periodontal bacteria can enter the blood stream and travel to major organs and begin new infections.

*Research is suggesting that periodontal disease may:*

- Contribute to the development of heart disease, a leading cause of death.
- Increase the risk of stroke.
- Increase a woman's risk of having a preterm, low birth weight baby.
- Pose a serious threat to people whose health is compromised by diabetes, respiratory diseases, of osteoporosis.

If you value your oral health as well as your overall health, a periodontal evaluation is a good idea that might prove especially important.

*The cause for periodontal disease.*



- The accumulation of dental plaque and tartar is usually what causes gingivitis, and it's almost always the result of inadequate brushing and flossing.
- If poor oral hygiene promotes the overgrowth of bacterial plaque, changes in the composition of the plaque occur. The bacterial balance shifts over to gram negative anaerobic bacteria, which are responsible for inflammatory diseases.
- The bacteria also invade the crevices between the gum and tooth (sulcus) and infect the periodontal tissues. These bacterial form dental plaque and tartar release toxins that stimulate the body's immune system to over produce powerful infection-fighting called cytokines.

*Gingivitis symptoms – First sings of Gum Disease.*

Many people visit their dentist with serious periodontal disease because they are not aware of what gum disease looks like early stages.

There are some early sings of gum disease that help us to detect it and fight it before it becomes a serious problem:

- Bleeding gums during brushing or glossing;
- Red, tender or swollen gums;
- Loss of attachment between teeth and gums- pocket creation;
- Receding gums that make teeth look longer than normal;
- Sensitive teeth or pain on chewing;
- Persistent bad breath or bad taste in the mouth;
- Increased mobility of teeth;
- Pus coming from between your teeth and gums (abscess).

### **The stages of Periodontal Disease**

*Gingivitis.*

1. The dental plaque produced toxins that irritate the gum tissue. Gingivitis is the inflammation of the gums characterized by redness, swelling, and sometimes bleeding during brushing.

2. The gums start receding and bleeding, loosening their attachment to the tooth and exposing previously covered enamel or part of the tooth root.

At this early stage of gum disease, damage can be reversed with proper dental hygiene, since the teeth are still firmly planted in their sockets without any bone or connective tissue damage.

*Periodontitis.*

3. Plaque bacteria start to penetrate between the teeth and gums. The environment becomes suitable for the establishment of anaerobic bacteria under the receding gums. Gingival pockets are formed below the gumline.

4. The surrounding connective tissues and alveolar bone become infected. Bacterial toxins and the body's enzymes fighting the infection start to break down the bone and connective tissue that hold teeth in place.

At this stage, the supporting bone and fibers that hold the teeth in place are irreversibly damaged. Proper dental treatment and improved dental hygiene can usually help prevent further damage.

*Advance Periodontitis.*

5. As the periodontal disease progresses, the pockets deepen and more gum tissue and alveolar bone are destroyed. Ultimately all the supporting structures of the tooth may be lost.

6. The tooth gradually loosens and, if periodontitis is left untreated, the tooth will eventually be lost (fall out or have to be removed a dentist).

### **The Cause of tooth abscess**

A dental abscess can cause serious health complications, if left untreated. If you suspect that you might have an abscessed tooth, see your dentist right away. A tooth abscess will not heal itself – it requires treatment.

An abscess is actually a result of the immune system's effort to contain an infection and prevent it from spreading to other areas. The body sends white blood cells to the area of the infection to fight the bacteria. During this process pus forms, which is an accumulation of fluid, living and dead white blood cells, liquefied dead tissue and live and dead bacteria. If the pus is collected in a small, contained space with no way for pus to drain, it forms a pocket of infected

liquid that is called an abscess. In the mouth, abscesses form around the root tips of a tooth or in the gum tissue surrounding the teeth. As pus is accumulated, the pressure increases and the abscessed tooth often becomes increasingly more painful.

Sometimes the infection spreads even more causing a swollen face or forming a visible bump on the gum overlying the root (gumboil). The swollen area can rupture, allowing the pus to drain in the mouth. Once the abscess ruptures, the pain often decreases significantly, but the infection remains and dental treatment is still necessary.

