

**ODESSA NATIONAL MEDICAL UNIVERSITY**  
**ОДЕСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

**КАФЕДРА ФІЛОСОФІЇ, БІОЕТИКИ ТА ІНОЗЕМНИХ МОВ**

**MEDICAL TERMINOLOGY FOR  
DENTISTRY STUDENTS**

**ПОСІБНИК З АНГЛІЙСЬКОЇ МОВИ  
ЗА ПРОФЕСІЙНИМ СПРЯМУВАННЯМ**

**ДЛЯ СТУДЕНТІВ 2 КУРСУ  
СТОМАТОЛОГІЧНОГ ФАКУЛЬТЕТУ**

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<b>ALLERGY</b>
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<b>Алергія</b>
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**Exercise 1. Topic vocabulary:**

clogging	/'klɒg ɪŋ /	обструкція, закупорка
decongestant	/,di:kən'dʒes.tənt/	проти набряковий засіб
dye	/daɪ/	фарбник, фарбувати
exposure	/ɪk'spəʊ.ʒə/	вплив
hives	/haɪvz/	кропив'янка
induce	/ɪn'dju:s/	викликати
invade	/ɪn'veɪd/	проникати, вражати
itch	/ɪtʃ/	свербіти
life-threatening	/'laɪf,θret.ən.ɪŋ/	небезпечний для життя
mite	/maɪt/	кліщ
mold	/məʊld/	пліснява
occur	/ə'kɜ:r/	відбуватися
onset	/'ɒn.set/	початок
pollen	/'pɒl.ən/	квітковий пилок
precede	/pri'si:d/	передувати
rash	/ræʃ/	висип
wheeze	/wi:z/	сопіти, хрипіти

**Exercise 2. Read and memorize the pronunciation of the following words:**

Occur /ə'kɜ:r/, allergen /'æl.ə.dʒən/, histamine /'hɪs.tə.mi:n/, feature /'fi:tʃər/, breath /breθ/, coughing /kɒf.ɪŋ/, diarrhea /,daɪ.ə'ri:.ə/, particularly /pə'tɪk.jə.lə.li/, anaphylaxis /,æn.ə.fil'æk.sɪs/, unconsciousness /ʌn'kɒn.ʃəs.nəs/, adrenaline /ə'dren.əl.ən, -ɪn/, epinephrine /,epɪ'nef.rɪn/, oedema /ɪ'di:.mə/, bronchodilation /'brɒŋ.kədaɪ'leɪ.ʃən/, strength /streŋθ/, formaldehyde /fɔ:'mæl.də.haɪd/, preceding /pri'si:.dɪŋ/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Exposure:** dangerous exposure, avoid exposure, harmless exposure, limit exposure to the sun, a brief exposure to radiation;

**Dye:** food dye, insoluble dyes, contain a suitable dye, a liquid dye is injected into the arteries of the heart through a catheter;

**Invade:** to invade and destroy cells, pathogens invade the organism, invading protein, invade open wounds and lesions, some bacteria invade phagocytic cells and neutralize their killing ability;

**Life-threatening:** life-threatening circumstances, life-threatening diseases, life-threatening condition, life-threatening complications, the injuries weren't life-threatening;

**Occur:** occur after primary infection, permanent deformation occurs, life-threatening side effects rarely occur, occur in certain populations;

**Onset:** sudden onset, gradual onset, early onset, the onset is characterized by chills, delay the onset of the disease by several years;

**Precede:** the preceding phase, a disease preceded by neurodegeneration, bronchitis is often preceded by pharyngitis, viral infections precede the condition, mild symptoms precede severe manifestations;

**Wheeze:** wheezing risk factors, asthma symptoms can include wheezing, wheezing is a short-term effect of smoking, wheezing is preceded by cough, many health problems can cause wheezing.

**Exercise 4. Translate the following word combinations from English:**

Generally harmless foreign proteins, occur at the first exposure, antibodies against the invading proteins, immune response, shortness of breath and wheezing, runny nose and eyes, detergents and hair dyes, over-the-counter and prescription decongestants, patients' ability to tolerate allergens, clogging up of airways, difficulty breathing, unconsciousness due to sudden fall in blood pressure, rash and itching elsewhere in the body, the first line treatment of anaphylaxis, to reduce airway mucosal oedema, induce vasoconstriction and increase strength of cardiac contraction, facilitate identification, avoidable causes, hours preceding the onset of symptoms.

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

Allergy

Allergies are over-reactions of the immune system in certain individuals to seemingly and generally harmless foreign proteins and substances. Allergies usually do not occur at the first exposure. When a person is exposed to an allergen for the first time, the body develops molecules called antibodies against the invading proteins. This is called an immune response.

When exposed to the allergen again the immune system produces large amounts of antibodies that lead to break down of mast cells that contain chemicals like histamine. This leads to the features of allergies.

Symptoms of allergy include sneezing, shortness of breath, wheezing, runny nose and eyes, pain over the sinuses , near the eyes, over cheeks and at the forehead), coughing, skin rashes (hives), swelling of the lips or face, itching eyes, ears, lips, throat and roof of the mouth, nausea, vomiting, abdominal cramps and diarrhea.

Common allergens include pollen, animal dander, food – particularly nuts, fruit, shellfish, eggs and cows' milk, fungal spores or molds, dust mites, household chemicals – including those in detergents and hair dyes etc.

Various dental materials may induce allergic reactions to the patient, technician and dentist. The most common allergic reactions in dental staff are allergies to latex, acrylates and formaldehyde. Over the last few years, due to the rise in number of patients with allergies from different materials, the practicing dentists should have knowledge about documented allergies to known materials and thus avoid allergic manifestations in the dental clinic.

In general, there is no cure for allergies, but there are several types of medications available both over-the-counter and prescription to help ease and treat annoying symptoms like congestion and runny nose. These allergy drugs include the following: antihistamines, decongestants, combination drugs, corticosteroids. Immunotherapy in the form of allergy shots or pills under the tongue, which gradually increase patients' ability to tolerate allergens, are also available.

When allergic reaction is life-threatening or severe it is termed anaphylaxis or anaphylactic shock. This condition involves swelling of the throat and mouth and clogging up of airways leading to difficulty breathing, difficulty in speaking or swallowing, rash and itching elsewhere in the body, weakness and collapse often with unconsciousness due to sudden fall in blood pressure. Anaphylaxis requires urgent emergency management. If it isn't treated properly, anaphylaxis can be fatal.

Adrenaline (epinephrine) is the first line treatment of anaphylaxis and acts to reduce airway mucosal oedema, induce bronchodilation, induce vasoconstriction and increase strength of cardiac contraction.

Patients should be advised to document the circumstances of episodes of anaphylaxis to facilitate identification of avoidable causes in the six to eight hours preceding the onset of symptoms.

**Exercise 6. Answer the questions according to the text:**

1. What is called an immune response?
2. What do the symptoms of allergy include?

3. What are common allergens?
4. What are the most common allergic reactions in dental staff?
5. What do allergy drugs include?
6. What can gradually increase patients' ability to tolerate allergens?
7. What manifestations does anaphylaxis involve?
8. Why does anaphylaxis require urgent emergency management?
9. What effect does adrenaline (epinephrine) produce?
10. Why should patients be advised to document the circumstances of episodes of anaphylaxis ?

**Exercise 7. Read the sentences and decide if they contain true or false information:**

1. In general, there is no treatment for allergies.
2. Immunotherapy gradually decreases patients' ability to tolerate allergens.
3. Epinephrine is the first and most important treatment for anaphylaxis, and it should be administered as soon as anaphylaxis is recognized to prevent the progression to life-threatening symptoms.
4. Skin symptoms occurring in anaphylaxis make the condition life-threatening.
5. Patients should be asked to document the circumstances preceding the onset of anaphylaxis.
6. When exposed to the allergen for the first time the immune system produces large amounts of antibodies that lead to break down of mast cells that contain chemicals like histamine.
7. Adrenaline contributes to bronchodilation and strengthens cardiac contraction.
8. Common allergens include both natural and synthetic substances.
9. Allergies are hypersensitivity reactions of the endocrine system in certain individuals to seemingly and generally harmless foreign proteins and substances.
10. In anaphylaxis rash and itching can appear anywhere in the body.

**Exercise 8. Translate the word combinations into English:**

Не виникати при першому контакті(впливі), виробляти молекули проти проникаючих білків, руйнувати мастоцити, кропив'янка, чхання та нежить, безрецептурні протинабрякові, шкірні висипи та набряк губ і обличчя, миючі засоби та фарби для волосся, горіхи та молюски, імунотерапія, ускладнення дихання, вимагати негайного медичного втручання, препарати комбінованої дії, знижувати набряк слизових оболонок, викликати розширення бронхів, полегшувати визначення причин, що можна уникнути.

**Exercise 9. Translate the sentences into English:**

1. Коли алерген потрапляє в тіло людини вперше, це призводить до імунної реакції але не викликає проявів алергії.
2. Такі симптоми алергії як спазми в животі і діарея не часті.
3. Коров'яче молоко є одним з поширених харчових алергенів.
4. Існує кілька видів рецептурних та безрецептурних ліків, які полегшують закладенність носа та нежить.
5. До ліків від алергії належать: антигістамінні препарати, деконгестанти, комбіновані препарати, кортикостероїди.
6. Імунотерапія поступово підвищує здатність пацієнтів переносити алергени.
7. Найбільш поширені алергічні реакції у стоматологічного персоналу - це алергія на латекс, акрилати та формальдегід.
8. Анафілактичний шок іноді супроводжується непритомністю через раптове падіння артеріального тиску.
9. Адреналін - це препарат першої лінії для лікування анафілаксії.
10. Пацієнтам слід задокументувати обставини епізодів анафілаксії для полегшення виявлення причин, які можна уникнути.

**Exercise 10. Match the terms to their explanations:**

1. A detergent	a. ... is an organic nitrogenous compound involved in local immune responses, as well as regulating physiological function in the gut and acting as a neurotransmitter for the brain, spinal cord, and uterus.
2. Histamine	b. ... work by shrinking swollen nasal tissues and blood vessels, relieving the nasal symptoms.
3. Combination drugs	c. ..., also known as adrenaline, is a medication and hormone. The key role of this hormone is on the short-term stress response. As a medication, it is used to treat a number of conditions, including cardiac arrest, asthma, and superficial bleeding.
4. Over-the-counter (OTC) drugs	d. ..., also known as allergen immunotherapy, decrease sensitivity to allergens and often leads to lasting relief of allergy symptoms even after treatment is stopped.
5. Decongestants	e. ... is a pharmaceutical drug that legally requires a medical prescription to be dispensed. In contrast to over-the-counter medicines, it cannot be obtained without a prescription.
6. Corticosteroids	f. ... block histamine and keep it from binding to receptors. Many older over-the-counter ... may cause drowsiness.
7. Antihistamines	g. ... are highly effective drugs for allergies, but they must be taken regularly, often daily, to be of benefit. In addition, they have many potential side effects, especially when given orally, systemically, and for a long period of time.
8. Allergy shots	h. ... contain both an antihistamine and a decongestant to relieve multiple allergy symptoms.
9. Epinephrine	i. ... is a surfactant or a mixture of surfactants with cleansing properties in dilute solutions.
10. A prescription drug	j. ... are medicines sold directly to a consumer without a requirement for a prescription from a healthcare professional.

**Exercise 11. Insert the prepositions where necessary:**

- Some people develop a potentially fatal systemic allergic reaction, termed anaphylaxis, ... seconds or minutes of exposure to allergens.
- ... adults, food allergies tend to be life-long.
- In general, there is no cure ... allergies.
- The body develops molecules called antibodies ... the invading proteins.
- This condition involves unconsciousness ... sudden fall in blood pressure.
- The symptoms of many conditions include difficulty ... breathing, which can be mild or severe.
- This leads ... the features of allergies.
- Adrenaline increases strength ... cardiac contraction.
- This organic nitrogenous compound is involved ... local immune responses.
- The pills must be taken daily to be ... benefit.

**Exercise 12. Put the sentences in the proper order to construct the terms “Allergy” and “Anaphylaxis”:**

- In general, there is no cure for allergies, but there are several types of medications available: antihistamines, decongestants, combination drugs, corticosteroids.
- Allergies are over-reactions of the immune system to foreign proteins when a person is exposed to an allergen.

- c. This condition requires urgent emergency management.
- d. Common allergens include pollen, animal dander, nuts, fruit, shellfish, eggs and cows' milk, fungal spores or molds, dust mites, household chemicals.
- e. Adrenaline is the first line treatment acts to reduce airway mucosal oedema, induce bronchodilation, induce vasoconstriction and increase strength of cardiac contraction.
- f. If it isn't treated properly, it can be fatal.
- g. This condition involves swelling of the throat and mouth and clogging up of airways leading to difficulty breathing, difficulty in speaking or swallowing, rash and itching elsewhere in the body, weakness and collapse often with unconsciousness due to sudden fall in blood pressure.
- h. Immunotherapy may also increase patients' ability to tolerate allergens.
- i. Symptoms of allergy include sneezing, shortness of breath, wheezing, runny nose and eyes, coughing, hives, swelling of the lips or face, itching eyes, ears, lips, throat and roof of the mouth, nausea, vomiting, abdominal cramps and diarrhea.
- j. A life-threatening or severe allergic reaction is termed anaphylaxis.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Prefix	Meaning	Example
a-, an-	without, lack of, absent, deficient	anoxia
anti-	describing something as 'against'	antibacterial
extra-	outside	extracellular
endo-	denotes something as inside or within	endodontics
exo-	denotes something as "outside" another	exothermic
hyper-	extreme or beyond normal	hypersalivation
hyp(o)-	below normal	hypothermia
met, meta-	after, beside	metatarsal
peri-	about, around, or surrounding	periscope

**b) Match the adjectives with their explanations:**

1. antifungal	a. a skeleton that is on the inside of a body
2. aseptic	b. much faster than the speed of sound
3. extradural	c. designed to be less likely to cause allergic reactions
4. endoskeleton	d. intended to kill or reduce the harmful effects of fungi
5. exoskeleton	e. next to the carpal bones
6. hypersonic	f. situated or occurring outside the dura mater but within the skull
7. hypoallergenic	g. the double layer of tissue that surrounds the heart
8. metacarpal	h. an external skeleton
9. pericardium	i. free or freed from pathogenic microorganisms

**Exercise 14. Form the nouns and adjectives with the help of the following verbs and translate them:**

VERB	NOUN	ADJECTIVE
expose		
induce		
invade		
occur		
precede		
facilitate		
tolerate		
respond		
congest		
include		

**Exercise 15. Make questions to the underlined words:**

1. Summer allergies are usually triggered by pollen from grasses and weeds.
2. Ragweed, mold and dust mites are the biggest allergy triggers in the fall.
3. Exposure to certain dental materials can cause reactions ranging from mild to severe.
4. Certain factors like history of asthma or usage of beta-blockers increase the likelihood of an allergic-like contrast reaction among the general population.
5. The patient's electroencephalogram showed profound generalized cerebral dysfunction with absent posterior dominant rhythm suggestive of anoxic brain injury.
6. Suspected allergies in dentistry should be confirmed by an allergy test conducted by a dermatologist or allergist.
7. Manufacturers of all medical devices should be encouraged to label the products with their complete ingredients and remove common allergens from wound care products.
8. The integrity of periwound skin is an important concept of wound care.
9. Antiseptic agents are best suited for ulcer care in comparison with topical antibiotics.
10. Healthcare providers should avoid potential wound care product allergens, especially when treating patients with leg ulcers.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

1. Food allergies or food intolerances (**to affect**) nearly everyone at some point.
2. People often have an unpleasant reaction to something they (**to eat**) and wonder if they (**to have**) a food allergy.
3. If you (**to suffer**) from a milk allergy, strictly avoiding milk and food containing milk and milk products (**to be**) the only way to prevent a reaction, which (**to include**) immediate wheezing, vomiting, and hives.
4. Egg allergies are more common in children than in adults and reaction (**to range**) from mild to severe.
5. If a person (**to be**) allergic to any wheat protein, he should strictly (**to avoid**) wheat and wheat products, which (**to include**) stomach upset, eczema, allergic rhinitis, bronchospasm and even anaphylaxis.
6. Peanut allergies (**to affect**) about 4 percent of adults and 6 percent of children.
7. A single ragweed plant (**to create**) up to a billion pollen particles in a year, affecting people with ragweed allergies, namely stuffy sinuses.
8. While all allergy symptoms (**to cause**) by a hypersensitive response to an otherwise harmless substance, not all allergies (**to be**) the same.
9. Delayed hypersensitivity reactions to amalgam restorations (**to see**) as erythematous, pruritic lesions on the oral mucosa and skin of the face and neck.
10. Many reports on titanium allergy (**to observe**) in association with titanium implants (**to publish**) recently.

**Exercise 17. Read the text, fill in the gaps with the words given below.**

## Case Study: Insect-Stings and Pediatric Anaphylaxis

A 12-year-old boy is brought to the **1** ... after being stung by a bee. He had been well until he was stung on his right forearm, while playing in the yard. He initially complained of **2** ... . Fifteen minutes later, he began to complain of **3** ... . His parents observed him to be **4** ... . He also said that he felt very weak and dizzy. His parents brought him immediately to the local emergency department.

Exam: T 37.1, P 120, R 39, BP 69/45. He is in mild respiratory distress. He is **5** ... , but awakens when you talk to him. He has generalized urticaria. He has no conjunctival **6** ... . His lips and tongue are not swollen. His voice sounds normal. Heart tachycardic **7** ... . His lung



examination shows mild wheezing and fair aeration with minimal retractions. His abdomen is soft and non-tender. The bee **8** ... on his right forearm is unremarkable with no foreign body seen.

He appears to be in early anaphylactic shock and he is immediately given **9** ... and an albuterol updraft with improvement of his symptoms. An IV is started, but since his **10** ... is improving, he is not given IV epinephrine.

*edema, wheezing, emergency department, localized pain and swelling, shortness of breath, drowsy and pale, without murmurs, sting site, subcutaneous epinephrine, condition*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. виникає при першому контакті(впливі)
2. кропив'янка
3. шкірні висипи та набряк губ і обличчя
4. ускладнення дихання
5. безрецептурні протинабрякові
6. латекс, акрилати та формальдегід
7. знижувати набряк слизових оболонок
8. обставини епізодів анафілаксії

#### II. Дайте відповідь на питання:

1. What do the symptoms of allergy include?
2. What are the most common allergic reactions in dental staff?
3. What do allergy drugs include?
4. Why does anaphylaxis require urgent emergency management?
5. What effect does adrenaline(epinephrine) produce?
6. Why should patients be advised to document the circumstances of episodes of anaphylaxis ?

#### III. Розкрийте поняття:

Алергія, анафілактичний шок

### WOUNDS

#### Рани

#### Exercise 1. Topic vocabulary:

abnormality	/,æb.nə:'mæl.ə.ti/	порушення
address	/ə'dres/	розглянути, звернутись до
blunt	/blʌnt/	тупий
bruise	/bru:z/	синець
crush syndrome	/'sɪn.drʊm/	синдром здавлювання
damage	/'dæm.ɪdʒ/	ушкодження
disaster	/di'zɑ:stər/	катастрофа
incision	/ɪn'sɪʒ.ən/	різана рана
irregular	/ɪ'reg.jə.lə/	неправильної форми
originate	/ə'ɪdʒ.ən.eɪt/	походити
repair	/rɪ'reə/	відновлювати
rough	/rʌf/	шершавий
stab	/stæb/	колоти
superficial	/,su:.pə'fi:ʃ.əl/	поверхневий
trapped	/træpt/	затиснений
underlying	/,ʌn.də'laɪ.ɪŋ/	підлеглий,

#### Exercise 2. Read and memorize the pronunciation of the following words:

Exterior /ɪk'stɪə.ri.ə/, interference /,ɪn.tə'fiə.rəns/, trauma /'trɔ:.mə/ /'traʊ.mə/,  
 piercing /'piə.sɪŋ/, hematoma /hi:.mə'təʊ.mə/, tumor /'tu:.mə/,  
 petechia /pɪ'ti:kiə/, petechiae /pɪ'ti:kii:/, purpura /'pɜ:rpjʊərə/, ecchymosis /,ɛk.ɪ'məʊ.sɪs/,  
 hyperkalemia /,haɪ.pə.kə'li:.mi.ə/, hypocalcemia /,hɪpə'kɒkəl'si:.mi.ə/.