As a tooth abscess develops, the infection can spread into the ligaments that secure the tooth to the jawbone and the jawbone itself. The bacteria and the immune system's response cause rapid destruction of connective tissues around the tooth and into the jawbone, and bone loss may occur. This causes teeth to become loose and may lead to tooth loss.

You must know that some treatments are not always covered by dental insurance plans. Learn how to check the terms and choose a dental insurance plan that will provide the best coverage for you and your family.

### **The Types of Dental Abscesses**

There are two main types of dental abscess based on the location where they form:

-Periapical (root-tip) abscess – located at the apex of an infected tooth. A periapical abscess is what we usually call tooth abscess. A periapical abscess is a pocket of infection at the tip of a tooth's root, near the jawbone, as a result of an infection of dental pulp. If this tooth root infection goes untreated (the diseased tissue in the pulp is not removed) pus can begin to build up in the root of the tooth forming an abscess. The infection can spread to the bone surrounding the tip of the root.

- Periodontal abscess – located in the periodontal ligament surrounding the tooth. A periodontal abscess is what is usually called gum abscess. In this case, the infection comes from outside the tooth

instead of from within. A gum, or periodontal, abscess is usually caused by an infection in the pocket between the teeth and gums. This may happen either when food particles get trapped between the gum and tooth or in cases of periodontal disease, when bacteria build up in deep pockets under the surface of the gums.

-A third, not so common, type is the pericoronal abscess, which is related in most cases with the wisdom teeth. It is a kind of dental abscess that occurs when the flap of tissue covering a partially erupted tooth becomes inflamed and infected.

### **The Types of tooth discoloration.**

#### **Stained or yellow teeth.**

Stained Teeth is a very common dental problem that makes a lot of people to feel uncomfortable when they have to talk or smile, due to the colour of their teeth. Discolored teeth require teeth whitening treatment.

The acquisition of coloured substances onto the tooth pellicle is the main reason that makes teeth to lose their natural white colour. Human teeth naturally vary in colour. Not all people are lucky to have a bright white as the natural colour of their teeth. Slightly yellow teeth are normal for most people. Tooth enamel is more or less translucent, so it is the underlying dentin's color that actually determines the tooth colour. Normal variations in dentin structure can affect the colour of the reflected light, resulting in not perfectly white teeth.

#### *Types of tooth discoloration.*

Tooth discoloration may be classified into three main categories:

-Extrinsic tooth discoloration. This occurs when the outer layer of the tooth (the enamel) is stained as by some drinks or foods or by smoking. These external stains can usually be removed through the use of non-bleaching whitening products such as whitening toothpastes that contain abrasive ingredients which help remove surface stains. A thorough dental cleaning by a dentist or hygienist will also remove most of the extrinsic tooth stains.

-Intrinsic tooth discoloration. This is when the inner structure of the tooth (the dentin) darkens or gets a yellow colour. Fluorosis or tetracycline stains are examples of common intrinsic stains. Intrinsic stains are best removed through the use of whitening products that can bleach the tooth and change the natural tooth colour. Tooth bleaching or dental veneers may also be required for extrinsically stained teeth if the stains have remained on the teeth for a long period of time allowing them to penetrate to the inner tooth structures.

-Age-related discoloration is usually a combination of extrinsic and intrinsic factors. Teeth change with age. Their mineral structure changes becoming less porous and making teeth to appear darker. The enamel that covers the teeth gets thinner with age, allowing the underlying layer of yellowish dentin to show through. The continuous accumulation of extrinsic stains also contributes to the natural yellowing of the teeth over time. 'Cosmetic' dental treatments are not always covered by dental insurance plans. Learn how to check the terms and choose a dental insurance plan that will provide the best coverage for you and your family.

### **What causes stained and discolored teeth?**

Stained teeth, that have lost their natural white colour and need teeth whitening, may be the result of many different reasons. Tooth stains can be categorized as either extrinsic (external) or intrinsic (internal). The success of a tooth whitening treatment depends on choosing the proper whitening method per case, based on the type of stains that cause the tooth discoloration.

#### *Extrinsic tooth stains:*

Colored organic compounds from some foods and drinks – tea, coffee, red wine, blueberries, curry and other – are absorbed on teeth enamel, resulting in yellow teeth. Other foods that contain much chlorophyll may result in green stains.

Common dental restorative materials, as the amalgam in silver-colored fillings, may turn adjacent areas of teeth black or gray. Prescribed antiseptic mouthwashes containing chlorhexidine are associated with causing yellow-brown stains on teeth. Repeated use

of stannous fluoride can result in a light brown or yellowish stain. Iodine-containing solution medications may also cause similar stains. Metallic stains can be caused by metallic salts, such as in iron supplements. Other habits as smoking or chewing tobacco are also responsible for stained teeth, creating brown to black stains on the tooth surface. Accumulation of dental plaque and tartar may alter the natural appearance of the tooth.

*Intrinsic tooth stains:*

Systemic disorders (as alkaptonuria, erythropoietic porphyria, hyperbilirubinemia etc.) are also causes of stained teeth. Enamel hypoplasia causes tooth discoloration and pitting of the enamel. In rare cases, children with dentinogenesis imperfecta are born with gray, amber or purple discolorations. In fluorosis, chalky white spots or brown marks are caused by excessive fluoride intake, (tooth whitening does not actually remove the white spots but lightens the background so they are less noticeable). Trauma may cause tooth discoloration by allowing hemosiderin to enter to dentinal tubules. Trauma may change a tooth to a pink, yellow, or dark grey colour. Chips or other injuries that damage the pulp of a tooth can also cause discoloration and yellow teeth. Some medications, such as the antibiotics tetracycline and minocycline, may become incorporated into the structure of a tooth, causing intrinsic staining of the teeth with a brown-grey colour. Use of tetracycline should be avoided during the period of tooth formation, from 4th month of pregnancy until 7 years of age. After root canal treatment, a tooth may start to darken, especially if the pulp chamber area is not thoroughly cleaned from dead or infected pulp tissue.

## **Cosmetic Dentistry Procedures.**

### **Tooth whitening – Bleaching.**

Teeth whitening is the most popular cosmetic dentistry procedure because it can significantly improve the appearance of teeth at much less cost than other techniques.

Stained or discolored teeth are caused by many different reasons. Regular tooth brushing can only remove some of the

extrinsic stains from the outer surface of the tooth enamel. Only “teeth bleaching” can actually whiten teeth removing deep intrinsic stains and lightening their colour. The procedure can be done in the dental office or at home.

### **Bonding**

Bonding can provide the treatment for a variety of dental aesthetic problems such as chipped, gapped, discolored or oddly shaped teeth. Bonding consists in the application of a tooth-colored dental composite resin (plastic) material that looks like the natural enamel to the surface of the tooth, where it is sculpted into shape and contoured.

The material is hardened and bonded on the enamel with a special highintensity blue light and finally it is polished, making the crack or chip invisible. Sometimes, bonding also is used to make teeth look longer, to change their shape, or to cover a part of the tooth's root that has been exposed due to gums recession.

### **Porcelain Veneers.**

Veneers offer the most revolutionary (but also the most expensive) advancement in aesthetic dentistry. Porcelain veneers are made of a thin layer of porcelain only around half a millimeter thick which is glued to the front of the tooth to restore its natural appearance. They are custom made by the same material used to make tooth-coloured crowns or caps, which once cemented to the tooth, looks like natural tooth structure.

Veneers can be used to improve a wide variety of cosmetic dental problems. They can repair chips and cracks, whiten stained or discolored teeth, close gaps between teeth, and they can even correct slightly crooked or misaligned teeth without the need for braces. While porcelain veneers offer excellent aesthetic results, they require adequate remaining tooth structure for their support.