**Exercise 3. Read the word combinations with the new words and translate them into Ukrainian:**

**Abnormality:** congenital abnormalities, foetal abnormalities, abnormalities in brain development, the X-rays showed some slight abnormality;

**Blunt:** a blunt instrument, a blunt needle, blunt object, blunt trauma to the head, a 44-year-old male with blunt abdominal trauma;

**Damage:** damage to the spinal column, kidney damage, psychological damage, the damage is postmortem, intestinal damage wasn't that severe;

**Irregular:** irregular shape, irregular heartbeat, irregular collection of data, irregular laceration, irregular incision;

**Repair:** damaged beyond repair, to repair damaged tissue, repair of the aortic arch, surgeons repaired the severed artery, sutures to repair the hernia under tension;

**Stab:** stab wounds, stabbed with a fork, stab wounds suggest a large knife, she was stabbed several times in the chest;

**Superficial:** superficial wound, superficial or slight scratches, superficial bite mark, quite a superficial analysis, the driver only received superficial injuries;

**Underlying:** underlying layer, underlying cause, underlying factors, underlying approach, dead skin separated from the underlying tissue.

**Exercise 4. Translate the following word combinations:**

Nature of the injury causing the wound, depth of injury to the skin and underlying tissues, a break in the continuity of any bodily tissue, the process of repair, incisions, lacerations, topmost layer of the skin, irregular tear-like wounds, intact tissue underneath, fall onto a rough surface, object piercing the skin, to damage the underlying tissues, gunshots and stab wounds, contusions and crush injury, originate from internal pathology, trapped for a length of time, natural or man-made disaster, interrupted fluid movement, build at the site of injury, heal at a much slower rate, associated with underlying chronic diseases.

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

Wounds

There is no standard classification for wounds. However, there are a number of different ways in which wounds can be classified. The factors of greatest importance in evaluation are: the nature of the injury causing the wounds, the timing, whether acute or chronic, and the depth of injury to the skin and underlying tissues. The most important distinction is between open and closed wounds.

A wound is a break in the continuity of any bodily tissue commonly due to any action of external factors. Open wounds are those in which the protective body surface has been broken, permitting the entry of foreign material into the tissues. In closed wounds, by contrast, the damaged tissues are not exposed to the exterior, and the process of repair can take place without the interference that contamination brings, in greater or lesser degree.

Open wounds can be classified according to the object that caused the wound. The types of open wounds are enumerated below.

Incisions are caused by a clean, sharp-edged object such as a knife, a razor or a glass splinter.

Lacerations are irregular tear-like wounds caused by some blunt trauma. Lacerations and incisions may be regular or irregular.

Abrasions (grazes) are superficial wounds in which the topmost layer of the skin is scraped off, but the tissue underneath remains intact. Abrasions are often caused by a sliding fall onto a rough surface.

Puncture wounds have a small entry hole caused by a pointed object, such as a nail. Puncture wounds are common in the foot, especially in warm weather when people go barefoot. But even though they occur frequently, puncture wounds of the foot are often inadequately treated. If not properly treated, infection or other complications can develop.

Penetrating wound is an injury caused by a foreign object piercing the skin, which damages the underlying tissues. The most common causes of such trauma are gunshots, explosive devices, and stab wounds. Depending on the severity, it can be a penetration wound or a perforating wound.

Closed wounds have fewer categories, but are just as dangerous as open wounds. They are: hematomas, contusions or bruises, crush injury.

Hematomas or blood tumours – are caused by damage to a blood vessel that in turn causes blood to collect under the skin. Although bruises and hematomas may present similarity, they are different conditions. Hematomas that originate from an external source of trauma are contusions, also commonly called bruises. Hematomas that originate from internal blood vessel pathology are called petechiae, purpura, and ecchymosis.

A crush injury is injury by an object that causes compression of the body. While it is a relatively rare occurrence, crush syndrome can be expected following any event where patients are trapped for a length of time, especially following a natural or man-made disaster. Regular bodily fluid movement is interrupted in patient's extremities and without the ability to flow freely, bodily fluids such as blood, water, and toxins build at the site of injury. Crush syndrome can cause local tissue injury, organ dysfunction, and metabolic abnormalities, including acidosis, hyperkalemia, and hypocalcemia.

Another way to classify wounds is to divide them into acute and chronic. Chronic wounds are acute wounds which have not progressed through the stages of healing normally. They may heal at a much slower rate, heal only partially or reoccur after partial or complete healing. These chronic wounds are almost always associated with underlying chronic diseases that affect either the blood supply or how the cells function at the wound site. Wounds that take a long time to heal need special care. It is important to not only treat the wound but also diagnose and address the underlying condition causing the wound to minimize risk of further chronic wounds.

**Exercise 6. Answer the questions according to the text:**

1. What can open wounds be classified according to?
2. What are the types of open wounds?
3. What are incisions caused by?
4. What are penetration wounds subdivided into?
5. What are the categories of closed wounds?
6. What do petechiae, purpura, and ecchymosis originate from?
7. What is the difference between hematomas and bruises?
8. What events usually precede crush syndrome?
9. What damage can crush syndrome cause?
10. What are chronic wounds almost always associated with ?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Open wounds are those in which the skin has been broken.
2. We call the trauma "a bruise" if it is caused by an exterior factor.
3. The types of open wounds are: incisions, lacerations, bruises, and abrasions.
4. Incisions are caused by a heavy blunt-edged object such as a hammer .
5. Gunshots are among the most common causes of penetration wounds.

6. A puncture wound, a penetrating wound and a perforating wound are the types of penetration wounds.
7. The terms "hematoma" and "blood tumour" basically mean the same thing.
8. Open wounds have fewer categories than closed wounds.
9. Crush syndrome isn't a common condition doctors deal with on a daily basis.
10. Crush syndrome may lead to systemic disturbances.

**Exercise 8. Translate the word combinations into English:**

Характер травми, що спричинює рану, глибина травмування шкіри та підлеглих тканин, спричинений чистим гострим предметом, травма від тупого предмета, чужорідний предмет, пронизуючий шкіру, проникаюча або перфораційна рана, пошкодження судини, походить від патології внутрішніх судин, місцеве запалення тканин, походить від зовнішнього джерела травми, накопичуватися у місці пошкодження, накопичуватися під шкірою, стихійне чи техногенне лихо, дисфункція органів та порушення обміну речовин, загоюватися набагато повільніше, пов'язаний основним (що є першопричиною) хронічним захворюванням.

**Exercise 9. Translate the sentences into English:**

1. Найчастіше класифікація ран основана на предметі, що спричинив травму, часовому проміжку для загоєння, глибині ураження шкіри та підлеглих тканин, а також ступені інфікування.
2. Відкрита рана – це порушення цілісності тканини найчастіше внаслідок будь-яких дій зовнішніх факторів.
3. Колоті рани досить серйозні, так як може статися пошкодження внутрішніх органів або м'язових тканин.
4. Рвані рани супроводжуються рясною кровотечею, викликають сильні болі.
5. Поверхневі рани обробляють антисептичними препаратами і накладають стерильну пов'язку на місце пошкодження.
6. Гематоми, які походять від зовнішнього джерела травми, - це контузії, які також називають синцями.
7. Краш-синдром є відносно рідкісним явищем, він зустрічається, коли кінцівка пацієнта тривалий час затиснена, що може призвести до системних порушень в організмі.
8. Хронічні рани загоюються набагато повільніше, заживають лише частково або повторно виникають після часткового або повного загоєння.
9. Проколоті рани поширені в стопі, особливо в теплу погоду, коли люди ходять босоніж.
10. Типи відкритих ран наступні: різані, рвані, подряпини, проколи, проникаючі.

**Exercise 10. Match the terms to their explanations:**

1. A puncture wound	a. ...is one that has failed to progress through the phases of healing in an orderly and timely fashion and has shown no significant progress toward healing in 30 days.
2. A penetrating wound	b. ... occurs when force or pressure is put on a body part. This type of injury most often happens when part of the body is squeezed between two heavy objects.
3. A perforating wound	c. ... sharp object pierces the skin and creates a small hole without entering a body cavity, such as a bite.
4. Abrasions	d. ... a sharp object pierces the skin, creating a single open wound, and enters a tissue or body cavity, such as a knife stab.
5. A crush injury	e. ... is an injury, as from a blow with a blunt instrument, in which the subsurface tissue is injured but the skin is not broken.
6. A contusion	f. ... often start as small scratches or bruises which patients with diabetes fail to notice due to nerve damage and limited sensitivity.

	Compromised immune systems and damaged capillaries lead to these formerly small and benign wounds becoming dangerously infected.
7. A chronic wound	g. ... object passes completely through the body, having both an entry and exit wound, such as a gunshot wound.
8. Venous ulcers	h. ... primarily afflict patients who are bedridden or of limited mobility. The constant pressure on the tissue overpowers the pressure of the capillaries, affecting blood flow.
9. Diabetic ulcers	i. ... occur when the skin rubs or scrapes against a rough or hard surface. There is usually not much bleeding, but the wound needs to be scrubbed and cleaned well to avoid infection.
10. Pressure ulcers	j. ... occur primarily in the legs of patients and are caused by problems with blood circulation due to dysfunctional blood valves or obstructed veins.

**Exercise 11. Insert the prepositions where necessary:**

1. Chronic wounds may heal ... a much slower rate.
2. Open wounds are those in which the protective body surface has been broken, permitting the entry of foreign material ... the tissues.
3. Abrasions are often caused by a sliding fall ... a rough surface.
4. Depending ... the severity, penetration wound can be a puncture, a penetrating wound, or a perforating wound.
5. Hematomas that originate ... internal blood vessel pathology are called petechiae, purpura, and ecchymosis.
6. Incisions are caused ... a clean, sharp-edged object such as a knife, a razor or a glass splinter.
7. Crush syndrome can be expected following any event where patients are trapped ... a length of time, especially following a natural or man-made disaster.
8. Grazes are superficial wounds in which the topmost layer of the skin is scraped ... but the tissue ... remains intact.
9. When bodily fluid movement is interrupted in patient's extremities bodily fluids and toxins build ... the site of injury.
10. Hematomas or blood tumor – are caused by damage ... a blood vessel that in turn causes blood to collect under the skin.

**Exercise 12. Put the sentences in the proper order to construct the terms “Open wound”, “Closed wound”, “Chronic wound” :**

- a. Hematomas that originate from internal blood vessel pathology are called petechiae, purpura, and ecchymosis.
- b. In closed wounds the damaged tissues are not exposed to the exterior.
- c. Open wounds are those in which the protective body surface has been broken, permitting the entry of foreign material into the tissues.
- d. It is important to not only treat the wound but also diagnose and address the underlying condition causing the wound to minimize risk of further chronic wounds.
- e. Chronic wounds are acute wounds which may heal at a much slower rate, heal only partially or reoccur after partial or complete healing.
- f. Hematomas that originate from an external source of trauma are contusions, also commonly called bruises.
- g. They can be classified according to the object that caused the wound.
- h. The types of these wounds are: incisions, lacerations, abrasions, puncture wounds, penetrating wounds.

- i. These wounds are almost always associated with underlying chronic diseases that affect either the blood supply or how the cells function at the wound site.
- j. Closed wounds have fewer categories, but are just as dangerous as open wounds. They are: hematomas, contusions or bruises, crush injury.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Prefix	Meaning	Example
dys-	bad or difficult	dyspepsia
heter(o)-	other (of two), as an addition, or different	heterosexual
homo-	uniform in composition or character	homoblastic
juxta-	near to, alongside or next to	juxtaglomerular
mes(o)-	middle	mesoderm
super-	above, on top of, beyond,	superplastic

**b) Match the adjectives with their explanations:**

1. superscription	a. having <u>teeth</u> that are all of the same type
2. dyslexia	b. having a head with a cephalic index between that of dolichocephaly and brachycephaly
3. mesocephalic	c. consisting of <u>parts</u> or things that are different from each other
4. homoplasia	d. is an act or instance of placing two elements close together or side by side
5. homodont	e. something written on the surface of, outside, or above something else
6. heterogeneous	f. shared character between two or more animals that did not arise from a common ancestor
7. homozygote	g. intense tightening in the chest, air hunger, difficulty breathing, breathlessness or a feeling of suffocation
8. homograph	h. word that shares the same written form as another word but has a different meaning
9. juxtaposition	i. having two identical alleles of a particular gene or genes
10. dyspnea	j. disorders that involve difficulty in learning to read or interpret words, letters, and other symbols.

**Exercise 14. Form adverb with the help of the following adjectives and use the formed adverbs in the sentences:**

Complete, primary, constant, inadequate, proper, severe, common, especial, regular, partial.

1. Enamel erosion from habitual lemon of acidic soft drink consumption ... occurs on the facial and cervical surfaces of the teeth.
2. The patient is vomiting ... and is unable to keep down any fluids.
3. This yeast often does not respond to ... used antifungal drugs, making infections difficult to treat.
4. Puncture wounds are common in the foot, ... in warm weather when people go barefoot.
5. The stitches will be out when the wound is ... healed.
6. The article provides an update on a multidisciplinary approach to the treatment of ... burned patients.
7. An obstruction may ... or totally prevent air from getting into your lungs.
8. If a minor puncture wound is ... treated, it can sometimes develop into a serious problem.
9. One in five Europeans is ... exposed to sound levels at night that could significantly damage health, including mental health.
10. If not ... treated, infection or other complications can develop.

**Exercise 15. Make questions to the underlined words:**

1. The labs' research focuses on such things as developing treatments, vaccines, diagnostic tests and other countermeasures.
2. The doctor said he was suffering from fatigue and work-related stress.
3. The baby had jaundice and was in an incubator for 24 hours.
4. A crush injury is injury by an object that causes compression of the body.
5. They failed to take the necessary precautions to avoid infection.
6. Multiple organ failure (MOF) is a syndrome that represents a complicated and dynamic pathophysiologic pathway leading to organ functional derangement and eventual death.
7. When the patient is no longer a carrier of the pathogen, he can leave the hospital.
8. She has a persistent numbness all down one side of her body.
9. Chronic hoarseness is a symptom of a condition called silent thyroiditis.
10. Crush injuries commonly include direct soft tissue destruction, bony injury and limb ischemia.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms of Past Simple:**

## Case report.

A 54-year old male with a history of substance abuse **1. (to admit)** to an acute hospital for surgical treatment of advanced peripheral arterial disease. The patient **2. (to undergo)** an aortobifemoral bypass, using a Y-graft procedure, which **3. (to produce)** a surgical wound to his left anterior thigh and groin. The patient had previously had an above knee amputation of the left leg, after failed surgery to salvage the lower leg following an acute ischaemic event. The patient **4. (to remained)** in hospital following the bifemoral bypass as part of his inpatient recovery. However, the surgical wound **5. (to fail)** to heal, and thus became the primary active medical issue.

The patient's wound initially **6. (to manage)** using standard protective surgical dressings. However, 2 weeks following surgery, wound dehiscence **7. (to occur)** — felt by staff to be related to the patient's excessive movement of the area — and the risk of infection **8. (to increase).**

A management plan **9. (to implement)** to protect the wound from infection and provide the best environment for wound healing to occur; this included negative pressure wound therapy and silver-based antimicrobial dressings. However, following 7 months of failed wound management interventions, the patient **10. (to transfer)** to a non-acute specialist rehabilitation centre, for continued rehabilitation and wound management.

**Exercise 17. Read the text, fill in the gaps with the words given below:**

## Causes of allergy to wound therapies.

Modern wound dressings contain many ingredients which patients may be sensitive or **1 ...**, including acrylates, silicones, rubber and latex. Patients with wounds have an increased risk of developing a reaction to the wound dressings and topical products used. This reaction may be described by clinicians as allergy, eczema, sensitivity, **2 ...** or dermatitis.

Any reaction to wound care dressings or therapies may have an impact on patient safety, and delay or prevent wound **3...**. The reaction may be more painful than the **4 ...** procedure.

Repeated dressing changes and removal of adhesive tapes may cause the epidermal **5. ....** to separate from each other or from the dermis. Even when dressings are removed carefully, without trauma, adhesive removal results in varying levels of **6. ...** epidermal cells being detached, compromising skin **7 ...** function and **8 ...** an inflammatory response. Wound care treatments and products applied to the skin can **9 ...** a contact dermatitis. There is an **10 ...** reaction at the point of contact of the dressing.

Allergic contact dermatitis, although less common, can be serious and compromise patient safety. The patient's immune system registers a particular substance to be a **11 ...**, triggering

antibody production and a systemic reaction. Typically, each **12** ... to the allergen will cause an increasingly more **13** ... reaction. Treatment for allergic contact dermatitis may include topical corticosteroids and **14** ... . In both **15** ... and allergic contact dermatitis, removal of the causative allergen will result in improvement and skin recovery.

*hypersensitivity, exposure, superficial, inflammatory, original, healing, barrier, layers, allergic to, irritant, initiating, cause, antihistamines, threat, severe*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. різані та рвані рани
2. походити від зовнішнього джерела травми
3. накопичуватися під шкірою
4. стихійне чи техногенне лихо
5. загоюватися повільніше або частково
6. затиснений протягом деякого часу
7. порушення метаболізму
8. основне хронічне захворювання

#### II. Дайте відповідь на питання:

1. What can open wounds be classified according to?
2. What are incisions caused by?
3. What are penetration wounds subdivided into?
4. What is the difference between hematomas and bruises?
5. What events usually precede crush syndrome?
6. What damage can crush syndrome cause?

#### III. Розкрийте поняття:

Відкриті рани, закриті рани, хронічні рани

## HEPATITIS

### Гепатит

#### Exercise 1. Topic vocabulary:

acquire	/ə'kwaiər/	набувати
adherence	/əd'hɪərəns/	прив'язка
bloating	/'bləʊ.tɪŋ/	здуття
choluria	/k'ɒ'luriə/	холеурія, наявність жовчі у сечі
communicate	/kə'mju:nɪ.keɪt/	передавати
contaminate	/kən'tæm.ɪ.neɪt/	забруднювати
countermeasures	/'kaʊn.tə.meɪz.ər/	контрміри
excessive	/ek'ses.ɪv/	надмірний
fatigue	/fə'ti:g/	втома
hepatomegaly	/'hep.ə.təʊ'/'me.gə/.li/	збільшення печінки
inoculation	/ɪ.nəʊ.k.jə'leɪ.ʃən/	засівання
jaundice	/'dʒɔ:n.dɪs/	жовтяниця
low-grade	/ləʊ greɪd /	слабо виражений
precaution	/'pri:kə:ʃən/	пересторога



recover	/rɪ'kʌv.ər/	одужати
suppuration	/'sʌp.jə.reɪʃən/	нагноєння
vicinity	/vɪ'sɪn.ə.ti/	ділянка, зона

**Exercise 2. Read and memorize the pronunciation of the following words:**

Utensil /ju:'ten.sɪl/, associated /ə'səʊ.si.eɪ.tɪd/, procedure /prə'si:.dʒər/, spontaneously /spɒn'teɪ.ni.əs.li/, carrier /'kær.i.ər/, cirrhosis /sɪ'rəʊ.sɪs/, acquire /ə'kwɑɪə/ , minute /maɪ'nju:t/, fatigue /fə'ti:g/, quantity /'kwɒn.tə.ti/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Carrier:** infected carrier, asymptomatic carrier, carrier for typhoid, non-carrier, carriers of infection, there are an estimated 1.5 million HIV carriers in the country;

**Failure:** liver failure, lung failure, minor congestive heart failure, failure to regulate, the probable cause of death was renal failure;

**Fatigue:** chronic fatigue syndrome, extreme fatigue, work-related stress and fatigue, complain of fatigue, she was suffering from fatigue;

**Fever:** hay fever, high fever, yellow fever, persistent fever, low-grade fever, if you have a fever you should drink plenty of fluid;

**Jaundice:** slight jaundice, pronounced jaundice, newborn jaundice, accompanied by jaundice, increased frequency of neonatal jaundice in a maternity hospital;

**Loss:** loss of weight, loss of hearing, loss of sensation, loss of consciousness , he suffered a gradual loss of memory;

**Quantity:** large quantity, small quantity , vast quantities, they are now developing ways to produce the vaccine in large quantities and cheaply;

**Recover:** recover from the shock, recover from illness, recover from/after the heart operation, recover spontaneously, she went into a coma and died without recovering consciousness;

**Spread:** spread very rapidly, spread slowly, the disease was allowed to spread, it started off as cancer of the liver but it spread to other areas of the body;

**Terminal:** at the terminal stage, a terminal process, be in terminal decline, terminal disease, the illness proved to be terminal.