### **Orthodontic treatment.**

Orthodontics are not just for kids. More and more adults are seeking treatment from orthodontists in order to improve their smile, especially after the introduction of clear brackets. Orthodontists can

address problems such as overcrowded, overlapping, crooked or severely gapped teeth that affect the patient's appearance.

Moving teeth to their proper position is done with the use of special corrective appliances called braces. The procedure is very time consuming and may last for several years. For this reason, orthodontic treatment is recommended for adults mainly in cases of severe misalignment problems or gaps that can not be corrected with other cosmetic treatments such as bonding or veneers.

### **Cosmetic Dentistry Procedures.**

**Enamel shaping.** Tooth shaping is an effective way to correct minor flaws, such as slightly uneven, crowded, overlapping or crooked teeth. It can also be used to round off pointed teeth or shorten long teeth, so that they follow the contour of the lower lip, restoring the symmetry of the mouth. The fact that the method may involve removing a small amount of enamel sets some limitations on using tooth recontouring, as it can not be used if the enamel layer is too thin.

**Gingivoplasty.** It is also known as crown lengthening, gum contouring or gum lift. It is a surgical procedure that modifies the shape of the gums by cutting away excessive gum tissue. Gingivoplasty is recommended when the gums cover a large part of the tooth crown resulting in teeth that look shorter or smaller (gummy smile).

**Dental implants.** Dental implants are artificial tooth root replacements that are used for replacing missing teeth. A small titanium screw is surgically fixed into the jawbone and then a crown, bridge or denture can be fitted on it. In time, the screw becomes fused with the bone of the jaw. Dental implants are permanent providing a much more convenient and naturally looking replacement of missing teeth compared to bridges or dentures.

**Tooth-colored fillings.** Previous generations of dental fillings that dentists used to treat tooth decay were composed by gold, amalgam and other materials that were very obvious when you smile. Today, you can select fillings made of porcelain or composite



materials that match the natural color of your teeth. Many people decide to replace their old gold or dark amalgam fillings with new tooth-colored ones, to restore the natural appearance of their teeth and smile. However, especially in case of extensive and deep fillings there is increased risk of structural or nerve damage (inlays - onlays).

**Micro-abrasion.** Discolored enamel can be gently ground away using an abrasive, acid-based paste. Such treatment can impact on the strength of the teeth, so it should only be conducted by a qualified dental professional.

**Crowns.** Crowns, also referred to as caps, are dental restorations more suitable for natural teeth that have sustained significant loss of structure, or for dental implants used to replace missing teeth. They have a metal body custom made to fit over the whole tooth that can withstand the biting pressure, covered by a thin layer of toothcolored porcelain to match the look of existing teeth. With a minor loss of cosmetic result crowns can offer greater strength and durability than veneers.

Each individual has different cosmetic problems that can be treated with various combinations of different cosmetic dentistry procedures. If you want to improve your smile's appearance you should first visit an experienced cosmetic dentist for consultation.

Cosmetic dentists have the expertise to analyze your cosmetic needs, and propose a complete plan of cosmetic treatments that will best fit to both your expectations and finances.

### **Bad breath.**

#### **Halitosis.**

Halitosis or bad breath is the condition when breath has an unpleasant odor. Halitosis is an embarrassing social problem more than it is a dental health problem. The problem with people who suffer from halitosis is that they don't know it unless somebody tells them. But others who come close to them certainly know. Cleaning your teeth usually helps but it won't always stop bad breath.

*How to understand that you have a bad breath problem*

1. If you notice that when you speak, people around you try to keep you at a distance or take a step back, you have a first hint.
2. Put your hands in front of your mouth and nose, and exhale.
3. Lick the back of your wrist, let it dry for a minute or two and then smell it.
4. Ask a close friend if your breath is unpleasant.
5. Ask your dentist.
6. Use a halimeter (measures the levels of volatile sulfur compounds in the breath).

Certain foods, health conditions and habits are among the causes of halitosis. Most people can find a cure for halitosis with proper dental hygiene. If bad breath persists despite good oral hygiene, you have a chronic halitosis problem and you should visit your dentist or doctor to rule out a more serious condition that may be causing your bad breath.