**Exercise 4. Translate the following word combinations from English:**

Yellowing of the whites the eyes, pain in the vicinity of the liver and hepatomegaly, low-grade fever, excessive amounts of pigment, produce the yellow appearance, water contaminated with infected feces, highly contagious, to take countermeasures, recover within a few months, spread through infected body fluids, tell how it was acquired, remain a carrier capable of infecting others, occupational risk of infection, exposed to blood, transmitted by skin prick with contaminated needles, accidental inoculation of minute quantities of blood, strict adherence to standard microbiological practices, recover spontaneously without treatment, direct acting antiviral tablets, develop terminal complications, liver failure.

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

Hepatitis

Hepatitis is a medical condition defined as the inflammation of the liver. Hepatitis may be caused by viruses, bacteria, parasites, or diseases of the immune system. Five viruses have been identified that attack the liver and produce hepatitis A, B, C, D and E.

Hepatitis can be acute or chronic. The main symptoms of hepatitis include, appetite loss, fatigue, bloating, jaundiced skin, yellowing of the whites the eyes, nausea and vomiting, pain in the vicinity of the liver and hepatomegaly, low-grade fever. The excessive amounts of orange-yellow pigment or bilirubin in the blood indicate hepatitis and produce the yellow appearance associated with jaundice.

Hepatitis A is usually spread by food or water contaminated with infected feces or through close contact with an infected person. Hepatitis A is highly contagious and once the infection occurs at any community everybody should be vaccinated. It is usually communicated as the result of poor hygiene or through personal contact. The incubation period for hepatitis A lasts about two or six weeks, so the disease can spread widely before countermeasures are taken. Most patients recover within a few months. After a single infection, a person is immunized for the rest of his life.

Hepatitis B is spread through infected body fluids like blood, semen, suppuration, or breast milk. It does not spread by simple physical contact, holding hands, sharing eating utensils, coughing, and sternutation. The incubation period for hepatitis B lasts from one to six months, so it is usually impossible to tell how it was acquired. Someone infected with hepatitis B may fully recover and have no symptoms and yet remain a carrier capable of infecting others through sexual contact, shared hypodermic needles, and shared food or drinks.

Health-care workers have an occupational risk of infection with hepatitis B virus and hepatitis C virus. Since dental healthcare professionals have numerous patients and are exposed to blood, they are likely to have the maximum risk. Hepatitis B virus and hepatitis C virus are transmitted by skin prick with contaminated needles and syringes or through accidental inoculation of minute quantities of blood during surgical and dental procedures. Hepatitis B can be prevented by strict adherence to standard microbiological practices and techniques, and routine use of appropriate barrier precautions to prevent skin and mucous membrane exposure when handling blood and other body fluids of all patients in healthcare settings and pre-exposure vaccines.

Many individuals who are infected with hepatitis C have no symptoms and never realize that they have the disease. People with strong immune systems may recover spontaneously from hepatitis C without treatment. Patients with chronic hepatitis C who are not treated or not cured by treatment may live normal lives, but they remain carriers of the disease and can infect others. Hepatitis C is treated using direct acting antiviral (DAA) agents, which are the safest and most effective medicines. The tablets are taken for 8 to 12 weeks. Some people with chronic hepatitis C develop terminal complications like cirrhosis, liver failure, or liver cancer.

Hepatitis D attacks those individuals who have already had hepatitis B. The virus does not cause the disease by itself but worsens infections of hepatitis B.

Hepatitis E is almost non-existent in developed countries; it is found in Africa and Asia. It is similar to hepatitis A and spreads primarily through contaminated water.

**Exercise 6. Answer the questions according to the text:**

1. What are the causes of hepatitis?
2. What are the main symptoms of hepatitis?
3. What may bilirubin in the blood indicate?
4. How is hepatitis A spread?
5. Why can hepatitis A spread widely before countermeasures are taken?
6. How can hepatitis B be transmitted?
7. Why are dental healthcare professionals likely to have the maximum risk of contracting hepatitis B and C?
8. How can hepatitis B be prevented in health care professionals ?
9. What is the treatment for hepatitis C?
10. What complications may develop in patients with hepatitis C?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. The only cause of hepatitis is viruses.
2. Hepatitis should be suspected due to higher level of bilirubin in the blood.
3. The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person.

4. The incubation period of hepatitis A is usually 14–28 days.
5. Hepatitis B isn't a concern for health care workers.
6. Having a job that exposes you to human blood is a considerable risk factor for contracting hepatitis.
7. Patients with chronic hepatitis C who are not treated will inevitably have terminal complications.
8. The exposure to a hepatitis virus is immediately followed by the onset of characteristic symptoms.
9. Treatment of hepatitis C with direct acting antiviral (DAA) agents usually takes from two to three months.
10. Hepatitis E can rarely be found in Europe or the USA.

**Exercise 8. Translate the word combinations into English:**

Втрата апетиту, втома, здуття, пожовтіла шкіра, нудота та блювання, біль у ділянці печінки, субфебрильна температура, надмірна кількість пігменту, вказувати на гепатит, інфіковані рідини тіла, нагноєння, носій, здатний інфікувати інших, тривати від двох до шести тижнів, повністю одужати, професійний ризик інфікування, мати багаточисленних пацієнтів, жорстка прив'язка до процедури, спонтанно одужувати, попереджати попадання на шкіру та слизові оболонки, вести нормальне життя, засіб прямої протівірусної дії, термінальні ускладнення, цироз та печінкова недостатність.

**Exercise 9. Translate the sentences into English:**

1. Гепатит може бути викликаний вірусами, бактеріями, паразитами або захворюваннями імунної системи.
2. Основними симптомами гепатиту є холорія, зниження апетиту, втома, здуття живота, пожовтіння шкіри та білків очей, нудота і блювання, біль в ділянці печінки
3. Гепатит А зазвичай поширюється з їжею або водою, зараженою інфікованими фекаліями або через тісний контакт із зараженою людиною.
4. Інкубаційний період гепатиту А триває близько двох-шести тижнів, тому захворювання може широко поширитися до того, як будуть вжиті контрзаходи.
5. Гепатит В поширюється через інфіковані рідини організму, такі як кров, сперма, нагноєння або грудне молоко.
6. Хворий на гепатит В може повністю одужати і не мати симптомів, але все одно залишатися носієм, здатним заразити інших.
7. Медичні працівники мають професійний ризик зараження вірусом гепатиту В та С.
8. Гепатит В можна запобігти суворим дотриманням стандартних мікробіологічних методів.

**Exercise 10. Match the terms to their explanations:**

1. Cirrhosis	a. ...is distension of the abdomen, commonly due to wind in the stomach or intestine.
2. Bloating	b. ... is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism.
3. Suppuration	c. ... is an abnormally high body temperature, usually accompanied by shivering, headache, and in severe instances, delirium.
4. Choluria	d. ...is the putting of bacteria, serum, etc. into soil, a culture medium.
5. Fatigue	e. ... is a term used to describe an overall feeling of tiredness or lack of energy. It isn't the same as simply feeling drowsy or sleepy. ... is a common symptom of many medical conditions that range in severity from mild to serious.
6. Fever	f. ... is a symptom characterized by pronounced stomach discomfort and

	the sensation of wanting to vomit
7. Hepatomegaly	g. ... is decay producing pus, a process in which tissues and inflammatory exudates are liquefied by the action of pyogenic organisms, and it is a common result of microbial inflammation.
8. Inoculation	h. ... is a term used to describe a yellowish tinge to the skin and the whites of the eye.
9. Jaundice	i. ... is presence of bile in urine producing dark or brown colour, often referred to as the color of Coca-Cola. A common symptom of liver diseases, such as hepatitis and cirrhosis.
10. Nausea	j. ... refers to an increase in size or enlargement of the liver. Patients with an enlarged liver may not have any symptoms. Occasionally, patients may experience pressure or tenderness in their right upper abdomen.

**Exercise 13. Insert the prepositions where necessary:**

1. Perinatal infection was defined ... culture-confirmed infection in a pregnant woman or a newborn.
2. The incubation period for hepatitis B lasts ... one ... six months, so it is usually impossible to tell how it was acquired.
3. Through anticonvulsants and antispasmodics, many patients feel some relief ... a few months.
4. Hepatitis B is spread ... infected body fluids like blood, semen, suppuration, or breast milk.
5. Mosquito-borne diseases are those spread ... the bite of an infected mosquito.
6. Someone infected ... hepatitis B may fully recover and have no symptoms and yet remain a carrier capable of infecting others through sexual contact, shared hypodermic needles, and shared food or drinks.
7. Hepatitis E is similar ... hepatitis A and spreads primarily through contaminated water.
8. There are 120 conditions associated ... cough, dizziness, fatigue and feeling faint.
9. The average incubation period ... mumps is 16 to 18 days, with a range of 12 to 25 days.
10. Scientists have found that certain genes are a potential key factor in spontaneous recovery ... hepatitis C.

**Exercise 12. Put the sentences in the proper order , so that to construct the terms “Hepatitis A”, “Cirrhosis”, “Jaundice”:**

- a. The incubation period lasts about two or six weeks, so the disease can spread widely before countermeasures are taken.
- b. Jaundice is the is a term used to describe a yellowish tinge to the skin and the whites of the eyes.
- c. Most patients recover within a few months. After a single infection, a person is immunized for the rest of his life.
- d. Hepatitis A is a medical condition defined as the inflammation of the liver, it is usually spread by food or water contaminated with infected feces or through close contact with an infected person.
- e. It is caused by the excessive amounts of orange-yellow pigment or bilirubin in the blood.
- f. Cirrhosis is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases.
- g. In adults it is typically a sign indicating the presence of an underlying diseases involving liver dysfunction, or biliary tract obstruction.
- h. The main symptoms of hepatitis include, appetite loss, fatigue, bloating, jaundiced skin, yellowing of the whites of the eyes, nausea and vomiting, pain in the vicinity of the liver and hepatomegaly, low-grade fever.

- i. It is one of the terminal complications chronic hepatitis C.  
 j. Usually it cannot be cured, but there are ways to manage the symptoms and stop the condition getting worse.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Stem	Meaning	Example
hepat(o)-	liver	hepatorrhexis
chol(e)-	of or pertaining to <u>bile</u>	cholecystitis
col-, colo-, colono-	<u>colon</u>	colonoscopy
cutane-	skin	subcutaneous
dactyl(o)-	of or pertaining to a finger, toe	dactylogy

**b) Match the adjectives with their explanations:**

1. cholaemia	a. involves the presence of gallstones, which are concretions that form in the biliary tract, usually in the gallbladder
2. pancolitis	b. a condition caused by the presence of excess bile in the blood
3. hepatobiliary	c. existing, applied, or measured across the depth of the skin
4. transcutaneous	d. inflammation of the entire colon
5. mucocutaneous	e. relating to or affecting the colon and the rectum.
6. polydactyly	f. the condition of having more than the normal number of fingers or toes
7. dactyloscopy	g. implies chemical-driven liver damage
8. hepatotoxicity	h. having to do with the liver plus the gallbladder, bile ducts, or bile.
9. cholelithiasis	i. made up of or involving both typical skin and <u>mucous</u> membrane.
10. colorectal	j. identification by comparison of fingerprints

**Exercise 14. Form the nouns and adjectives with the help of the following verbs and translate them:**

VERB	NOUN	ADJECTIVE
acquire		
complicate		
contaminate		
develop		
fail		
identify		
indicate		
inoculate		
recover		
worsen		

**Exercise 15. Make questions to the underlined words:**

1. A hepatitis B viral protein stimulates the expansion of immune cells that impair antiviral responses.
2. Some of these gene products can favor malignant transformation.
3. All forms of hepatitis share similar symptoms.
4. The bilirubin test measures the amount of this pigment in the blood.
5. The aim of the research was monitoring trends in mortality for individuals diagnosed with hepatitis C virus (HCV) infection.
6. People with strong immune systems may recover spontaneously from hepatitis C without treatment.

7. On physical examination the physician can reveal abnormal enlargement of the liver by palpation.
8. Patients with alcohol dependence demonstrate tolerance and withdrawal symptoms, including alcohol withdrawal seizures.
9. Hepatitis B is spread through infected body fluids like blood, semen.
10. Age may be the underlying reason for different appreciation of pain severity in different age groups.

**Exercise 16. Read the text and open the brackets, using the verbs in the correct voice forms of Present Simple:**

**Transmission of hepatitis C.**

Transmission of hepatitis C may only **1. (to occur)** when the blood of an infected person **2. (to enter)** the bloodstream of another person. The point of entry for infected blood can be a fresh cut or broken or punctured skin. The hepatitis C virus cannot **3. (to penetrate)** unbroken skin and **4. (to kill)** by the digestive juices in the stomach if it **5. (to swallow)**.

The risk of transmission occurs in case of blood-to-blood contact. This may occur in occupational settings such as hospitals and clinics, where handling bloody items may present a risk. There is a risk of acquiring hepatitis C from needle-stick injury in a health care setting. This risk **6. (to depend on)** a number of factors, such as the size of the needle and the depth of penetration achieved. Health care and custodial workers **7. (to advise)** to take infection control precautions at all times and should consider being vaccinated against hepatitis A and B.

Infection control guidelines, designed to prevent the transmission of blood borne viruses and other diseases, strictly **8. (to adhere)** to in medical settings. In some countries a lack of resources, inadequate infrastructure, a lack of training, or a combination of these factors can **9. (to create)** circumstances in which reducing the risk of transmitting diseases is not always possible.

Undergoing medical or dental treatment in some countries may **10. (to carry)** with it the possibility of acquiring hepatitis C.

**Exercise 17. Read the text, fill in the gaps with the words given below:**

Case Study: Myelofibrosis

A 52-year-old kindergarten teacher, had myelofibrosis that had been in **1. ...** for 25 years. She had seen her hematologist regularly and had had routine blood testing since the age of 27. After several weeks of **2. ...**, idiopathic joint and muscle aching, weakness, and a frightening episode of **3. ...**, she saw her hematologist for evaluation. Her hemoglobin was 9.0 g/dL and her hematocrit was 29%. Concerned that she was having an **4. ...**, her doctor scheduled a bone marrow **5. ...**, and the results were positive for myelofibrosis. The woman went through a 6-month therapy regimen of iron supplements in the form of **6. ...** tablets and received weekly vitamin B12 injections. Interferon was given every other week **7. ...** to erythropoiesis therapy, which was unsuccessful. She was treated for **8. ...** aplastic anemia. During treatment, she developed splenomegaly, which **9. ...** her abdominal organs and pulmonary function. She continued to lose weight, and her hemoglobin dropped as low as 6.0 g/dL. Weekly **10. ...** of packed RBCs did not improve her hemoglobin and hematocrit. After a regimen of high-dose **11. ...** to shrink the fibers in her bone marrow and a **12. ...**, she received a stem cell transplant. The stems cells were obtained from blood **13. ...** by her brother, who was a perfect immunologic **14. ....** After a 6-month period of recovery in a protected environment, required because of her immunocompromised state, returned home and has been **15. ...** disease symptoms for over 1 year.

*ferrous sulfate, presumed, syncope, splenectomy, chemotherapy, exacerbation, transfusions, remission, aspiration, match, in addition, donated, compromised, fatigue, free of*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. втрата апетиту та втома,
2. здуття, нудота та блювання
3. носій, здатний інфікувати інших
4. через інфіковані рідини тіла
5. попереджати попадання на шкіру
6. нагноєння
7. жорстка прив'язка до процедури
8. цироз та печінкова недостатність

#### II. Дайте відповідь на питання:

1. What are the causes of hepatitis?
2. What are the main symptoms of hepatitis?
3. Why can hepatitis A spread widely before countermeasures are taken?
4. How can hepatitis B be transmitted?
5. How can hepatitis B be prevented in health care professionals ?
6. What complications may develop in patients with hepatitis C?

#### III. Розкрийте поняття:

Гепатит А, цироз, жовтяниця

### BENIGN AND MALIGNANT TUMOURS

#### Доброякісні та злоякісні пухлини

#### Exercise 1. Topic vocabulary:

benign	/bɪˈnaɪn/	доброякісний
birthmark	/'bɜːθ.mɑːk/	родима пляма
hoarseness	/'hɔːs.nəs/	охриплість
to impair	/ɪmˈpeər/	погіршити
indigestion	/,ɪn.dɪˈdʒes.tʃən/	нетравлення
lump	/lʌmp/	бугор, ущільнення, пухлина
malignant	/məˈlɪɡ.nənt/	злоякісний
medical imaging	/ɪˈmɪdʒ.ɪŋ/	медична візуалізація
mortality rate	/mɔːˈtæl.ə.ti/	смертність
numbness	/'nʌm.nəs/	оніміння
to recur	/rɪˈkɜːr/	давати рецидив
to restrict	/rɪˈstrikt/	обмежувати
sample	/'sɑːm.pəl/	зразок, аналіз, проба
seizure	/'siː.ʒər/	напад
thickening	/'θɪk.ən ɪŋ /	ущільнення
wart	/wɔːt/	бородавка

#### Exercise 2. Read and memorize the pronunciation of the following words:

Anaesthetic /,æ.n.əs'θet.ɪk/, aphthous /'æfθəs/, bowel /'baʊ.əl/, chemotherapy /,ki:məθ'er.ə.pi/, erythroplasia /'rɪθ.rəʊ'pleɪ.zi.ə/, leukemia /lu:'ki:mi.ə/, leukoplakia /,lu:kəʊ'pleɪki.ə/, lichen /'laɪ.kən/'lɪtʃ.ən/, neoplasm /'ni:.ə.plæz.əm/, nevi /'ni:vai/, nevus /'ni:vəs/, warning /'wɔ:.nɪŋ/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Mortality:** the mortality rate, perinatal mortality, high mortality, to prevent mortality, infant mortality is much higher in the poorest areas of the city;

**Numbness:** total numbness, partial numbness, anaesthetics produce numbness, *numbness* means a reduced or altered sensation, numbness and tingling are types of temporary paresthesia;

**Seizure: sudden** seizure, severe seizures, seizures of unknown origin, recurrent seizures, these are neural implants to prevent seizures in people with epilepsy or brain damage;

**Impair:** impair the general state, impair blood supply, impair specific metabolic activities, impair the effectiveness of the drugs, lack of sleep impairs the ability to think clearly;

**Recur:** a tendency to recur, to recur intermittently after first appearance, recurring nightmares, a recurring pattern of chromosome alterations, the same problem keeps recurring;

**Sample:** a blood sample, a tissue sample, to take samples, the sample was a match, he gave a sample to see if he could donate;

**Imaging:** medical and medical imaging experts, magnetic resonance imaging, optical tomography is used mostly in medical imaging research, a wide range of medical imaging applications;

**Lump:** a lump in your breast, a hard lump under the skin, a palpable lump, the lump proved to be benign, the lump was a non-cancerous tissue growth.

**Exercise 3. Translate the word combinations into your language:**

To lack the ability to metastasize, to have a slower growth rate than malignant tumours, moles, produce negative health effects, nevi, warts, birthmarks, restrict the flow of blood, impair digestion, cause problems such as seizures, the most effective approach, have the potential to become cancerous, classified into five broad groups, invade nearby parts of the body, thickening in the breast or elsewhere, to lead to a high mortality rate, a small sore or indurated ulcer, difficulty or pain with chewing or swallowing, possible warning signals, a change in the voice or hoarseness, screening tests or medical imaging.

**Exercise 4. Read and translate the text:**

Benign and Malignant Tumours

A benign tumor is a mass of cells with the following characteristics: they lack the ability to invade neighboring tissue or metastasize; once they are removed, they don't usually recur; generally have a slower growth rate than malignant tumours; they are typically surrounded by an outer surface or remain with the epithelium. Common examples of benign tumors include moles, nevi, warts, birthmarks.

Some types may still produce negative health effects. A benign tumor near a blood vessel could restrict the flow of blood; in the abdomen it could impair digestion; in the brain it could cause paralysis. The growth of benign tumors may cause nerve damage, tissue death (necrosis) and organ damage.

Some benign tumors need no treatment; others may be removed if they cause problems such as seizures, discomfort or cosmetic concerns. Surgery is usually the most effective approach and is used to treat most benign tumors. In some cases other treatments may be of use.



Although most benign tumors are not life-threatening, many types of benign tumors have the potential to become cancerous (malignant) through a process known as tumor progression. For this reason some benign tumors are removed by surgery.

In cancer (a malignant neoplasm), cells divide and grow uncontrollably and invade nearby parts of the body. The cancer may also spread to more distant parts of the body through the lymphatic system or blood stream.