*The causes of halitosis/bad breath.*

Halitosis is an oral health problem mainly caused by excessive amount of volatile sulfur compounds (thiols) that give breath its foul odor.

1. *Food.* Eating foods containing volatile sulfur compounds, like garlic and onions or some spices, is one of the most common causes of temporary halitosis. After these foods are digested, the sulfur compounds are absorbed into the bloodstream, they're carried to the lungs and exit from the body during exhale, causing bad breath.

2. *Poor dental hygiene.* Infrequent or improper brushing and flossing can leave food particles to decay inside the mouth. Their breakdown can cause a foul odor.

3. *Dental problems.* Periodontal disease or an abscess at the base of a tooth can be the causes of bad breath due to bacteria emitting hydrogen sulfur vapors.

4. *Dry mouth (xerostomia).* Saliva helps cleanse and moisten the mouth. A dry mouth enables the accumulation of dead cells on tongue, gums and cheeks. These cells then decompose and cause

odor. Even for a short period of time like sleep, the reduce of saliva flow makes the mouth dry causing what is called 'morning breath.

5. *Systemic diseases.* Several illnesses can cause a distinctive breath odor. Kidney failure can cause a urine-like odor and diabetes may cause a fruity breath odor. Gastroesophageal reflux disease (GERD), liver failure or lung infections also can cause bad breath.

Systemic diseases and dry mouth are the most common causes of chronic halitosis.

### **Halitosis treatment**

If you are looking for a cure for halitosis, try the following bad breath remedies:

1. Maintain good oral hygiene. Brush properly every morning and after every meal to remove bacteria from the teeth and cure halitosis. Proper flossing, at least once a day, removes food particles and dental plaque from between the teeth.

2. Proper diet. Be careful with what you eat, avoid foods like onions and garlic.

3. Increase saliva flow. Saliva acts as nature's mouthwash by keeping the mouth moist, washing away left-over food particles and bacteria, and dissolving foul-smelling volatile sulfur compounds.

4. Drink a lot of water to keep your mouth moist and stimulate saliva flow, making the mouth less hospitable to odor causing bacteria.

5. Chew sugarless gums. Chewing action helps cleanse the teeth, stimulates the flow of saliva and freshen breath.

6. Use mouthwashes containing chlorine dioxide which attack and neutralize the sulfur compounds. Conventional mouthwashes mask bad breath odor only temporarily.

7. Brush your tongue. It has been found that almost 50% of the bacteria which cause halitosis reside on the tongue. Use a soft bristled toothbrush or a special device called a tongue cleaner for tongue scraper) to gently clean the tongue.

8. Have a dental check up every 6 months. Your dentist can diagnose other problems which cause bad breath as abscesses,

periodontal disease or systemic diseases. Visit your dentist if you start to have a chronic halitosis problem.

Increased attention on diet and oral hygiene can usually be an easy cure for halitosis, but in case of a chronic halitosis problem the required bad breath treatment might be much more difficult.

### **The Dentist.**

Dentists diagnose and treat diseases, injuries and malformations of the teeth and gums and related oral structures. They treat diseases of nerve, pulp and other dental tissues. A general dentist is the primary care dental provider. If the patient experiences dental problems that require a specialist's treatment, the general dentist will refer him to a dental specialist. A dentist must undergo additional postgraduate training to become a dental specialist. Nine dental specialties are recognized in areas of dentistry where advanced knowledge and skills are essential to maintain or restore oral health.

The Dentists-Job description Dentists diagnose and treat teeth and tissue problems. A dentist will:

- Take and examine x-rays
  - Administer anesthetics
  - Remove tooth decay and fill cavities
  - Treat gum disease
  - Extract teeth
  - Repair fractured teeth
  - Make models and measurements for dentures to replace missing teeth
  - Place protective plastic sealants on children's teeth
  - Place instructions on diet, brushing, flossing, use of fluorides, and other aspects of dental care
  - Straighten teeth
  - Write prescriptions for antibiotics and other medications.
- Dentists use a variety of equipment, including x-ray machines, drills and instruments such as mouth mirrors, probes, forceps, brushes and scalpels.

Dental schools award the degree of Doctor of Dental Surgery (DDS) or of Doctor of Dental Medicine (DMD). DDS and DMD are different titles for the same education and degree.

Following dental schools, the majority of dentists choose to move immediately into practice as a general or family dentist. Others follow postgraduate training to become a specialty dentist. Most dentists are “solo practitioners”, meaning they own their own businesses and work alone or with a small staff. Some dentists have partners, and a few works for other dentists as associate dentists.

### **The Dental Hygienist’s role in a dental office.**

Registered dental hygienists (RDH) are licensed oral health professionals who assist the doctor, thoroughly clean your teeth, screen for decay and disease, and help educate you about how to maintain great oral health.

They often work side by side with the dentist to efficiently complete your care. The profession of the dental hygienist is a recognized profession in US and several other countries but not in all.

#### *Duties of a Dental Hygienist in USA.*

The duties performed by a dental hygienists will vary by state. However, in many cases, they will perform some or all of the following:

- Perform dental cleanings, removing hard and soft deposits on teeth;
- Teach patients good oral hygiene practices;
- Apply fluoride and dental sealants;
- Take and process X-rays;
- Administer nitrous oxide;
- Prepare diagnostic tests;
- Apply filling materials, temporary fillings, and periodontal dressings;
- Smooth and polish metal restorations;
- Collect dental history and complete dental charts.

*Screen tests.* Screening for signs of tooth decay? Oral cancer and periodontal disease are one of the most important services your hygienist provides. But did you know that symptoms of conditions like heart disease and diabetes can show up in your mouth as well? If your RDH detects any signs to suggest larger health issues, he or she may recommend that you see a physician right away.

Register Dental Hygienist in USA.

Not just anyone can be a registered dental hygienist. By the time dental hygienists begin treating patients, they've gone through extensive training and testing to become an expert in the field - this makes them an invaluable part of your dental team, ensuring your teeth stay healthy and look and feel great for years to come.

### **The Dental Assistant**

**Job description.** Dental assistants perform a variety of patient care, office and laboratory duties. But they are not licensed to perform the extended tasks that dental hygienists can perform.

About one-third of all dental assistants in US work part-time, sometimes working for more than one dental practice. Some dental assistants become office managers, dental-assisting instructors, or dental product sales representatives.

#### **Duties of a Dental Assistant.**

Dental assistants work chair side as dentists examine and treat patients. Their duties include:

- Make patients as comfortable as possible in the dental chair, prepare them for treatment, and obtain dental records;
- Hand instruments and materials to dentists, and keep patients' mouths dry and clear by using suction or other devices;
- Sterilize and disinfect instruments and equipment, prepare tray setups for dental procedures;
- Instruct patients on postoperative and general oral health care;
- Expose radiographs, and process dental x-ray films as directed by dentist.
- Office administrative duties of a dental assistant include:

- Schedule and confirm appointments;
- Receive patients;
- Keep treatment records;
- Send bills and receive payments;
- Order supplies and materials.

Dental assistants should not be confused with dental hygienists, who are licensed to perform different clinical tasks.

## **Dental Specialties.**

### General Dentist.

Most people go to a general dentist for the majority of their dental needs. A general dentist takes care of all kinds of patients, young and old, from “baby teeth” to “wisdom teeth”. But there are some dental conditions for which he may ask to see a specialist. In this case your general dentist will rely on the recommendations and guidance of the specialist to bring your mouth back to health.

### Endodontist.

This specialist is concerned with the diagnosis and cause of diseases affecting the pulp or nerve of the tooth, or the tissues on tooth. These nerves, arteries and veins inside the tooth help keep the tooth alive. The most common procedure the endodontist performs is called root canal therapy. Root canal treatment consists of removing the infected tissue inside the tooth, sterilizing the inside, and filling the entire internal cavity with a special filling material. The tooth is now considered “non-vital”.