There are over 200 different known cancers but the most of them may be classified into five broad groups: carcinomas, sarcomas, lymphomas, leukemias, adenomas. Symptoms like changes in the size, color, or shape of a wart or a mole; thickening in the breast or elsewhere; chronic indigestion, any change in bowel or bladder habits and others must be considered as possible warning signals of cancer.

Oral cancer usually occurs in people over the age of 40. It is twice as common in men as in women. Risk factors for developing oral cancer include: smoking and alcohol consumption; infective agents, particularly the wart virus human papillomavirus types 16 and 18, have been implicated in some oral cancers; the inflammatory disease, erosive oral lichen planus.

Many oral cancers are only detected when they are well advanced. This has led to a high mortality rate compared to cancers of other sites. Thus, the early recognition of signs and symptoms is very important. These include: leukoplakia or erythroplasia on the gums, tongue, or lining of the mouth; a small sore or indurated ulcer that looks like a common aphthous ulcer that fails to heal; a lump or mass that can be felt on the lip or in the mouth or throat; unusual bleeding, pain, or numbness in the mouth; difficulty or pain with chewing or swallowing; a persistently sore throat, or a feeling that something is caught in the throat; a swelling of the jaw that causes dentures to fit poorly or become uncomfortable; a change in the voice or hoarseness that lasts for a long time; pain in the ear.

Cancer can be detected in a number of ways, including the presence of certain signs and symptoms, screening tests, or medical imaging, microscopic examination of a tissue sample. Cancer is usually treated with chemotherapy, radiation therapy and surgery. The aim of cancer treatment is to remove all or as much of the tumor as possible and to prevent the recurrence or spread of the primary tumor.

**Exercise 6. Answer the questions according to the text:**

1. What are the characteristics of a benign tumour?
2. What are common examples of benign tumors?
3. Are there any types of negative health effects benign tumours may produce? Enumerate them.
4. Why are some benign tumors removed by surgery?
5. How do cells divide and grow in cancer?
6. What signs and symptoms must be considered as possible warning signals of cancer?
7. What do risk factors for developing oral cancer include?
8. What signs and symptoms are very important for oral cancer early recognition?
9. How can cancer be detected?
10. How is cancer usually treated?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Benign neoplasms do not invade surrounding tissues and they do not metastasize.
2. The malignant cell is characterized by invasive growth.

3. In most cases, the outlook with benign tumors is very good, but they can be serious if they press on vital structures such as blood vessels or nerves.
4. Males suffer from oral cancer more often than females
5. Early stage of cancer always has prominent signs and symptoms that can be easily noticed.
6. A persistently sore throat may be one of the early signs indicating oral cancer.
7. Infective agents, particularly the wart virus human papillomavirus types 16 and 18, can contribute to the development of cancer.
8. Chemotherapy is usually the most effective approach to treat most benign tumors.
9. Tumor progression is the phase in malignant tumor development characterized by decreased growth speed and invasiveness of the tumor cells.
10. Generally speaking, cancer treatment is aimed at preventing the recurrence or spread of the primary tumor.

**Exercise 8. Translate the word combinations into English:**

Мати повільнішу швидкість росту ніж злоякісні пухлини, невуси та бородавки, обмежувати кровопостачання, погіршувати травлення, найефективніший підхід, загрозовий для життя, проникати в ближні частини тіла, ущільнення у грудях, утруднення або біль при жуванні чи ковтанні, можливі попереджувальні сигнали, зміна голосу або охриплість, язва, що не загоюється, бугор або маса, яку можна відчутти на губі, скринінг-тести або медична візуалізація, мікроскопічне дослідження зразка тканини.

**Exercise 9. Translate the sentences into English:**

1. Доброякісна пухлина складається з клітин, які не можуть вторгнутись у сусідні тканини, а після їх видалення вони зазвичай не виникають повторно.
2. Ріст доброякісних пухлин може спричинити пошкодження нервів, загибель тканин (некроз) та пошкодження органів.
3. Хірургія, як правило, є найбільш ефективним підходом і використовується для лікування більшості доброякісних пухлин.
4. При раку клітини діляться і неконтрольовано ростуть.
5. Відомо понад 200 різних видів раку, але більшість з них можна класифікувати на п'ять широких груп: карциноми, саркоми, лімфоми, лейкемії, аденоми.
6. Рак порожнини рота удвічі частіше зустрічається у чоловіків, ніж у жінок.
7. В багатьох випадках рак ротової порожнини виявляються лише тоді, коли він значно прогресував.
8. Найчастішими ознаками раку ротової порожнини є лейкоплакія або еритроплазія на яснах, язиці або оболонці рота; невеликі виразки, схожі на загальну афтозну виразку, яка не заживає; незвичайні кровотечі, біль або оніміння в роті.
9. Рак зазвичай лікують хіміотерапією, променевою терапією та хірургічним втручанням.
10. Метою лікування раку є видалення всієї або більшої частини пухлини, наскільки це можливо, та запобігання рецидиву або поширення первинної пухлини.

**Exercise 10. Match the terms to their explanations:**

1. Adenoma	a. ... is a benign tumor of cartilage-forming cells.
2. Chondroma	b. ... are characterized by cells that cover internal and external parts of the body such as lung, breast, and colon cancer.
3. Lymphomas	c. ... contains many cell types such as skin, nerve, brain and thyroid.
4. Leukemias	d. ... is a tumor of pigmented skin cells.
5. Teratoma	e. ... are a type of birthmark and are caused by a buildup of blood vessels in a certain part of the body (usually the skin but sometimes another organ).
6. Myoma	f. ... is a benign tumor derived from fibrous connective tissue.

7. Fibroma	g. ... is a benign tumor of muscle.
8. Carcinomas	h. ... are cancers that begin in the lymph nodes and immune system tissues.
9. Melanoma	i. ... is a benign tumor of gland-forming cells.
10. Hemangiomas	j. ... are cancers that begin in the bone marrow and often accumulate in the bloodstream.

**Exercise 11. Insert the prepositions where necessary:**

1. In some cases of benign tumours chemotherapy may be ... use.
2. Benign tumors have the potential to become malignant ... a process known as tumor progression.
3. *Skin cancer* survival rates vary depending ... the type of cancer.
4. The most of known cancers may be classified ... five broad groups.
5. Early recognition of signs and symptoms of oral cancer isn't always possible, this leads to a high mortality rate compared ... cancers of other sites.
6. Cancer can be detected ... a number of ways.
7. The American Cancer Society predicts that more than 3.3 million people will be diagnosed ... some type of skin cancer this year.
8. The cancer may also spread ... more distant parts of the body through the lymphatic system or blood stream.
9. A man is ... risk of developing colon cancer because his grandfather and father died of it.
10. Cancer treatment is aimed ... removal of all or as much as possible of the primary tumor.

**Exercise 12. Arrange the sentences in the proper order so that to construct the terms “Benign tumour”, “Malignant tumour”:**

- a. Cancer is usually treated with chemotherapy, radiation therapy and surgery.
- b. Symptoms like changes in the size, color, or shape of a wart or a mole; thickening in the breast or elsewhere; chronic indigestion, any change in bowel or bladder habits and others must be considered as possible warning signals of cancer.
- c. Some tumors need no treatment; others may be removed if they cause problems such as seizures, discomfort or cosmetic concerns.
- d. Some types may still produce negative health effects like restricting the flow of blood; impairing digestion or even causing paralysis.
- e. Most of them may be classified into five broad groups: carcinomas, sarcomas, lymphomas, leukemias, adenomas.
- f. A malignant neoplasm is a mass of cells which divide and grow uncontrollably and invade nearby parts of the body.
- g. Although most of them are not life-threatening, many types have the potential to become cancerous (malignant) through a process known as tumor progression, and for this reason some of them are removed by surgery.
- h. A benign tumor is a mass of cells which lacks the ability to metastasize. Common examples are: moles, nevi, warts, birthmarks.
- i. Many cancers are only detected when they are well advanced.
- j. Cancer can be detected in a number of ways, including screening tests, or medical imaging, microscopic examination of a tissue sample.

**Exercise 13. Match directional terms to their explanations:**

1. inferior or caudal	a. situated or extending away from the median plane of the body
2. posterior or dorsal	b. positioned toward the back, or towards the back side of the hand or the foot
3. superior or cranial	c. situated toward the median plane or midline of the body or a structure
4. dexter	d. in the limbs, closer to the trunk
5. distal	e. positioned toward the lower part of the body
6. lateral	f. deep, situated at a deeper layer of the structure
7. medial	g. located on the right side
8. proximal	h. positioned toward the head end of the body
9. sinister	i. located on the left side
10. profundus	j. in the limbs away from the trunk

**Exercise 14. Form the nouns and adjectives with the help of the following verbs and translate them:**

VERB	NOUN	ADJECTIVE
advance		
consume		
detect		
impair		
produce		
recur		
remove		
restrict		
spread		
thicken		

**Exercise 15. Make questions to the underlined words:**

- One form of alcohol abuse that contributes to kidney disease is binge drinking.
- Limited alertness as indicated by an inability to manage and maintain attention.
- Insomnia is a sleep disorder in which you have trouble falling and/or staying asleep.
- Desmoid tumor is often more aggressive than most benign tumors and may invade nearby tissue and organs.
- Restless legs syndrome causes an uncontrollable urge to move your legs.
- The only way to be certain if a tumor is benign or malignant is with a pathology examination.
- Some slow-growing tumours may not cause any symptoms at first.
- Unconsciousness can be caused by nearly any major illness or injury.
- Spine misalignment can eventually cause more serious issues that extend beyond mild pain and discomfort.
- “Premalignant” means pertaining to tissue that is not yet malignant but is poised to become malignant.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

Factors that can increase the risk of liver cancer

Several factors can **1. (to increase)** a person's chance of **2. (to get)** a hepatocellular carcinoma (HCC).

Hepatocellular carcinoma is much more common in men than in women. Much of this is probably because of behaviors **3. (to affect)** some of the risk factors **4. (to describe)** below. The fibrolamellar subtype of HCC is more common in women. Race/ethnicity: in the United States, Asian Americans and Pacific Islanders have the highest rates of liver cancer, **5. (to follow)** by

Hispanics/Latinos, American Indians/Alaska Natives, African Americans, and whites. Chronic viral hepatitis: worldwide, the most common risk factor for liver cancer is chronic (long-term) infection with hepatitis B virus (HBV) or hepatitis C virus (HCV). These infections **6. (to lead)** to cirrhosis of the liver and are responsible for **7. (to make)** liver cancer the most common cancer in many parts of the world. In the US, infection with hepatitis C is the more common cause of HCC, while in Asia and **8. (to develop)** countries, hepatitis B is more common. People **9. (to infect)** with both viruses have a high risk of **10. (to develop)** chronic hepatitis, cirrhosis, and liver cancer. The risk is even higher if they are heavy drinkers (at least 6 alcoholic drinks a day).

**Exercise 17. Read the text, replace parts of the sentences in the indicated lines with the words given below:**

3craniotomy	12chemotherapy	20radiation	25nausea	31painkillers
11sutures	14stereotactic radiosurgery	23injection	28seizures	32vomiting

#### Treatment of Benign Brain Tumour

1 Surgery is the main treatment for non-cancerous brain tumours. The aim is to remove as much of the 2tumour as safely as possible without damaging the surrounding brain tissue.

3In most cases, the surgical removal of part of the bone from the skull to expose the brain will be performed. 4Most operations are carried out under a general anaesthetic, which means you'll be asleep during the 5procedure.

6But in some cases you may need to be awake and responsive, in which case a local anaesthetic will be 7used.

8An area of your scalp will be shaved and a section of skull cut out as a flap to reveal the brain and tumour 9underneath.

10The surgeon will remove the tumour and fix the bone flap back into place with metal screws. The skin is 11closed with either stitches or row of stitches holding together the edges of a wound. If it is not possible to 12remove the entire tumour, you may need further drugs to stop the growth of cancer cells or radiotherapy.

13Some tumours are located deep inside the brain and are difficult to remove without damaging surrounding 14tissue. In these cases, the destruction of precisely selected areas of tissue using ionizing radiation may be 15used.

16During radiosurgery, tiny beams of high-energy radiation are focused on the tumour to kill the abnormal 17cells. Treatment consists of one session, recovery is quick, and you can usually go home on the same day. 18Conventional chemotherapy is occasionally used to shrink non-cancerous brain tumours or kill any cells 19left behind after surgery.

20Radiotherapy involves using controlled doses of emission of energy in the form of waves or particles, 21usually X-rays, to kill the tumour cells.

22Chemotherapy is less frequently used to treat non-cancerous brain tumours. It's a powerful medicine that 23kills tumour cells, and can be given as a tablet, introducing a medicine into your body using a syringe 24or drip.

25Side effects of these treatments can include tiredness, a feeling of sickness with an inclination to vomit, 26and reddening of your skin.

27You may also be given medicine to help treat some of your symptoms before or after surgery, including: 28-anticonvulsants to prevent epileptic physical convulsions;

29-steroids to reduce swelling around the tumour, which can relieve some of your symptoms and make 30surgery easier;

31-drugs or a medicines for relieving pain to treat headaches;

32-anti-emetics to prevent ejecting matter from the stomach through the mouth.

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. повільніша швидкість росту
2. невуси та бородавки
3. найефективніший підхід
4. ущільнення у грудях
5. утруднення або біль при ковтанні
6. зміна голосу або охриплість
7. язва, що не загоюється
8. куріння та вживання алкоголю
9. скринінг-тести або медична візуалізація
10. дослідження зразка тканини

#### II. Дайте відповідь на питання:

1. What are the characteristics of a benign tumour?
2. What are common examples of benign tumors?
3. Why are some benign tumors removed by surgery?
4. What signs and symptoms must be considered as possible warning signals of cancer?
5. What do risk factors for developing oral cancer include?
6. How can cancer be detected?

#### III. Розкрийте поняття:

Доброякісна пухлина, злоякісна пухлина

## CARDIOVASCULAR AND CENTRAL NERVOUS SYSTEM DRUGS

### Препарати серцево-судинної та центральної нервової системи

#### Exercise 1. Topic vocabulary:

abuse	/ə'bjuz/	зловживати
addictive	/ə'diktɪv/	той, що викликає залежність
alertness	/ə'lɜ:t.nəs/	готовність до дій
anorectic	/,æn.ər'ek.tɪk/	засіб, що знижує апетит
appreciation	/ə,pri:ʃi'eɪ.ʃən/	сприйняття
constrict	/kən'strɪkt/	стискати, скорочувати
digitalis	/dɪdʒɪ'teɪ.lɪs/	наперстянка
excessive	/ek'ses.ɪv/	надмірний
hypnotic	/hɪp'nɒt.ɪk/	снотворний засіб
insomnia	/ɪn'sɒm.ni.ə/	безсоння
restlessness	/'rest.ləs.nəs/	стурбованість, занепокоєння
suppress	/sə'pres/	пригнічувати
unconsciousness	/ʌn'kɒn.ʃəs.nəs/	несвідомий стан

#### Exercise 2. Read and memorize the pronunciation of the following words:

Accentuate /ək'sen.tʃu.eɪt/, analeptic /,ænə'leptɪk/, anesthetic /,æn.əs'θet.ɪk/, anticoagulant /,æn.ti.kəʊ'æg.jə.lənt/ , digitalis /,dɪdʒɪ'teɪlɪs/, diuretic /,daɪ.jə'ret.ɪk/, euphoria /ju:'fɔ:ri.ə/,

excretion /ɪk'skriːʃən/, excitatory /ɪk'saɪ tə,tər i/, hypothalamus /,haɪ.pəʊ'θæl.ə.məs/, medulla /med'ʌl.ə/, nitrite /'naɪ.traɪt/, satiation /,seɪ.ʃi'eɪ.ʃən/, sufficient /sə'fɪʃ.ənt/, withdrawal /wɪð'drɔːəl/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Abuse:** drug abuse, alcohol abuse, abuse of opioids, abuse of these drugs can cause enormous amounts of damage to the individual;

**Addictive:** highly addictive, tobacco and other addictive drugs, extremely addictive, predisposition to addictive behavior, these tablets are not thought to be addictive;

**Alertness:** acute effect on alertness and mood, increased alertness, mental alertness, I think a short nap works better than coffee to restore mental alertness;

**Appreciation:** appreciation of reality, appreciation of environment, appreciation of the needs of patients, decreasing appreciation, the appreciation of the impact of comfort on health;

**Excessive:** excessive consumption, excessive population growth, excessive amount, excessive angiogenesis, both medications were well tolerated without *excessive* weight gain;

**Insomnia:** long-lasting insomnia, evaluation of insomnia, improvement of insomnia, there are some potentially unpleasant side effects, including depression and insomnia;

**Restlessness:** nighttime restlessness, feelings of restlessness, restlessness accompanied an inability to sit still, side effects can include restlessness and irritability;

**Suppress:** suppress appetite, suppress and kill the causative agents, suppress the activity microorganisms, the virus suppresses the body's immune system.

**Exercise 4. Translate the following word combinations from English:**

Increase vigilance, reduce the need for sleep, temporarily keeping one awake, adequate perception of reality, reducing outer irritability, physical and mental capacities of work, psychomotor stimulants, analeptics, and anorectics, display a stimulatory effect, excite the vasomotor and respiratory centers, center of satiation, prescription pain medicines, slow breathing, Discontinuing prolonged use, lead to withdrawal, relieve pain, produce unconsciousness, addictive and habit-forming, loss of the appreciation of pain, affect the heart, raise blood pressure, prevent the formation of clots.

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

Central Nervous System and Cardiovascular Drugs

There are different types of drugs used to treat and prevent different diseases. Central Nervous System Drugs are of two main types: those which stimulate the nerves in the brain and spinal cord, stimulants, and those which depress the nerves in the brain and spinal cord, depressants.

Substances that increase vigilance and reduce the need for sleep are considered as CNS stimulants or psychostimulants. They are drugs capable of temporarily keeping one awake, elevating mood, and maintaining adequate perception of reality, reducing outer irritability and the feeling of fatigue, and elevating the physical and mental capacities of work. CNS stimulants can be classified as psychomotor stimulants, analeptics, and anorectics. Psychomotor stimulants are compounds that display a stimulatory effect primarily on brain functions and which activate mental and physical activity of the organism. Respiratory stimulants or analeptics are compounds that cause certain activations of mental and physical activities of the organism and primarily excite the vasomotor and respiratory centers of the medulla. Drugs that suppress appetite or anorectics are drugs that activate mental and physical activities of the organism, but primarily accentuate the excitatory center of satiation in the hypothalamus.

CNS depressants include analgesics, hypnotics, sedatives and barbiturates, tranquilizers, anticonvulsants, alcohol and anesthetics. CNS depressants should not be combined with any

medication or substance that causes sleepiness, including prescription pain medicines, certain over-the-counter cold and allergy medications, or alcohol. If combined, they can slow breathing, or slow both the heart and respiration, which can be fatal. Discontinuing prolonged use of high doses of CNS depressants can lead to withdrawal.

Analgesics are used to relieve pain. They are divided into narcotic and nonnarcotic. Narcotic analgesics can suppress the central nervous system and relieve pain, but in excessive doses produce unconsciousness, stupor and possibly death. Most of narcotic analgesics are addictive and habit-forming.

Sedatives are used to quiet and relax the patient without producing sleep. Some drugs act as sedatives in small doses and in large doses as hypnotics.

Anticonvulsants are used to treat epilepsy and relieve seizures. Anesthetics produce temporary state of unconsciousness, loss of sensation and loss of the appreciation of pain.

Cardiovascular drugs may be divided into three groups: drugs that affect the heart; drugs that affect blood pressure and drugs that prevent blood clotting.

Drugs, that affect the heart, change the rate and force of the heartbeat are called cardiac glycosides. They are used to treat heart failure (when the heart is not contracting with sufficient force).

Drugs that correct an irregular heartbeat and slow a heart that is beating too fast are called anti-arrhythmics.

Vasodilators and nitrites are drugs which relax the muscles of vessels walls, dilate all involuntary muscles in the body thus increasing the size of blood vessels.

Diuretics promote excretion of fluid that reduces the volume of blood and also decreases blood pressure.

Vasoconstrictors constrict muscle fibers around blood vessels and narrow the size of the vessel opening. They raise blood pressure, increase the force of heart action, and stop local bleeding.

Drugs that prevent blood clotting are called anticoagulants. They prevent the formation of clots in the veins and arteries.

**Exercise 6. Answer the questions according to the text:**

1. What are CNS stimulants capable of?
2. How can CNS stimulants be classified?
3. What medications shouldn't CNS depressants be combined with? Why?
4. What can discontinuing prolonged use of high doses of CNS depressants lead to?
5. What do CNS depressants include?
6. What is the action of narcotic analgesics?
7. What do anesthetics produce?
8. What may cardiovascular drugs be divided into?
9. What effect do vasoconstrictors produce?
10. What effect do vasodilators and nitrites produce?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Those drugs which stimulate the nerves in the brain are depressants, and those which depress the nerves in the spinal cord are called stimulants.
2. CNS stimulants can improve your mood and make you less irritable.
3. Analeptics are drugs that suppress appetite.
4. Narcotic analgesics can suppress the central nervous system and relieve pain, but in excessive doses leads to loss of consciousness, stupor and possibly death.
5. Discontinuation syndrome may occur in individuals who have developed physiological dependence on high doses of CNS depressants.
6. Certain types of CNS depressants are used to treat epilepsy and relieve seizures.
7. Cardiac glycosides belong to CNS depressants.



8. When the heart is not contracting with sufficient force cardiac glycosides are of use.
9. Vasodilators, diuretics and nitrites decrease blood pressure.
10. Blood clotting can be prevented with anticoagulants.

**Exercise 8. Translate the word combinations into English:**

Підвищують пильність, зменшувати потребу у сні, адекватне сприйняття реальності, зменшувати зовнішню дратівливість, фізична та психічна працездатність, проявляти стимулюючу дію, збуджувати дихальний центр, центр насичення, припинення тривалого вживання, призводить до синдрому відміни, полегшення болю, втрата відчуття, звикання та формування звичок, викликати сонливість або втрату свідомості, впливати на серце, підвищувати артеріальний тиск, запобігати утворенню згустків.

**Exercise 9. Translate the sentences into English:**

1. Ці ліки будуть пригнічувати центральну нервову систему.
2. Це лікувальний засіб для регулювання і запобігання серцевим нападам.
3. Лікування серцевої недостатності – одна з найактуальніших проблем кардіології.
4. У великих дозах серцеві глікозиди зменшують збудливість міокарда.
5. Препарати, що звужують судини, необхідні, щоб підняти кров'яний тиск.
6. Наркотичні анальгетики можуть пригнічувати центральну нервову систему і полегшувати біль, але в надмірних дозах можуть спричиняти втрату свідомості, ступор і навіть смерть.
7. Сечогінні засоби сприяють збільшенню виділення сечі і зменшенню вмісту рідини в організмі.
8. Респіраторні стимулятори або аналептики - це сполуки, які збуджують вазомоторний та дихальний центри мозку.
9. Стимулятори ЦНС можна класифікувати як психомоторні стимулятори, аналептики та аноректики.
10. Препарати центральної нервової системи здатні піднімати настрій та підтримувати адекватне сприйняття реальності, знижувати зовнішню дратівливість та відчуття втоми, підвищувати фізичну та розумову працездатність.

**Exercise 10. Match the words and word-combinations with their definitions:**

1. An anesthetic	a. ... is a medication used to prevent seizures or stop an ongoing series of seizures.
2. Anorectics	b. ... are drugs that promote rapid evacuation of the intestine and noticeable alteration of stool consistency.
3. Antibiotics.	c. ...The word means "against life". They are medicines that help stop infections killing the bacteria or by keeping them from copying themselves or reproducing.
4. Vasodilators	d. ... is any agent that produces a local or general loss of sensation, including pain. They act on the brain or peripheral nervous system to suppress responses to sensory stimulation.
5. An anticonvulsant a	e. ... are general CNS stimulants; they stimulate vitally important centers (respiratory and vasomotor) of the brain.
6. Antiemetics	f. have evacuant action less pronounced than of purgatives, but large doses of a ... may produce catharsis or purgation.
7. Purgatives	g. ... are medication used to prevent and treat nausea, vomiting, vertigo, and motion sickness.
8. Laxatives	h. ... dilate or prevent constriction of the blood vessels, which allow greater blood flow to various organs in the body
9. Psychomotor stimulants	i. ... are psychotropic medications stimulate the central nervous

	system (CNS) by boosting the release of certain chemicals in the brain.
10. Analeptics	j. ... are agents that diminish or suppress the appetite for food. These drugs should not be used in a lifelong weight-control program.

**Exercise 11. Insert the prepositions where necessary:**

1. If this drug is used ... excessive doses, it can produce convulsions.
2. Alcohol is central nervous system depressant which affects ... the cerebral cortex of the brain.
3. Substances that increase vigilance and reduce the need ... sleep are considered as CNS stimulants or psychostimulants.
4. These drugs restore the heart rhythm ... depressing myocardial impulses.
5. These drugs are used ... treating blood vessel diseases.
6. This drug is easily absorbed ... the blood stream and is also easily excreted ... the body.
7. Sedatives are used to quiet and relax the patient ... necessarily producing sleep.
8. Psychomotor stimulants are compounds that display a stimulatory effect primarily ... brain functions and which activate mental and physical activity of the organism.
9. Psychostimulants are drugs capable of elevating the physical and mental capacities ... work.
10. Clinicians cannot know ... sure whether taking methylphenidate will improve the lives of children with Attention deficit hyperactivity disorder (ADHD) because of the quality of the available evidence.

**Exercise 12. Put the sentences in the proper order , so that to construct the terms “CNS stimulants”, “ CNS depressants”, “ Cardiovascular drugs” :**

- a. CNS depressants include analgesics, hypnotics, sedatives and barbiturates, tranquilizers, anticonvulsants, alcohol and anesthetics.
- b. Cardiovascular drugs may be divided into three groups: drugs that affect the heart - cardiac glycosides and anti-arrhythmics; drugs that affect blood pressure- vasodilators, nitrites, diuretics and vasoconstrictors; and drugs that prevent blood clotting-anticoagulants
- c. Psychomotor stimulants are compounds that display a stimulatory effect primarily on brain functions and which activate mental and physical activity of the organism.
- d. If CNS depressants are combined with any medication or substance that causes sleepiness, they may slow both the heart and respiration, which can be fatal.
- e. Drugs that suppress appetite are drugs that activate mental and physical activities of the organism, but primarily accentuate the excitatory center of satiation in the hypothalamus.
- f. Substances that increase vigilance are CNS stimulants, which can be classified as psychomotor stimulants, analeptics, and anorectics.
- g. Respiratory stimulants are compounds that cause certain activations of mental and physical activities of the organism and primarily excite the vasomotor and respiratory centers of the medulla.
- h. Discontinuing prolonged use of high doses of these drugs can lead to withdrawal.

**Exercise 13. a) Memorize the affixes denoting Medicine category:**

Suffix	Meaning	Example
-bital	barbiturate (sedative)	phenobarbital
-caine	local anesthetic	lidocaine
-dipine	calcium channel blocker	felodipine
-fenac	NSAID	diclofenac
-nazole	antifungal	fluconazole
-olone	corticosteroid	fluocinolone
-pramine	tricyclic antidepressant (TCA)	imipramine
-setron	antiemetic and anti-nauseant	palonosetron

-terol	beta agonist; bronchodilator	levalbuterol
-triptan	antimigraine; selective 5-HT receptor agonist	rizatriptan

**b) Match the medicines with their explanations:**

1. dolasetron	a. a steroid medication used to treat certain types of allergies, inflammatory conditions, autoimmune disorders, and cancers
2. butabarbital	b. applied to the skin it is used for fungal skin infections such as tinea, cutaneous candidiasis, pityriasis versicolor, dandruff, and seborrheic dermatitis
3. proparacaine	c. a topical anesthetic drug of the aminoester group
4. nimodipine	d. has a particularly fast onset of effects and short duration of action compared to other barbiturates, which makes it useful for certain applications such as treating severe insomnia, relieving general anxiety and relieving anxiety before surgical procedures
5. bromfenac	e. a medication used to treat migraine headaches and cluster headaches.
6. ketoconazole	f. a short-acting $\beta_2$ adrenergic receptor agonist which works by causing relaxation of airway smooth muscle.
7. prednisolone	g. a tricyclic antidepressant (TCA) which is used to treat depression.
8. trimipramine	h. a nonsteroidal anti-inflammatory drug marketed in the US as an ophthalmic solution
9. sumatriptan	i. its main effect is to reduce the activity of the vagus nerve, which is a nerve that activates the vomiting center in the medulla oblongata.
10. albuterol	j. a calcium channel blocker originally developed for the treatment of high blood pressure.

**Exercise 14. Read the sentences choosing the proper form of the words:**

1. It is reported that **acquiring/acquired/ acquisition** immunodeficiency syndrome (AIDS) has become a major problem in the Territory.
2. Early pregnancy and early motherhood can entail **complicate/ complicating/ complications** during pregnancy and childbirth.
3. The World Health Organization estimates that 80 per cent of illnesses are transmitted by **contaminated/ contaminate/contamination** water.
4. A wide range of herbs and substances are used in **development/ developed/ developing** countries to treat symptoms of AIDS.
5. A common side effect of severe liver **fail/ failure /failed** is psychosis.
6. On January 18, 1977, the causative agent was **identified/identification/identifying** as a previously unknown bacterium subsequently named Legionella.
7. Not all types of teeth pain are **indicating/ indicate/ indications** for a root canal.
8. Have you been **inoculation/ inoculate/ inoculated** against smallpox, diphtheria?
9. Although she's **recovered/ recovering/ recovery** from her illness, her rate of progress is quite slow.
10. Look out for persistent or **worsening/worsened/worsen** symptoms after 3 days of antibiotics.

**Exercise 15. Make questions to the underlined words:**

1. A simple way to get some braces pain relief is to rub an oral anesthetic directly on the sensitive teeth and gums.
2. Diuretics can also alter the body's levels of other important minerals such as magnesium.
3. The ultimate goal of antiarrhythmic drug therapy is to restore normal rhythm and conduction.
4. Cardiac glycosides are found in the leaves of the digitalis (foxglove) plant.

5. The purpose of the bite block in general anesthetic surgeries is to protect the patient during the procedure.
6. Black cumin is a natural diuretic that may be as effective as a popular prescription diuretic.
7. Generalized vasoconstriction usually results in an increase in systemic blood pressure.
8. Several anticonvulsant medications are recognized as mood stabilizers.
9. Nitrites are often used in combination with other drugs.
10. Analeptics, such as modafinil, have been suggested as potential adjunctive treatments for schizophrenia.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

Clinical and Radiological Assessment of Effects of  
Long-term Corticosteroid Therapy on Oral Health  
(abstract)

Glucocorticoids **1. first (to introduce)** in the 1940s and **2. (to become)** a widely prescribed class of drugs to treat a wide variety of medical disorders. Corticosteroids (Cs) **3. (to use)** fundamentally as replacement therapy in patients with adrenal gland insufficiency, as immunosuppressive therapy, and as anti-inflammatory treatment. In dentistry, they **4. (to use)** primarily to decrease post-operative edema, which may cause post-operative pain. Also used to manage oral inflammatory diseases like oral lichen planus, pemphigus, pemphigoid, erythema multiforme, recurrent aphthous stomatitis, and allergic reactions. Some studies **5. (to show)** steroidal use in trismus, mucocele, post-operative neuralgia, temporomandibular joint disorders, and Bells palsy. Steroids along with the broad spectrum antibiotics **6. (to use)** as a pulp capping agent due to its anti-inflammatory and anti-allergic property.

The cortex of the adrenal gland **7. (to produce)** both sex (androgens) and corticoid hormones, the former **8. (to secrete)** in small quantity, with minimum importance in physiologic conditions, the latter being divided into mineralocorticoid (aldosterone) and glucocorticoid (cortisol) steroids. The adrenal gland normally produces about 24-30 mg of cortisol each day, but may produce up to 300 mg of cortisol during times of extreme stress. Cortisol secretion **9. (to regulate)** by circadian rhythm, a stress-related response and a negative feedback mechanism between the adrenals, pituitary and hypothalamus. Glucocorticoids **10. (to have)** a 'permissive role' affecting many physiological processes.

**Exercise 17. Read the text, fill in the gaps with the words given below:**

Alcohol - a Perioperative Problem of Anaesthesia and Intensive Care Medicine  
(abstract)

The impact of chronic and acute alcoholism on ... and mortality and especially on anaesthetic risk are important, due to pharmacological **2** ... , pathophysiological changes and direct pharmacological interactivities between alcohol and narcotics. In contrast to **3** ... symptoms of alcohol withdrawal are a serious and potentially **4**... and should be avoided or the risk for occurrence must at least be reduced.

A prophylaxis of withdrawal should be started preoperatively solely with benzodiazepines **5**... clonidine. Haloperidol is the **6** ... for emerging symptoms of alcohol withdrawal with productive psychosis. To estimate the pharmacological changes during anaesthesia, it is necessary to differentiate whether the patient is an occasional drinker with acute intoxication, a chronic abuser without limitations of hepatic function or a chronic user with **7**... . The most important implication for anaesthesia are the choice of a rapid sequence induction to reduce the risk of aspiration and the **8** ... of haemodynamic stability and liver perfusion. For the acute alcoholic

providing prolonged postoperative **9** ... is necessary, for the chronic alcoholic intensive care seems to be **10** .... For regional anaesthesia the indications and limitations are the same as for other patients (cooperativeness, coagulation, consent, etc.).

*maintenance, drug of choice, mandatory, opioid withdrawal, perioperative morbidity, life-threatening complication, interactions, in combination with, insufficiency of the liver, surveillance*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. зменшувати потребу у сні та зовнішню дратівливість
2. фізична та психічна працездатність
3. рецептурні знеболювальні та безрецептурні протизастудні
4. полегшувати біль
5. призводить до синдрому відміни
6. втрата відчуття болю
7. впливати на серце та судини
8. запобігати утворення згустків
9. сприяти виведенню рідини
10. знижувати кров'яний тиск

#### II. Дайте відповідь на питання:

1. What are CNS stimulants capable of?
2. How can CNS stimulants be classified?
3. What medications shouldn't CNS depressants be combined with? Why?
4. What do CNS depressants include?
5. What is the action of narcotic analgesics?
6. What do anesthetics produce?
7. What may cardiovascular drugs be divided into?
8. What effect do vasodilators and nitrites produce?

#### III. Розкрийте поняття:

Стимулянти ЦНС, депресанти ЦНС, серцево-судинні препарати

### DENTAL SPECIALITIES Стоматологічні спеціальності

#### Exercise 1. Topic vocabulary:

appliance	/ə'plai.əns/	пристрій
apply	/ə'plai/	застосовувати
braces	/'breɪ·sɪz/	ортодонтичні скоби для зубів
denture	/'den.tʃər/	зубний протез
irregularity	/ɪ,reg.jə'lær.ə.ti/	нерівність
malformation	/,mæl.fə'mei.ʃən/	вада розвитку, вроджена вада
malocclusion	/,mæl.ə'klu:ʒən/	аномалія прикусу
misaligned	/,mis.ə'laɪnd/	нерівний
periodontics	/,per.i.əʊ'dɒn.tɪks/	пародонтологія
pertain to	/pəɪ'teɪn /	відноситись до, належати до

prosthodontics	/ˌprɒsθəˈdɒntɪks/	ортопедична стоматологія
root planing	/'pleɪnɪŋ/	полірування поверхні коренів
sample	/'sɑːm.pəl/	зразок
scaling	/skeɪlɪŋ/	видалення назубних відкладень
vice versa	/ˌvaɪs 'vɜː.sə/	навпаки

**Exercise 2. Read and memorize the pronunciation of the following words:**

Masticatory /'mæstɪkətəri , -trɪ/, extirpation /ˌek.stɜː'peɪ.ʃən/, prosthesis /'prɒs.θə.sɪs/, orthodontics /ˌɔː.θə'dɒn.tɪks/, orthodontist /ˌɔː.θə'dɒn.tɪst/, deposit /dɪ'pɒz.ɪt/, apnoea /'æp.ni.ə/, deficient /dɪ'fɪʃ.ənt/, calculus /'kæl.kjə.ləs/, regenerative /rɪ'dʒen.ə.rə.tɪv /.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Apply:** apply knowledge, apply an algorithm, apply devices, apply a closing technique, apply medicated gauze pad and wrap with a flexible bandage;

**Denture:** manufacture of dentures, a denture-cleansing solution, replaced by a denture, lead to denture misfit, many older people have dentures and may feel they do not need a dentist;

**Braces:** metal braces, ceramic braces, colored braces, clear braces, braces work by putting pressure on the teeth;

**Irregularity:** tooth irregularity, minor irregularity, major irregularity, irregularity in the shape of red blood cells, the article shows the association between tooth irregularity and plaque accumulation;

**Malformation:** malformation of the embryo, a severe malformation of the heart, congenital cardiac malformations, arterial venous malformations, associated malformations are frequent;

**Malocclusion:** correction of malocclusion, a severe malocclusion, to treat malocclusion with powerful tools, skeletal malocclusion with a prognathic jaw, Edward Angle was the first to classify malocclusion;

**Misaligned:** misaligned bite, misaligned edges, misaligned jaw, slightly misaligned, teeth are misaligned due to abnormal positioning of the teeth when the jaws close;

**Pertain to:** pertain to dentistry, pertain to blood vessels, pertain to orthodontics, the terms that pertain to the anatomical regions and specific structures, life sciences that pertain to medicine;

**Scaling:** to perform scaling, dental scaling, to recommend scaling, scaling decreases the risk for gum disease, teeth scaling is a deep dental cleaning that is often performed along with root planing.

**Exercise 4. Translate the following word combinations from English:**

Refer for further evaluation, perform root canal treatment, the presence of calculus deposits, to locate pathological pockets, range from mild to severe, scaling and root planning, the reversal of lost bone and tissue, maintenance and repair of dental implants, tooth position and jaw relationships, to apply special devices, fixed braces or removable appliances, straightening teeth, painful and misaligned bites, to pertain to planning and rehabilitation, missing or deficient teeth, biocompatible artificial substitutes, a fixed bridge, removable partial denture, full denture.

**Exercise 4. Read and translate the text:**

Dental Specialities

General practitioners of dentistry prevent, evaluate, diagnose, and treat diseases of the oral cavity and associated structures, as well as maintain the functionality and aesthetics of the teeth and associated tissues and structures. Many oral diseases and abnormalities can indicate systemic, neural, or other diseases. A general practitioner may refer patients to a physician or a specialist for further evaluation, or vice versa for treatment.

Endodontists focus exclusively on treatments of the dental pulp. Endodontists dedicate their time to diagnosing and treating tooth pain. They are specialists in finding the cause of oral and facial pain that has been difficult to diagnosis. Endodontists often perform root canal treatment which involves extirpation. Endodontic treatment can often save a tooth.

Periodontists perform periodontal examination to determine the presence of calculus deposits, to locate pathological pockets and evaluate their depth. Periodontics is the dental specialty focusing exclusively on the inflammatory disease that destroys the gums and other supporting structures around the teeth. Periodontists treat cases ranging from mild gingivitis to more severe periodontitis. These specialists offer a wide range of treatments, such as scaling and root planing, root surface debridement, and regenerative procedures (the reversal of lost bone and tissue). When necessary, periodontists can also perform surgical procedures for patients with severe gum disease. Additionally, periodontists are trained in the placement, maintenance and repair of dental implants.

Orthodontics is a specialty which has to do with the prevention and correction of the position of the teeth in the dental arch. It also deals with the condition known as *malocclusion*, which involves irregularities in tooth position and jaw relationships. Orthodontists correct this by applying special devices to the teeth such as fixed braces or removable appliances. While orthodontists are primarily known for straightening teeth, they can also assist with painful and misaligned bites, tooth movement caused by bad habits such as thumb sucking, and even some forms of sleep apnoea.

Prosthodontics is the branch of dentistry that pertains to the diagnosis, treatment planning, rehabilitation, and maintenance of oral function, comfort, appearance, and health of patients with clinical conditions associated with missing or deficient teeth, and/or maxillofacial tissues using biocompatible artificial substitutes. The restoration depends on the health of the remaining teeth. It can be a prosthesis in the form of, for example, a fixed bridge, a crown, or a removable partial denture. A full denture is constructed when all teeth are missing.

There are also other dental specialties such as oral surgery, pediatric dentistry, oral pathology, dental radiology, cosmetic dentistry.