### Oral Pathologist.

This dentist studies the nature of the diseases altering and affecting all the oral structures (teeth, lips, cheeks, jaw bones) as well as parts of the face and neck. In most cases the oral pathologist does not see you, but your dentist would send them a biopsy or any questionable tissue or lesion. Oral and Maxillofacial Surgeon.

The oral surgeon diagnoses and surgically treats diseases, defects or injuries of the mouth, head and neck. Most patients think of oral surgeons removing wisdom teeth, and this is one of the most common procedures of oral surgeons. But they are involved with

many other treatments such as of temporomandibular joint disorders (TMJD). In accident cases they are called on to help with broken bones of the face and jaw. And in working with other specialists, they will be asked to intentionally realign bones for a better position of the jaws for improved esthetics or function. Many are now involved with placing dental implants, or the root part of missing teeth. The general dentist will build a new tooth "crown" on this implanted root form.

Orthodontist.

This specialist moves teeth within the jaw bone to correct forms of malocclusion or bite irregularities. Most children are sent to the orthodontist to correct their "bad bites" while they are still growing. But many adults see this specialist to correct bite problems before they undergo extensive crown or bridge work. The most common method of correcting a "bad bite" is with the use of braces, but at times only a removable tooth positioning guard is needed. Pediatric Dentistry (Pedodontist).

Having been specially trained to handle the fears of children as well as watch the growth patterns of a child's mouth, the pedodontist treats children from birth through adolescence, though the most common age for a child to start seeing a pedodontist is age three. Usually the physical, and/or emotional problems.

Periodontist.

The periodontist diagnoses and treats diseases of the gum and supporting bone surrounding the teeth. Most people think of this type of dentist treating infections of the gums which causes teeth to become loose. Most times the general dentist will send a patient to the periodontist for an evaluation to check the "foundation" of the teeth before any major reconstruction is started. The periodontist also is involved with the placement of implants for areas of missing teeth and can surgically make changes in the gum tissue for a more natural gum smile line. He works closely with the general dentist to bring a patient's mouth back to full bite function with a full healthy smile.

Prosthodontist.



Prosthodontists are specialists dealing with the repairing of natural teeth and/or the replacement of missing teeth on a much larger scale than the general dentist. The prosthodontist uses artificial teeth (dentures), gold crowns (caps), or ceramic crowns to replace the missing or extracted teeth. They work with the general dentist on more complicated dental reconstruction cases. Not everyone needs the extensive care of a prosthodontist.