**Exercise 6. Answer the questions according to the text:**

1. What can many oral diseases and abnormalities indicate?
2. Which dental specialists are experts in finding the cause of oral and facial pain?
3. What does root canal treatment commonly involve?
4. What does periodontics focus on?
5. What procedures can periodontists perform apart from inflammatory disease management?
6. What does orthodontics deal with?
7. What do orthodontists correct using fixed braces or removable appliances?
8. Which branch of dentistry commonly uses biocompatible artificial substitutes for conditions associated with missing or deficient teeth?
9. What are the examples of dental prostheses?
10. What dental specialties do you know?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Dental subspecialist cannot refer patients to general practitioners.
2. The only thing endodontists deal with is treatments of the dental pulp.
3. Extirpation is usually performed by general practitioners of dentistry.
4. In certain cases, periodontists can carry out surgical procedures for patients with severe gum disease.
5. A malocclusion is an incorrect relation between the teeth of the two dental arches when they approach each other as the jaws close.
6. Orthodontics is a specialty which primarily has to do with treating tooth pain.
7. A prosthesis can be in the form of a bridge, a crown, a denture, scaling or root planing.

8. Orthodontists cannot correct patients' bite without specific appliances.
9. Prosthodontic restoration is a standard procedure which remains unchangeable for all patients.
10. Cosmetic dentistry is a branch of cosmetology.

**Exercise 8. Translate the word combinations into English:**

Виконувати терапію кореневих каналів, наявність відкладень зубного каменя, виявлення патологічних порожнин, бути в діапазоні від легкого до важкого, полірування поверхні коренів та видалення назубних відкладень, обслуговування та відновлення зубних імплантатів, положення зуба та співвідношення щелеп, застосовувати спеціальні пристрої, фіксовані брекети або знімні прилади, випрямлення зубів, болісний та нерівний прикус, що стосуються планування та реабілітації, відсутні або в неповній кількості зуби, біологічно сумісні штучні замітники, фіксований міст, зйомний частковий протез, повний протез.

**Exercise 9. Translate the sentences into English:**

1. Багато захворювань ротової порожнини та патології можуть свідчити про системні, неврологічні чи інші захворювання.
2. Ендодонти не пломбують чи чистять зуби - вони приділяють свій час діагностиці та лікуванню болю в зубах.
3. Пародонтологи проводять пародонтологічне обстеження, щоб визначити наявність відкладень зубного каменя, патологічних порожнин та оцінити їх глибину.
4. Пародонтологи лікують випадки, починаючи від легкого гінгівіту до більш важкого періодонтиту.
5. Періодонтологи проходять навчання з для роботи з зубними імплантами.
6. Хоча ортоданти в основному відомі випрямленням зубів, вони можуть допомогти при неправильному рості зубів, спричиненому шкідливими звичками, такими як смоктання великого пальця.
7. Повний протез ставиться тоді, коли всі зуби відсутні.
8. Існують такі стоматологічні спеціальності, такі як оральна хірургія, дитяча стоматологія, стоматологічна рентгенологія, косметична стоматологія.
9. Ортопедична стоматологія спрямована на відновлення цілісності раніше втраченого зубного ряду або його частини, а також відновлення окремого зуба чи групи зубів.
10. Завдання ортодонтії полягає у лікуванні неправильного прикусу та патологій зубних рядів.

**Exercise 10. Match the terms to their explanations:**

1. Braces	a. ... is a common and mild form of gum disease that causes irritation, redness and swelling of gingiva.
2. Dental debridement	b. involves removing the pulp from inside the tooth as part of the root canal procedure.
3. Extirpation	c. ... abnormal occlusion in which teeth are not in a normal position in relation to adjacent teeth in the same jaw and/or the opposing teeth when the jaws are closed.
4. Gingivitis	d. ... inflammation of the tissue around the teeth, often causing shrinkage of the gums and loosening of the teeth.
5. Malocclusion	e. ..., also known orthodontic cases, are devices used in orthodontics that align and straighten teeth and help position them with regard to a person's bite, while also aiming to improve dental health.
6. Periodontitis	f. ... removing infection from inside a tooth including removing nerves from the pulp of a tooth.
7. Root canal	g. ... is a procedure that includes therapeutic interventions such as



treatment	scaling to remove calculus and all soft deposits, root planing to eliminate subgingival calculus.
8. Sleep apnoea	h. ... is a potentially serious <i>sleep</i> disorder in which breathing repeatedly stops and starts.

**Exercise 11. Insert the prepositions where necessary:**

Conscious sedation

Conscious sedation is a technique **1...** which the use of a drug or drugs produces a state of depression of the central nervous system (CNS) enabling treatment to be carried **2...** , but during which verbal contact **3 ...** the patient is maintained **4 ...** the period of sedation.

The challenges in dental conscious sedation are: shared airway **5...** the dentist and the anesthesiologist; phobia and anxiety; coexisting medical conditions such as cardiac anomalies, mental instability, and epilepsy; chances of arrhythmias **6 ...** surgery **7...** trigeminal nerve stimulation; enlarged tonsils and adenoids **8 ...** children likely to precipitate respiratory obstruction; risk of patient losing consciousness; respiratory and cardiovascular depression; vasovagal syncope due to the dependent position of legs **9 ...** dental chair.

Conscious sedation is a technique meant for dealing **10 ...** dental phobia and should not be considered an alternative... effective local anesthesia or good behavioral management. Route of administration and the drug should be selected **12 ...** an individual patient basis. Importance of adequately trained staff **13 ...** an area adequately equipped **14 ...** monitoring tools **15 ...** importance of detailed pre-sedation assessment cannot be overemphasized. When practicing sedation in a dental setting, awareness of limitations is necessary.

**Exercise 12. Put the sentences in the proper order to construct the terms “Endodontics”, “Periodontics”, “Orthodontics”:**

- a. Orthodontics is a specialty which has to do with the prevention and correction of the position of the teeth in the dental arch such as malocclusion.
- b. Endodontists focus exclusively on diagnosing and treating tooth pain originating in the dental pulp.
- c. Periodontics is the dental specialty focusing on the inflammatory disease that destroys the gums and other supporting structures around the teeth.
- d. These specialists perform a wide range of treatments, such as scaling and root planing, root surface debridement, and regenerative procedures.
- e. In addition to straightening teeth, these specialists also assist with painful and misaligned bites, tooth movement caused by bad habits such as thumb sucking, and even some forms of sleep apnoea.
- f. These dentists correct irregularities by applying special devices to the teeth such as fixed braces or removable appliances.
- g. They are specialists in finding the cause of oral and facial pain that has been difficult to diagnosis.
- h. Specialists in this sphere treat cases ranging from mild gingivitis to more severe periodontitis.
- i. When necessary, periodontists can also perform surgical procedures for patients with severe gum disease.
- j. Endodontists often perform root canal treatment which involves extirpation.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Prefix	Meaning	Example
dent(i,o)-	the teeth	dentalgia
odont(o)-	a tooth	odontography
ost(e, eo)-	bone	ostectomy
oss -	bone	osseointegration

**a) Read the definition and fill in the blanks with the words given in brackets:**

1. Toothache-....
2. The study of the teeth - ....
3. The branch of dentistry concerned with the growth and development of the face and jaws and the treatment of irregularities of the teeth - ....
4. Pain in the bone - ... .
5. Death of the bone - ....
6. Plastic surgery of the bone - ... .
7. The study of the structure and function of bones and related structures -....
8. The formation of bone - ....
9. Bony-... .
10. The arrangement of the teeth in the mouth - ... .

*Dentition, odontalgia, orthodontics, odontology, osteology, osteoplasty, ostalgia, osteonecrosis, osseous, ossification.*

**Exercise 14. Find the inappropriate words in the enumerated lines and replace these words with their antonyms in order the text to make sense:**

1	9
3	10
4	13
6	13
8	15

**Root canal is a more convenient and healthy choice**

1Root canal therapy is virtually painful due to modern techniques and anesthesia. According to  
 2the American Association of Endodontists, patients choosing root canal treatment are six times  
 3more likely to describe it as painless as compared to patients who refuse from tooth extraction!  
 4In root canal therapy, an endodontist removes the inflamed or infected pulp outside the tooth,  
 5cleans out the root canal, and fills and seals it. Finally, the tooth is restored with a crown or  
 6filling, after which it will look and function as a perfectly faulty tooth!  
 7Compared to tooth extraction, which generally causes more pain and involves more follow-up  
 8visits, root canal therapy is complicated and time-saving. Endodontic treatment has a high rate  
 of 9 failure, with results that last a lifetime. With minimum time and discomfort, your tooth can  
 be 10saved. And no bridge, denture, or even implant will feel exactly like your artificial tooth.  
 11After root canal treatment, the tooth and the area around it may feel sensitive for a few days. If  
 12the infection spreads, your dentist may prescribe antibiotics. At your follow-up visit, your  
 13endodontist will insert the temporary filling and replace it with a crown or temporary filling to  
 14protect the tooth from future damage. If for some reason the tooth continues to hurt or the pain  
 15disappears, tell your dentist. A retreatment procedure is an effective solution to save the tooth if  
 16it contracts infection again.

**Exercise 15. Make questions to the underlined words:**

1. CNS depressants should not be combined with prescription pain medicines.
2. Nonsurgical periodontal therapy procedures generally require intermediate duration anesthetics.
3. Periodontists can also perform surgical procedures for patients with severe gum disease.
4. Mild vasodilative effect of some local anesthetics used in dentistry results in an increased rate of anesthetic absorption into the bloodstream.

5. Malocclusion is the most common condition orthodontics have to do with.
6. 95% of paresthesia cases occur in the mandible.
7. Antiplatelet medications have the potential for bleeding associated with particular dental procedures.
8. Orthodontists are primarily known for straightening teeth.
9. A relative contraindication describes a circumstance when the drug may be used carefully after thoughtful consideration of risk vs. benefit.
10. Braces work by putting pressure on the teeth.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

Orthodontic Treatment in Patient with Idiopathic Root Resorption: case report  
(abstract)

A 17-year-old female patient whose chief complaint was the presence of diastemas in the maxillary anterior region, an esthetic and psychological concern that she **1. (to describe)** inhibited and limited her interaction with other people, presented for treatment. She was also concerned about the potential risk of losing some of her teeth due to general root resorption which previously **2. (to diagnose)** by another orthodontist who **3. (to refuse)** to treat her due to the potential risks involved in trying to close the spaces. The patient **4. (to present)** a straight profile, good health condition and oral hygiene, normal breathing pattern and atypical swallowing pattern . Intraoral examination **5. (to reveal)** Class I malocclusion, 2-mm overjet and 5% overbite, coinciding dental midlines, moderate spacing in both arches and upper and lower labialized and protruded incisors . Radiographic analysis revealed the presence of all teeth which **6. (to exhibit)** altered crown-root proportion, with thinned and short roots, sclerosis of root canals and complete root resorption of maxillary permanent left lateral incisor. Tooth buds of maxillary and mandibular left third molars at Nolla Stage 6 development **7. (to observe)**, as well as the presence of mandibular second primary molar with congenital absence of mandibular left second premolar and mandibular right third molar. The patient **8. (to present)** Class I skeletal pattern with bimaxillary prognathism and macrognathism, proclination of maxillary and mandibular incisors and acute nasolabial angle . There was no previous history of orthodontic treatment, all teeth presented normal response to electrical and heat pulp tests and were negative upon percussion and palpation. Sporadic painful symptomatology of posterior segments **9. (to report)** during mastication. All teeth presented normal physiological mobility, except for maxillary left permanent lateral incisor that had grade II mobility. Anatomy and color of crowns were normal. Periodontal examination **10. (to indicate)** normal probing depths between 2 and 3 mm without bleeding.

**Завдання для самоконтролю**

**I. Перекладіть словосполучення:**

1. наявність відкладень зубного каменя
2. виявляти патологічні порожнини
3. кишень полірування поверхні коренів
4. видалення назубних відкладень,
5. співвідношення щелеп
6. брекети або знімні прилади
7. фіксований міст
8. частковий протез та повний протез
9. болісний та нерівний прикус
10. стосуватися планування та реабілітації

**II. Дайте відповідь на питання:**

1. Which dental specialists are experts in finding the cause of oral and facial pain?
2. What does root canal treatment commonly involve?
3. What does periodontics focus on?
4. What does orthodontics deal with?
5. Which branch of dentistry commonly uses biocompatible artificial substitutes for conditions associated with missing or deficient teeth?

6. What are the examples of dental prostheses?

**III. Розкрийте поняття:** Пародонтологія, ортопедична стоматологія, ендодонтія, ортодонтія

**DENTAL INSTRUMENTS**  
**Стоматологічні інструменти**

**Exercise 1. Topic vocabulary:**

bite block	/blɒk/	прикусний валик
bur	/bɜːr/	стоматологічний бор
debris	/'deb.riː/, /'dei.briː/	фрагменти, залишки
explorer	/ɪk'splɔːrər/	стоматологічний зонд
faucet	/'fɔːsɪt/	водопровідний кран
handpiece	/'hænd.piːs/	наконечник для бормашини
hook	/hʊk/	гачок
machine-driven	/'drɪv.ən/	керований машиною
mouth prop	/prɒp/	підпора для рота
reamer	/'riː.mər/	розширювач кореневого каналу
restore	/'rɪ.stɔːr/	відновлювати
retraction	/'rɪ.træk.ʃən/	відведення назад
scrape away	/skreɪp/	вискоблювати
sedate	/sɪ'deɪt/	заспокоювати
sickle probe	/'sɪk.əl/	серповидний зонд
spit-sink	/'spɪt , sɪŋk /	раковина для спльовування
suction	/'sʌkʃən/	всмоктування
tartar	/'tɑː.tər/	зубний камінь
wedge-shaped	/wedʒ.ʃeɪpt /	клиновидний

**Exercise 2. Memorize the pronunciation of the following words:**

Standard /'stæn.dəd/, variety /və'raɪ.ə.ti/, forceps /'fɔːseps/, reamers /'riː.mər/, orthodontics /,ɔː.θə'dɒn.tɪks/, prosthodontics /,prɒsθə'dɒntɪks/, tactile /'tæk.taɪl/, plaque /plɑːk/ /plæk/, caries /'keəriːz/, source /sɔːs/, length /leŋθ/, ultrasonic /,ʌl.trə'sɒn.ɪk/, restorative /rɪ'stɔr.ə.tɪv/, debridement /di'briːd.mənt/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Debris:** organic debris, old food debris, a considerable amount of debris, debris removal, dead granulosa cell debris;

**Hook:** sharp-looking hook, hook-like fixtures, hooked instrument, to resemble a hook, some parasitic worms have hooks around the mouth;

**Plaque:** atherosclerotic plaques, yellowish-white plaque, to remove dental plaque, dental plaque is a biofilm or mass of bacteria;

**Retraction:** soft tissue retraction, retraction of the eye into the socket, congenital retraction syndrome, physical retraction of the tissues, this article presents methods for gingival retraction;

**Restore:** restore growth, weakened enamel cannot be restored, restore the original structure, restore missing parts of the tooth, surgeons restored the sight in her right eye;

**Sedate:** sedate irritable patients, sedated with a mixture CNS depressants, prescribe sedating medications, the patient remains awake, although sedated, and able to follow instructions;

**Sickle:** sickle-cell anaemia, sickle scaler, sickle-shaped, sickle probe is commonly used in the dental practice;

**Source:** source of infection, a good source of vitamin C, the source of the problem, multiple sources, a single source, experts tracked down the source of contamination;

**Tartar:** a toothpaste that removes tartar, tartar build-up, to harden into tartar, scrape away tartar, a build-up of tartar and bacteria in the mouth can result in sore gums;

**Wedge-shaped:** wedge-shaped tool, wedge-shaped blade, a wedge-shaped defect in the tooth, wedge - shaped grooves, the CT data show the posterior margin of the premaxilla extending as a wedge-shaped.

#### **Exercise 4. Translate the following word combinations from English:**

Provide dental treatment, forceps, elevators, reamers, instruments unique to the dental specialties, wide range of uses, retraction of soft tissues, scraping away tartar and plaque, use the sharp tip to investigate, wedge-shaped rubber-like device, coated with diamond particles, receive artificial crown, source of mechanical or pneumatic power, small faucet and a spit-sink, ultrasonic cleaning appliance, fit around the cervical portion of the tooth, to grip the furcation area, performing root canal treatment, complete chemomechanical debridement.

#### **Exercise 8. Translate the word combinations into English:**

Щипці, елеватори та розширювачі, широкий спектр застосування, відведення м'яких тканин, відбивати світло на потрібну поверхню, вискоблювання зубного каменю та нальоту, використовувати гострий наконечник для дослідження, клиновидний гумоподібний пристрій, вироблений з нержавіючої сталі, з алмазним напилюванням, стиснуте повітря, джерело механічної або пневматичної енергії, маленький кран і раковина, ультразвуковий пристрій для чищення, прилягати навколо шийки зуба, захоплювати область фуркації, проводити терапію кореневих каналів, повна хіміомеханічна чистка.

#### **Exercise 4. Read and translate the text:**

##### Dental Instruments

Dental instruments are the tools that dental professionals use to provide dental treatment. They include tools to examine, manipulate, restore and remove teeth and surrounding oral structures. Standard instruments are the instruments used to examine, restore and extract teeth and manipulate tissues.

There is a variety of hand or machine-driven cutting instruments for soft and calcified tissues, forceps, elevators, reamers, wire pliers, pluggers, carvers, explorers, and other instruments unique to the dental specialties (oral surgery, endodontics, orthodontics, periodontics, prosthodontics, and restorative dentistry).

A mouth mirror (dentist's mirror) has a wide range of uses. Three of its most important functions are allowing indirect vision by the dentist, reflecting light onto the desired surfaces, and retraction of soft tissues.

A dental explorer (sickle probe) is an instrument commonly used in the dental practice. This instrument has a long handle with a sharp-looking hook on the end. A sharp point at the end of the explorer is used to check up tactile sensation. This instrument is primarily used to explore the pockets between teeth, while also scraping away tartar and plaque. If a patient has a visible cavity, the dentist may also use the sharp tip to investigate.

Saliva ejector is a suction device used when a dentist is exploring the mouth and needs a dry surface. It is a long tube attached to a vacuum that removes saliva from the mouth. During treatments that involve the use of water, patients may be regularly instructed to close their mouth in order to help the device clear the accumulated water.

A mouth prop ("bite block") is a wedge-shaped rubber-like device used in dentistry for dentists working with children and other patients who have difficulty keeping their mouths open wide and steady during a procedure or during procedures where the patient is sedated.

During the process of dental anesthetization, different anesthetic agents are used to block the inferior alveolar nerves sensory transmission to the central nervous system. A dental syringe is a syringe used by dentists for the injection of an anesthetic. It consists of a breech-loading syringe fitted with a sealed cartridge containing anesthetic solution.

A dental drill is a rotary instrument used to remove tooth substance, particularly in the treatment of caries. It consists of a dental handpiece that takes variously shaped burs. A bur may be made of hardened steel, stainless steel, or be coated with diamond particles. Burs are mainly used for cutting cavities in teeth, removing old restorations, and preparing teeth to receive artificial crowns.

A dental engine is a large chair-side appliance found in a dentist's office. It serves as a source of mechanical or pneumatic power for one or more handpieces. It also includes a small faucet and a spit-sink, one or more suction hoses, a compressed air/irrigation water nozzle, and possibly an ultrasonic cleaning appliance, as well as a small table to hold the instrument tray, and a worklight and/or a computer monitor.

Extraction forceps are used along with elevators to extract teeth. Each extraction forcep is designed for a particular area of the mouth. The beaks are designed to fit around the cervical portion of the tooth. Pointed beaks are designed to grip the furcation area.

Endodontic files and reamers are surgical instruments used by dentists when performing root canal treatment. These tools are used to clean and shape the root canal, with the concept being to perform complete chemomechanical debridement of the root canal to the length of the apical foramen. Preparing the canal in this way facilitates the chemical disinfection to a satisfactory length but also provides a shape conducive to obturation (filling of the canal).

**Exercise 6. Answer the questions according to the text:**

1. What are standard instruments used for?
2. What are the specific instruments unique to the dental specialties?
3. What are the functions of a mouth mirror?
4. What is a sickle probe primarily used for?
5. What category of patients usually need a mouth prop?
6. What device is used to inject anesthetic agents during the process of dental anesthetization?
7. What may a dental bur be made of?
8. What does dental engine serve as?
9. Are all types of extraction forceps similar?
10. What are the surgical instruments used by dentists when performing root canal treatment?

**Exercise 7. Read the sentences and decide if they contain true or false information:**

1. There are instruments used exclusively in a certain branch of dentistry.
2. A mouth mirror (dentist's mirror) has a wide range of uses.
3. A mouth prop has a long handle with a sharp-looking hook on the end.
4. Bite block may be used by a dentists while working both with children and adults.
5. Sometimes dental specialists have to block the inferior alveolar nerves sensory transmission to the central nervous system.
6. A dental drill is commonly used in the treatment of caries.
7. A dental engine doesn't always consist of a fixed set of units.
8. Each extraction forcep is designed for a particular area of the mouth.
9. Performing root canal treatment requires files and reamers.
10. A dental engine always has one suction hose.

**Exercise 8. Translate the word combinations into English:**

Щипці, елеватори та розширювачі, широкий спектр застосування, відведення м'яких тканин, відбивати світло на потрібну поверхню, вискоблювання зубного каменю та нальоту, використовувати гострий наконечник для дослідження, клиновидний гумоподібний пристрій, вироблений з нержавіючої сталі, з алмазним напилюванням, стиснуте повітря, джерело механічної або пневматичної енергії, маленький кран і раковина, ультразвуковий пристрій для чищення, прилягати навколо шийки зуба, захоплювати область фуркації, проводити терапію кореневих каналів, повна хіміомеханічна чистка.

**Exercise 9. Translate the sentences into English:**

1. Стандартні інструменти - це інструменти, які використовуються для обстеження, відновлення та видалення зубів та маніпулювання тканинами.
2. Існують інструменти, унікальні для стоматологічних спеціальностей
3. Відведення м'яких тканин є однією з функцій стоматологічного дзеркала.
4. Гостра точка в кінці стоматологічного зонда використовується для перевірки тактильних відчуттів.
5. Слиновідсмоктувач - це пристрій, який використовується, коли стоматолог досліджує рот і потребує сухої поверхні.
6. Стоматологічний шприц - це шприц, який стоматологи використовують для введення анестетика.
7. Стоматологічна дріль - це ротаційний інструмент, що складається з наконечника для бормашини для різних борів.
8. Стоматологічний двигун служить джерелом механічної або пневматичної потужності для одного або декількох наконечників.
9. Ці інструменти використовуються для повного хіміомеханічного очищення кореневого каналу до апікальних отворів.
10. Кожен вид щипців розроблений для певної ділянки рота.

**Exercise 10. Match the terms to their explanations:**

1. Dental drill	a. ... are seated onto the tooth so that the tips of the beaks grasp the root underneath the loosened soft tissue.
2. Endodontic files	b. ... is a small, usually round, portable device with a handle. It allows the practitioner to examine the interior of the mouth.
3. Root canal reamer	c. ... are used to help keep a patient's mouth and jaw open wide enough during a clinical procedure. These small devices are designed to provide enough strength to prevent the patient from closing down, but a soft enough surface to provide patient comfort.
4. Dental bite blocks	d. are used for root canal procedures. They vary in in cross-section from square to triangular and rhomboidal etc.
5. Dental explorer	e. ... is equipped with a pointed hook at the end of its slim handle.
6. A dental engine.	f. ... is a hand-held, mechanical instrument used to perform a variety of common dental procedures, including removing decay, polishing fillings, performing cosmetic dentistry, and altering prostheses.
7. Extraction forceps	g. ... Some use this term to describe the motor that powers the drill, while others say the term also defines a combination of all the electric, pneumatic, and other tools.
8. A mouth mirror	h. ... is manufactured by twisting a tapered square or triangular shaft. While rotating the instrument's edges scrape the canal walls as it is advanced to the working length. The ... must be in contact with the walls of the canal in order to be effective, but it must not bind or it may break.

**Exercise 11. Insert prepositions. Translate the sentences:**

1. A dentist's mirror reflects light ... the desired surfaces, and retraction of soft tissues.

2. A dental syringe is a syringe used ... dentists ... the injection ... an anesthetic.
4. A bur may be made ... hardened steel, stainless steel, or be coated ... diamond particles.
5. A sharp point ... the end ... the dental explorer is used to check up tactile sensation.
6. Treatment options for this patient were limited ... her dental characteristics and malocclusion. affect
7. ... treatment onset, the patient was informed ... the characteristics of the progressive pulp pathology condition she had and the limitations, risks and objectives of treatment. collaboration
8. Antibiotic prophylaxis in conjunction ... implant placement reduced the risk ... implant loss by 2%.
9. A significant proportion of the population only seek ... dental care when they suffer an acute episode.
10. The guidance aims ... ensure patients receive appropriate advice about subsequent care and/or referral to appropriate treatment providers, if applicable.

**Exercise 12. Put the sentences in the proper order , so that to construct the terms “Mouth mirror”, “Dental drill”, “Extraction forceps”:**

- a. A bur may be made of hardened steel, stainless steel, or be coated with diamond particles .
- b. It allows the practitioner to examine the interior of the mouth.
- c. Each of them is designed for a particular area of the mouth.
- d. It is usually used to remove decay and shape tooth structure prior to the insertion of a filling.
- e. Three of its most important functions are allowing indirect vision by the dentist, reflecting light onto the desired surfaces, and retraction of soft tissues.
- f. Its other functions include cutting cavities in teeth, removing old restorations and preparing teeth to receive artificial crowns.
- g. The beaks are designed to fit around the cervical portion of the tooth or grip the furcation area.
- h. A mouth mirror is a hand-held, portable mechanical instrument that has a wide range of uses.
- i. A dental drill is a high-speed rotary instrument consisting of a dental handpiece that takes variously shaped burs.
- j. Extraction forceps are used along with elevators to extract teeth.

**Exercise 13. a) Memorize the meaning of the following term-element:**

Suffix	Meaning	Example
-emia	blood condition	leukemia
-osis	condition or disease	osteoporosis
-penia	deficiency	osteopenia
-pathy	disease	sociopathy
-rrhag(e/ia)	burst forth, rapid flow (of blood, usually)	hemorrhage
-ectasia, -ectasis	expansion, dilation	bronchiectasis
-geusia	alteration of taste	dysgeusia

**b) Match the conditions with their explanations:**

1. anemia	a. describing disease affecting the peripheral nerves
2. leukopenia	b. the loss of taste functions of the tongue
3. telangiectasia	c. a menstrual period with excessively heavy flow
4. talcipenia	d. a decrease in the total amount of red blood cells or hemoglobin in the blood, or a lowered ability of the blood to carry oxygen.
5. psychosis	e. any damage to the retina of the eyes, which may cause vision impairment.
6. retinopathy	f. is an abnormal condition of the mind that results in difficulties determining what is real and what is not real.



7. menorrhagia	g. a decrease in the number of white blood cells in the blood
8. neuropathy	h. is the condition of having an insufficient amount of calcium in the body.
9. kaliopenia	i. small dilated blood vessels that can occur near the surface of the skin or mucous membranes, measuring between 0.5 and 1 millimeter in diameter.
10. ageusia	j. condition is characterized by having insufficient concentrations of potassium in the body

**Exercise 14. Form the nouns and verbs from the following adjectives and translate them:**

VERB	NOUN	ADJECTIVE
		advanced
		accidental
		anesthetic
		attached
		different
		driven
		electric
		rotary
		sealed
		wide

**Exercise 15. Make questions to the underlined words:**

1. Most cleft palates seem to be caused by environmental factors.
2. Medical and dental interprofessional collaboration is crucial in general and family medicine.
3. An impacted tooth remains stuck in gum tissue or bone for various reasons.
4. Urgent dental care focuses on the management of conditions that require immediate attention to relieve severe pain.
5. He underwent surgery to have his gall bladder removed.
6. Screening for relevant infections may be undertaken at the medical examination
7. When you hit the age of 50, your teeth naturally weaken.
8. Trauma is a common dental emergency that often leads to tooth loss.
9. The reamer must be in contact with the walls of the canal.
10. Deeper sedation or general anesthesia under ketamine or fentanyl may be required in certain dental cases.

**Exercise 16. Open the brackets, using the verbs either in Present Perfect or Past Simple forms:**

1. Dentists (to use) this type of filling for many years, especially on back teeth.
2. Recent studies (to show) that successful treatment of periodontitis improves endothelial function.
3. No large-scale studies (to test) whether treating or preventing periodontal infections leads to fewer clinical cardiovascular events.
4. It (to take) about five days from the time patients were infected until symptoms (to appear), and about eight days before they (to disappear).
5. The benefits of topical fluorides (to be) firmly established, regardless of whether the water supply is fluoridated.

6. Anaerobic conditions, particularly in immunocompromised patients with type I diabetes or who have been on long-term steroids, may encourage the development of gangrene, which may or may not be gas forming.
7. Currently, there (to be) many changes in understanding of the multifaceted nature of caries process and its management.
8. The patient (to exhibit) severe hepatitis, which gradually improved.
9. There (to be) a general trend in clinical practice that caries lesion management focuses primarily on operative treatment rather than using preventive noninvasive strategies.
10. The dental surgeon (to perform) a dental extraction procedure on a sedated patient.

**Exercise 17. Read the text, fill in the gaps translating the words in Ukrainian.**

Pathways to Providers of Care – Decision Support

(abstract)

Pain in the mouth or jaw is most commonly related to the teeth. However, myocardial infarction may **1. проявлятися** with pain in the jaw on rare occasions. Patients **2. які страждають** toothache often self-medicate and might have exceeded the recommended dose of **3. аналгетиків**. Therefore, at the outset it is important to consider these possibilities **to 4. визначити** whether the patient might **5. потребувати** emergency care.

Many patients present **with 6. набряком та біллю**. Therefore this pathway links to the pain pathway and includes the steps to determine whether a patient with pain might require emergency medical care.

Bleeding **7. що слідує за** an extraction is fairly **8. розповсюджений**. Other causes of bleeding are less common but need to be considered because, rarely, **9. невідкладна медична допомога** might be required.

This pathway applies to patients who have suffered trauma to the mouth or who otherwise have teeth that are **10. сколоті, тріснуті або зламані**.

Patients who present with **11. ушкодженням** caused by trauma need to be **12. оцінені** for the possibility of more serious injury or ускладнення complications first. In all cases of trauma, health care providers need to have a high level of **13. підозри** for non-accidental injury (NAI). There is a need to differentiate between NAI and accidental injury, **14. беручи до уваги** the behaviour of the patient and, if the patient is a child, also the behaviour of the parent/carer. Consider appropriate local **15. напрямлення** if NAI is suspected.

**Завдання для самоконтролю**

**I. Перекладіть словосполучення:**

1. широкий спектр застосування
2. відведення м'яких тканин
3. відбивати світло на поверхню
4. вискоблювання зубного каменю та нальоту
5. вироблений з нержавіючої сталі
6. з алмазним напилюванням
7. джерело енергії
8. пульпоекстрактори та розширювачі кореневого каналу

**II. Дайте відповідь на питання:**

1. What are standard instruments used for?
2. What is a sickle probe primarily used for?
3. What category of patients usually need a mouth prop?
4. What may a dental bur be made of?
5. What does dental engine serve as?

6. What are surgical instruments used by dentists when performing root canal treatment?

**III. Розкрийте поняття:**

Стоматологічне дзеркало, зубний дріль, щипці для видалення

**MAXILLOFACIAL SURGERY**

**Щелепно-лицьова хірургія**

**Exercise 1. Topic vocabulary:**

affect	/ə'fekt/	впливати
alleviate	/ə'li:.vi.eit/	полегшити
alter	/'ɒl.tər/	змінити
anxiety	/æŋ'zai.ə.ti/	тривожність
cleft lip	/'kleft 'lɪp/	незрощена губа
collaboration	/kə'læb.ə'rei.ʃən/	співпраця
congenital	/kən'dʒen.i.təl/	вроджений
in conjunction with	/kən'dʒʌŋk.ʃən/	в поєднанні з
deformity	/di'fɔ:.mə.ti/	деформація
fail to	/feɪl/	бути неспроможним
impacted tooth	/ɪm'pækt.tið/	ретинований зуб
issue	/'ɪʃ.u:/ /'ɪs.ju:/	проблема
lack	/læk/	нестача, відсутність
range	/reɪndʒ/	діапазон, коло
seek	/si:k/	потребувати
sufficient	/sə'fɪʃ.ənt/	достатній
undergo	/'ʌn.də'gəʊ/	пройти через
undertake	/'ʌn.də'teɪk/	здійснювати

**Exercise 2. Read and memorize the pronunciation of the following words:**

Asymmetry /eɪ'sɪm.ə.tri/, completion /kəm'pli:ʃ(ə)n/, cyst /sɪst/, facial /'feɪ.ʃəl/, intervention /,ɪn.tə'ven.ʃən/, maxillofacial /,mæksɪ.ləʊ'feɪ.ʃəl/, misalignment /,mɪs.ə'laim.mənt/, multidisciplinary /,mʌl.tɪ.dɪs.ə'plɪn.ər.i/, preprosthetic /pri:prɒs'tet.ɪk/, refer /rɪ'fɜ:r/, blow /bləʊ/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Affect:** affect growth and development, affect certain region, affect specific species, a mother's health can affect the baby, it's a disease that affects mainly older people;

**Alter:** alter the position, alter hearing, altered sense of smell, altered behavior, drugs can alter your perception of reality;

**Sufficient:** sufficient space, sufficient blood flow, sufficient amount, sufficient evidence, provide sufficient conditions for stability;

**Fail to:** fail to restore, fail to absorb, fail in the attempt, he is in failing health and seldom goes outside any more.

**Lack:** severe lack of resources, to lack members of staff, hospitals are being forced to close departments because of lack of money;

**Range:** range of options, a range of subjects, broad range of disorders, young people in the 18–25 age range, range between 50 and 250, the clinic provides a full range of medical services;

**Seek:** seek treatment, seek advice, seek medical care for further evaluation, seek an independent medical examination, if symptoms persist, seek medical attention;

**Undergo:** undergo an operation on a tumour, undergo reconstructive surgery, undergo heart bypass surgery, athletes must undergo a mandatory drugs test before competing in the championship.

**Exercise 4. Translate the following word combinations from English:**

Broad range of disorders, affecting the facial complex and skeleton, impacted teeth and dental implants, congenital facial disproportion, more complex dental and medical issues, part of multidisciplinary teams, undertake under general anaesthesia, removal of impacted teeth, seek corrective surgery, treatment modalities, obstructive sleep apnoea, blow to the jaw or an awkward jaw movement, alter the position of the jaw joint disc, tooth grinding, finger nail chewing, anxiety and depression, fail to alleviate pain, due to the lack of growth, cleft lip and alveolus.

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

Oral and maxillofacial surgery

Oral and Maxillofacial Surgeons are specialists in the diagnosis and treatment of a broad range of disorders affecting the facial complex and skeleton. These specialists deal with a range of common oral surgical problems (e.g. impacted teeth, dental implants), jaw and congenital facial disproportion, facial trauma, oral cancer, salivary gland disease, temporomandibular joint disorders, and various benign pathologies (e.g. cysts and tumours of the jaws). Maxillofacial surgeons are oral surgeons, but they have undergone additional training to address more complex dental and medical issues.

Patients are referred to an Oral and Maxillofacial Surgeon by both general and dental specialist and medical practitioners. In many instances, Oral and Maxillofacial Surgeons work in collaboration with other specialists such as orthodontists, ear nose and throat surgeons, plastic and reconstructive surgeons and oncologists as part of multidisciplinary teams to optimize the treatment of major conditions and diseases of the mouth, faces and jaws. Some of the types of oral and maxillofacial surgery are Dento-alveolar surgery, Orthognathic surgery, Temporomandibular joint surgery, Craniofacial Surgery, A Cleft Lip Surgery, Facial Aesthetic (Cosmetic) Surgery etc.

Dento-alveolar surgery involves that part of the jaws (the alveolus) that contains or has contained teeth. This surgery is either undertaken under general anaesthesia or under local anaesthesia, with or without sedation. Dento-alveolar surgery may include the following: Surgical Removal of (Erupted) Teeth, Removal of Impacted Teeth, Exposure of Impacted Teeth (surgery to assist Orthodontic Treatment), Management of Jaw Cysts, Preprosthetic Surgery, Tooth Transplantation.

Individuals with jaw and facial disproportion may seek corrective surgery (also called Orthognathic surgery). Facial asymmetry, jaw and tooth misalignment, difficulties with chewing and speech are indications for treatment.

Orthognathic surgery is also used in the management of congenital craniofacial syndromes, such as cleft lip and palate and is also one of the treatment modalities for obstructive sleep apnoea. Orthognathic surgery is generally conducted in conjunction with orthodontic treatment (braces) to optimally correct the bite and to provide good facial balance. Usually, treatment is undertaken in the teenage years and early adult life when facial growth is complete or nearing completion. However, corrective jaw surgery can be offered to adults of all ages. The surgery is performed under general anaesthesia and almost always through the mouth and only rarely are incisions made on the face.

Temporomandibular joint (TMJ) is a complex structure and its nerve fibres are very sensitive, and shared by other nerve fibres of the head and neck (referred pain). Jaw joint problems have many different causes. For example, a blow to the jaw or an awkward jaw movement may be

enough to alter the position of the jaw joint disc. Tooth grinding or habits such as finger nail chewing, may cause TMD, and prolong recovery. There is good evidence that psychological problems such as stress, anxiety and depression may also make jaw joint problems worse. The jaw joint can also be affected by different forms of arthritis. Most of the time, conservative treatment is sufficient, by identifying what might be causing the problem. When conservative treatment fails to alleviate pain, a surgical intervention may become necessary.

The treatment of a cleft lip and/or a cleft palate will depend on the areas involved and the severity of the child's condition. Often the cleft condition results in a malocclusion due to the lack of growth of the upper jaw that will require orthodontic treatment (braces) and may require jaw surgery (orthognathic surgery) to correct the position of the jaws. If there is a cleft lip and alveolus there is often an associated nasal deformity and this may require rhinoplasty.

**Exercise 6. Answer the questions according to the text:**

1. What do Oral and Maxillofacial Surgeons deal with ?
2. What is the difference between maxillofacial surgeons and oral surgeons?
3. What are some of the types of oral and maxillofacial surgery?
4. What are indications for treatment using Orthognathic surgery?
5. How is corrective jaw surgery commonly performed?
6. What can alter the position of the jaw joint disc leading to TMJ disorder?
7. When may surgical intervention in the Temporomandibular joint disorder treatment become necessary?
8. What psychological problems may worsen jaw joint problems?
9. Which types of dental specialists perform cleft lip correction?
10. What kind of deformity requires rhinoplasty?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Work of Oral and Maxillofacial Surgeons is not limited to facial complex disorders.
2. Maxillofacial surgeons are oral surgeons.
3. Oral surgeons are Maxillofacial surgeons.
4. In case of TMJ pain may refer to head and neck.
5. TMJ disorders are affected exclusively by physiological conditions.
6. Surgery is the first line option in the TMD treatment.
7. Seemingly harmless human habits may contribute to TMD development.
8. There are more than one form of arthritis that can affect TMJ.
9. Various medical specialists may refer a patient to an Oral and Maxillofacial Surgeon.
10. Corrective jaw surgery is effective only if performed in early childhood.

**Exercise 8. Translate the word combinations into English**

Широке коло розладів, ретиновані зуби, вроджена диспропорція обличчя, більш складні стоматологічні та медичні проблеми, частина багатопрофільних команд, проводиться під загальним наркозом, потребувати коригуючої операції, обструктивне апное сну, удар в щелепу або незручний рух щелепи, змінити положення диска щелепного суглоба, бруксизм, тривожність і депресія, бути неспроможним полегшити біль, через нестачу росту, розщеплення губ і альвеол.

**Exercise 9. Translate the sentences into English:**

1. Оральні та щелепно-лицьові хірурги працюють у співпраці з іншими фахівцями.
2. Пацієнтів направляють до орального та щелепно-лицьового хірурга як спеціалістами загальної, так і стоматологічної та медичної практики
3. Деякі з видів оральної та щелепно-лицьової хірургії - це денто-альвеолярна хірургія, ортогнатична хірургія, скронево-нижньощелепна хірургія суглобів, черепно-лицьова хірургія, хірургічна операція на губах, естетична (косметична) хірургія тощо.

4. Денто-альвеолярна хірургія включає ту частину щелеп (альвеолу), яка містить або містила зуби.
5. Асиметрія обличчя, нерівність щелепи та зубів, труднощі з жуванням та мовленням є показаннями до лікування.
6. Операція проводиться під загальним наркозом і майже завжди через рот і лише рідко роблять розрізи на обличчі.
7. Удару щелепи або незручного руху щелепи може бути достатньо для зміни положення диска щелепного суглоба.
8. Є вагомні докази того, що такі психологічні проблеми, як стрес, тривога та депресія, можуть погіршити проблеми щелепних суглобів
9. Оральні та щелепно-лицьові хірурги вирішують цілий ряд поширених хірургічних проблем : вроджена диспропорція обличчя, травма обличчя, рак ротової порожнини, захворювання слинних залоз, розлади скронево-нижньощелепного суглоба та різні доброякісні патології.
10. Часто стан незрощеної губи призводить до неправильного прикусу через відсутність росту верхньої щелепи, що потребує ортодонтичного та ортогнатичного лікування для корекції положення щелеп.