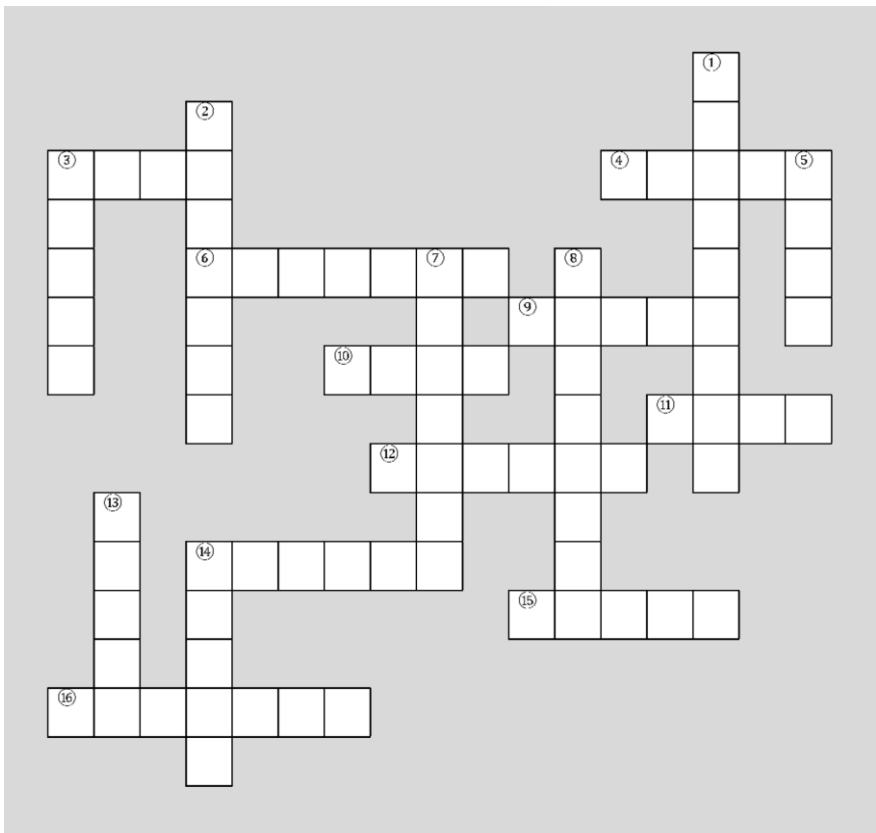
### **Complete the crossword**

#### **ACROSS**

3. The whole physical structure of a person including the head, arms and legs.
4. The soft part on each side of your face below your eyes.
6. Existing or being produced in large amounts.
9. The part of your body between your hand and your arm.
10. A large room in a hospital with beds for people to stay in.
11. A long loose piece of clothing that a doctor wears in a hospital.
12. The condition of your body, whether or not you are ill.
14. The organ in your body that helps to control your blood supply.
15. The organ in your chest that pumps blood around your body.
16. A serious disease affecting your stomach and intestines. It is caused by drinking water or eating food infected with bacteria.

#### **DOWN**

1. The process of cutting into someone's body for medical reasons.
2. A sign that someone has an illness.
3. Unable to see.
5. The part in the middle of your leg, where it bends.
7. A doctor who is trained to perform operations involving cutting.
8. A break or crack in a bone.
13. Any of the hard white objects inside your mouth that you use for biting and for chewing food.
14. The bones of the head.



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## Internet Resources

1. [https://learn.ztu.edu.ua/pluginfile.php/188996/mod\\_folder/content/0/Dentistry\\_in\\_Use-страницы-29-32.pdf](https://learn.ztu.edu.ua/pluginfile.php/188996/mod_folder/content/0/Dentistry_in_Use-страницы-29-32.pdf)

2. <https://manwrites.com/the-dentist/>
3. <https://ahoy-stage.healthline.com/health/dental-and-oral-health/dental-anesthesia>
4. <https://certus.com.ua/en/services/stomatologija/jendodontija/>
5. <https://cosmeticdentistry-londonessex.blogspot.com>
6. <https://www.123dentist.com/a-brief-guide-on-dental-tools/>
7. <https://my.clevelandclinic.org/health/treatments/22085-oral-surgery>
8. <https://www.sevenoaksdentalcentre.com/dental-health/dental-specialties/>
9. <https://www.everydayhealth.com/dental-health/basics/types-teeth-how-they-function/>
10. [https://www.sreter.com/library/ru/Tooth\\_Eruption\\_The\\_Permanent\\_Teeth/](https://www.sreter.com/library/ru/Tooth_Eruption_The_Permanent_Teeth/)

Електронне навчальне видання

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# **Основна стоматологія**

**Навчальний посібник  
(Англійською мовою)**

Художнє оформлення обкладинки О. І. Нефедченко  
Редактор О. І. Нефедченко  
Комп'ютерне верстання О. І. Нефедченко

Формат 60×84/16. Ум. друк. арк. 7,67. Обл.-вид. арк. 8,54.

Видавець і виготовлювач  
Сумський державний університет,  
вул. Римського-Корсакова, 2, м. Суми, 40007  
Свідоцтво суб'єкта видавничої справи ДК № 3062 від 17.12.2007.

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Навчальний посібник призначений для студентів стоматологічного факультету під час вивчення англійської мови у вищих медичних навчальних закладах. Матеріал навчального посібника викладений у вигляді основної частини і додатка.