**Exercise 10. Match the terms to their explanations:**

1. Bruxism	a. ... is a feeling of unease, such as worry or fear, that can be mild or severe.
2. Impaction	b. ... is usually caused by overcrowding. Typically occurs in the third molars.
3. Anxiety	c. ... or teeth grinding is often related to <u>stress or anxiety</u> . Most people who grind their teeth and clench their jaw are not aware they're doing it. It often happens during sleep, or while concentrating or under stress.
4. Arthritis	d. ... is an operation to correct the shape, size of the nose, its full recovery (for example, after injuries).
5. Ankylosis	e. ... is a non-inflammatory joint disease characterized by degeneration of the articular cartilage, hypertrophy of bone at the margins, and changes in the synovial membrane.
6. Rhinoplasty	f. ... is the swelling and tenderness of joints. The main symptoms are joint pain and stiffness, which typically worsen with age.
7. Osteoarthritis	g. ... is a common mental health problem that involves a low mood and a loss of interest in activities
8. Depression	h. sleep disorder in which pauses in breathing or periods of shallow breathing during sleep occur more often than normal.
9. Stress	i. ... is a feeling of emotional or physical tension. It can come from any event or thought that makes you feel frustrated, angry, or nervous.
10. Apnoea	j. ... is a stiffness of a joint due to abnormal adhesion and rigidity of the bones of the joint, which may be the result of injury or disease.

**Exercise 11. Insert the prepositions where necessary:**

1. Individuals with jaw and facial disproportion may seek ... corrective surgery
2. The use of computer-aided design technology has grown ... the last 30 years ... the development of data acquisition technologies and computing technology.
3. New recommendations ... antibiotic prophylaxis for patients who have structural heart disorders are available.
4. Orthognathic surgery is also used ... the management of congenital craniofacial syndromes, such as cleft lip and palate and is also one of the treatment modalities ... obstructive sleep apnoea.

5. A blow ... the jaw or an awkward jaw movement may be enough to alter the position of the jaw joint disc.
6. Often the cleft condition results ... a malocclusion ... the lack of growth of the upper jaw that will require orthodontic treatment and may require jaw surgery to correct the position of the jaws.
7. It has been shown that resistance ... fracture of ceramic restorations is not influenced only by the mechanical properties of the used material but also by the design of the preparations and the proper thickness of the restoration
8. Topical fluorides used ... addition to toothpaste for dental caries allow high-risk patients to achieve a modest additional reduction ... caries compared with toothpaste alone.

**Exercise 12. Put the sentences in the proper order , so that to construct the terms “Orthognathic surgery”, “Dento-alveolar surgery” and “Temporomandibular joint disorder” :**

- a. Orthognathic surgery, also known as corrective jaw surgery, deals with facial asymmetry, jaw and tooth misalignment, difficulties with chewing and speech.
- b. Dento-alveolar surgery involves that part of the jaws that contains or has contained teeth.
- c. For example, a blow to the jaw or an awkward jaw movement may to alter the position of the jaw joint disc, tooth grinding or chewing, may cause TMD.
- d. There is good evidence that psychological problems such as stress, anxiety and depression may also make jaw joint problems worse.
- e. Usually, treatment is undertaken in the teenage years and early adult life when facial growth is complete or nearing completion.
- f. The surgery is performed under general anaesthesia and almost always through the mouth and only rarely are incisions made on the face.
- g. The jaw joint can also be affected by different forms of arthritis.
- h. Most of the time, conservative treatment is sufficient, but when it fails to alleviate pain, a surgical intervention may become necessary.
- i. This type of surgery may include the following: Surgical Removal of (Erupted) Teeth, Removal of Impacted Teeth, Exposure of Impacted Teeth (surgery to assist Orthodontic Treatment), Management of Jaw Cysts, Preprosthetic Surgery, Tooth Transplantation.
- j. Temporomandibular joint problems have many different causes.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Suffix	Meaning	Example
-stomy	creation of an opening into or a communication between	gastrostomy
-plasty	molding or shaping of a defect to restore form and function to a body part	chondroplasty
-ectomy	excision; surgical removal	hysterectomy
-scopy	an action or activity involving the use of in instrument for viewing	laryngoscopy
-centesis	aspiration or surgical puncture of a membrane or body cavity, usually for diagnostic purposes	thoracocentesis
-graphy	meaning the process of recording a picture or a record	angiography
-pexy	to fix or secure	gastropexy

**b) Match the procedures with their explanations:**

1. nephrostomy	a. the anchoring of a mobile <u>cecum</u>
2. cystoscopy	b. is the process of recording a picture by radiograph or an x-ray
3. abdominocentesis	c. drainage of the renal pelvis through the kidney substance
4. omentopexy	d. is surgical puncture of the abdominal cavity
5. radiography	e. direct visual examination of the interior of urinary bladder through

	a cystoscope
6. sialography	f. is a surgical procedure whereby the greater omentum is sutured to a nearby organ
7. ossiculoplasty	g. (also termed radiosialography) is the radiographic examination of the salivary glands
8. embolectomy	h. is the emergency surgical removal of emboli which are blocking blood circulation
9 splenopexy	i. is the reconstruction of the middle ear ossicular chain
10. caecopexy	j. he process of surgically fixing an ectopic or floating spleen

**Exercise 14. Read the text choosing appropriate parts of speech.**

A **21. dental/ dentistry** prosthesis is an intraoral prosthesis used to **2. restoration/restore/ restorative** intraoral defects such as missing teeth, missing parts of teeth, and missing soft or hard structures of the jaw and palate. Prosthodontics is the dental specialty that focuses on dental prostheses. Such prostheses are used to rehabilitate **3. masticated/mastication/ masticatory**, improve aesthetics, and aid speech. A dental prosthesis may be held in place by connecting to teeth or dental implants, by suction, or by being held passively by surrounding muscles. Like other types of prostheses, they can either be fixed **4. permanently/permanent/permanence** or removable; fixed prosthodontics and removable dentures are made in many **5. vary/variations/ variable**. Permanently fixed dental prostheses use dental **6. adhesive/adhesion/ adhered** or screws, to attach to teeth or dental implants.

The **7. removable/removal/remove** prosthesis is a dental restoration treatment that allows it to be removed from the mouth at will. Its purpose is to replace one or more dental pieces that have had to be removed.

They fulfil a very important aesthetic function, but the **8. adjust/adjustment/adjusting** they provide is never the same as that of a **9. natural/ nature/ naturalize** denture, so chewing usually feels different from what used to be with the authentic piece.

This option is **10. choice/chosen/choose** by people who do not wish to undergo the surgery that an implant would represent.

**Exercise 15. Make questions to the underlined words:**

1. Medical consequences include metabolic complications.
2. Over 700 bacterial species may be found in the oral cavity of humans.
3. Only two diseases, smallpox and rinderpest, have been eradicated.
4. A complete loss of the sense of taste is called ageusia.
5. The treatment of a cleft lip will depend on the areas involved and the severity of the child's condition.
6. Gum recession exposes the roots of teeth to decay and infection.
7. Depending on the stage of the disease, treatment ranges from simple cleaning, and home care to complex periodontal surgery.
8. This surgery is always performed under local anaesthesia without sedation.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

1. During the shaping, instrument separation ( **to occur** ) at the apical third of the palatal canal which was removed with ultrasonics.
2. After cleaning, the canals ( **to obturate** ) with resin sealer and laterally condensed gutta-percha



3. Assuming that the medication you're trying (**to reduce**) your symptoms with few or no side effects, your doctor carefully and gradually (**to titrate**) the dose upwards to adequate levels.
4. In recent years, cone-beam computed tomography (CBCT) (**to become**) widely used in dentistry, especially for understanding root anatomy, as has been discussed in numerous publications.
5. A total of 1,359 scans (**to select**) from patients who required imaging for orthodontic, surgical, endodontic, or implant treatment between.
6. The antidepressants are ineffective and she gradually (**to move**) towards depression.
7. When your doctor titrates a dose, he or she (**to make**) adjustments to how much medicine you're taking.
8. Once your doctor provides you with an initial prescription, you (**to go through**) a process of determining whether or not your dosage should be increased or decreased.
9. If you think that a medication you (**to take**) is causing the problem, don't stop taking it before talking to your doctor.
10. After tooth extraction, it is abnormal if bleeding (**to continue**) without clot formation, or (to last) beyond 8 to 12 hours.

**Exercise 17. Read the text, fill in the gaps with the words given below:**

The three most common temporomandibular 1. ... are myofascial pain and dysfunction, internal derangement and osteoarthritis. Myofascial pain and dysfunction is by far the most prevalent. It is primarily a muscle disorder resulting from oral parafunctional 2. ... such as clenching or 3. ... that is sometimes related to psychogenic disorders such as headache, fibromyalgia, chronic back pain and irritable bowel syndrome with stress, 4. ... and depression being the key features. Internal derangement is used to describe a temporomandibular disorder where there is an abnormal position of the articular 5. ... resulting in mechanical interference (i.e., clicking) and restriction of the normal 6. ... of mandibular activity (i.e., limited mouth opening) or even hypermobility that may result in jaw 7. ... . Osteoarthritis is a localised degenerative disorder mainly 8. ... the articular cartilage of the mandibular 9. ... of the temporomandibular 10. ... and is often seen in older individuals but can uncommonly present in younger patients.

*disorders, bruxism, disc, anxiety, habits, condyle, joint, dislocation, range, affecting*

**Завдання для самоконтролю**

**I. Перекладіть словосполучення:**

1. широке коло розладів
2. більш складні стоматологічні та медичні проблеми
3. проводитися під загальним наркозом,
4. удар в щелепу або незручний рух щелепи
5. бути неспроможним полегшити біль
6. потребувати ортодонтичного лікування
7. лікування вроджених черепно-лицьових синдромів
8. хірургічне втручання
9. розщеплення губи і апное сну
10. бруксизм

**II. Дайте відповідь на питання:**

1. What do Oral and Maxillofacial Surgeons deal with ?

2. What is the difference between maxillofacial surgeons and oral surgeons?
3. What are some of the types of oral and maxillofacial surgery?
4. How is corrective jaw surgery commonly performed?
5. What can alter the position of the jaw joint disc leading to TMJ disorder?
6. When may surgical intervention in the Temporomandibular joint disorder treatment become necessary?

### III. Розкрийте поняття:

Денто-альвеолярна хірургія, ортогнатична хірургія, порушення скронево-нижньощелепного суглоба

## DENTAL CARIES

### Карієс

#### Exercise 1. Topic vocabulary:

acetic acid	/əˈsiː.tɪk ˈæs.ɪd/	оцтова кислота
arrest	/əˈrest/	припиняти
comprehensive	/ˌkɒm.priˈhen.sɪv/	всеохоплюючий
consequence	/ˈkɒn.sɪ.kwəns/	наслідок
drop	/drɒp/	падіння
eradicate	/ɪˈræd.ɪ.keɪt/	викорінити
extent	/ɪkˈstent/	міра
formic acid	/ˌfɔː.mɪk ˈæs.ɪd/	мурашина кислота
foul	/faʊl/	неприємний
loss	/lɒs/	втрата
recede	/rɪˈsiːd/	спадати, знижуватися
species	/ˈspiː.ʃiːz/	вид
spot	/spɒt/	пляма
sticky	/ˈstɪk.i/	липкий
varnish	/ˈvɑː.nɪʃ/	лак

#### Exercise 2. Read and memorize the pronunciation of the following words:

Pathogen /ˈpæθ.ə.dʒən/, xerostomia /ˈzɪrɒstəʊmiə/, prophylactic /ˌprɒf.ɪˈlæk.tɪk/, enamel /ɪˈnæm.əl/, abscesses /ˈæb.ses/, chalky /ˈtʃɔː.ki/, streptococcus /ˌstrept.təˈkɒk.əs/, fluoride /ˈflɔː.rɑɪd/, aesthetics /esˈθet.ɪks/, prophylactic /ˌprɒf.ɪˈlæk.tɪk/.

#### Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:

**Arrest:** cardiac arrest, epiphyseal arrest, maturation arrest, circulatory arrest, the treatment has so far done little to arrest the spread of the cancer;

**Consequence:** negative consequence, possible consequence, prevent long-lasting consequences, to avoid consequences, the consequences of a broken hip can be serious;

**Eradicate:** efforts to eradicate tsetse populations, controlling and eradicating parasitic diseases, eradication of smallpox and polio, the disease that once claimed millions of lives has now been eradicated;

**Extent:** the full extent, to a certain extent, to some extent, extent of the damage, we don't yet know the extent of his injuries, disease-related productivity losses;

**Loss:** hearing loss, loss of appetite, heat losses, complete loss He suffered a gradual loss of memory;

**Recede:** a slightly receding chin, receding jaw, receding hairline, Receding Gums, the virus is receding;

**Species:** rare species, plant and animal species, pathogenic species of bacteria, a few specific species, species of opportunistic pathogen, each species carries unique genetic material in its DNA;

**Spot:** tiny spots, visible spots, spots of discoloured skin, white spots on fingernails, these dark or black spots on lips are typically harmless.

**Exercise 4. Translate the following word combinations from English:**

If left untreated, tooth loss, develops over time, advanced stages, carious lesion, appearance of a chalky white spot, sticky, creamy-colored, mass, a wide variety of bacteria, fermentable carbohydrates, lactic, formic, and acetic acid, drop in the pH, consequence of hyposalivation or xerostomia, available from preventative aids, allow the gingiva to recede, arrest or remineralize early caries lesions, eradicate overt caries lesions, restore teeth function and aesthetics.

**Exercise 4. Read and translate the text:**

Dental Caries

Dental caries, also known as tooth decay, is a disease where bacterial processes damage hard tooth structure (enamel, dentin and cementum). If left untreated, the disease can lead to pain, tooth loss, infection. Today, caries remains one of the most common diseases throughout the world.

Dental caries develops over time. Early stages are often without symptoms, but advanced stages of dental caries may lead to pain, infections and abscesses, or even sepsis. Severe dental caries can impair quality of life, including difficulties in eating and sleeping, and in its advanced stages (abscesses), it may result in pain and chronic systemic infection.

The earliest sign of a new carious lesion is the appearance of a chalky white spot on the surface of the tooth. As the lesion continues to demineralize, it can turn brown and will eventually turn into a cavitation.

Once the decay passes through enamel, the dentinal tubules, which have passages to the nerve of the tooth, become exposed, resulting in pain that can be transient, temporarily worsening with exposure to heat, cold, or sweet foods and drinks. Dental caries can also cause bad breath and foul tastes.

Bacteria collect around the teeth and gums in a sticky, creamy-colored mass called plaque. It contains a wide variety of bacteria, but only a few specific species are believed to cause dental caries. *Streptococcus mutans* is naturally present in the human oral microbiota, along with at least 25 other species of oral streptococci, but *Streptococcus mutans* is the main microbial pathogen in the etiology of caries. Fermentable carbohydrates provide a substrate for *Streptococcus m.*, and production of organic acids, including lactic, formic, and acetic acid. This produces a drop in the pH next to the tooth, resulting in its demineralization. Saliva is the main defense against *S. mutans*. Saliva has washing effects to clear microflora, capacity to minimize the presence of organic acids, antimicrobial proteins to inhibit microorganisms, and enzymes to begin digestion. All of these salivary roles are protective against caries, and the most common consequence of hyposalivation or xerostomia is dental caries.

Although the process of demineralization is dynamic, suitable minerals are available from preventative aids such as fluoride toothpaste, dental varnish or mouthwash. The advance of caries may be arrested at this stage.

Tobacco use is a significant risk factor for periodontal disease, which can allow the gingiva to recede thus increasing the risk for caries formation.

Caries management means any and all efforts to prevent, arrest, remineralize, or restore caries lesions. A caries management protocol is a comprehensive organized plan designed to arrest or

remineralize early caries lesions, eradicate overt caries lesions, and prevent the formation of new lesions in an individual who has a moderate or high rate of caries activity or is at increased risk for developing new caries lesions in the future.

Depending on the extent of tooth destruction, various treatments can be used to restore teeth to proper form, function, and aesthetics. There is no known method to regenerate large amounts of tooth structure. Instead, dental health organizations advocate preventive and prophylactic measures.

**Exercise 6. Answer the questions according to the text:**

1. What do bacterial processes damage in caries?
2. What may advanced stages of dental caries lead to?
3. What is the earliest sign of a new carious lesion?
4. What can temporarily worsen pain at the site of carious lesion?
5. What is plaque?
6. What pathogenic species of bacteria causes dental caries?
7. What is teeth demineralization caused by?
8. What are the functions of saliva in the oral cavity?
9. What can minerals be available from?
10. What is a caries management protocol aimed at?

**Exercise 7. Read the sentences and decide if they contain true or false information:**

1. Tooth decay refers to the damage of the soft structure of the tooth.
2. Early stages of caries are easy to overlook.
3. Both white and brown spots on the surface of the tooth indicate the early stage of caries.
4. Among all other bacteria *Streptococcus mutans* is prevalent in plaque.
5. Development of caries is in close connection with alterations in salivary secretion.
6. *Streptococcus mutans* doesn't necessarily produce caries.
7. The combination of plaque and acid leads to dental decay.
8. Dry mouth is an essential contributor to caries development.
9. According to a caries management protocol dental caries should be eradicated after it has reached its advanced stage.
10. The drop in the pH next to the tooth leads to its demineralization.

**Exercise 8. Translate the word combinations into English:**

Якщо не лікувати, втрата зуба, запущені стадії, каріозне ураження, поява крейджаної білої плями, ферментовані вуглеводи, молочна та оцтова кислота, зниження рН, наслідок гіпосалівації або ксеростомії, здатність мінімізувати наявність органічних кислот, доступний за допомогою профілактичних засобів, ясна, які опускаються, призупиняти або ремінералізувати каріозні ураження, відновлювати функціонування зубів та естетику.

**Exercise 9. Translate the sentences into English:**

1. Кислоти, що утворюються при бродінні вуглеводів, спричинюють руйнування поверхні емалі.
2. Після кожного прийому їжі, що містить цукор, мікроорганізми починають виробляти кислоти, що руйнують емаль.
3. Використання стоматологічного дзеркала і зонда дозволяє виявити та діагностувати каріозні порожнини.
4. Вживання тютюну є важливим фактором ризику виникнення пародонтозу, який може провокувати опущення гінгиви, тим самим збільшити ризик утворення карієсу.
5. Протокол лікування карієса - це всебічний організований план, призначений для усунення явних карієсних ушкоджень та запобігання утворенню нових уражень.

6. Найпершою ознакою нового каріозного ураження є поява крейдіяно-білої плями на поверхні зуба.
7. Лікування поверхневого і глибокого карієсу проводиться за допомогою пломбування каріозних порожнин.
8. Належна гігієна ротової порожнини, регулярні обстеження у стоматолога та обмежене споживання вуглеводів може попередити розвиток карієсу.
9. Прогресування карієсу можна зупинити на етапі демінералізації.
10. Стоматологічні організації охорони здоров'я виступають за профілактичні та попереджувальні заходи.

**Exercise 10. Match the terms to their explanations:**

1. Cavitation	a ... is the removal of minerals (mainly calcium) from any of the hard tissues: enamel, dentine, and cementum.
2. Fermentable carbohydrates	b. ... are considered the main group of early colonizers of the oral cavity . Their initial attachment determines the composition of later colonizers in the oral biofilm and impacts the health or disease status of the host.
3. <u>Hyposalivation</u>	c. ... is a facultatively anaerobic, gram-positive coccus (round bacterium) commonly found in the human oral cavity and is a significant contributor to tooth decay.
4. Streptococcus mutans	d. ... is the natural repair process for non-cavitated tooth lesions, in which calcium, phosphate and sometimes fluoride ions are deposited into crystal voids in demineralised enamel.
5. Demineralization	e. ... a lesion appearing in a tooth as a hole with dead or dying tissue from infection.
6. Remineralization	f. ... are included the obvious sugary foods, such as cookies, cakes, soft drinks and candy, but they also included in less obvious food, such as bread, crackers, bananas and breakfast cereals.
7. Acetic acid	g. ... reduced salivary flow rate which can be caused by etiologic factors such as systemic diseases and intake of various medications or by radiotherapy following head and neck cancer.
8. Oral streptococci	h. ... systematically named ethanoic acid is a colourless liquid organic compound with the chemical formula CH <sub>3</sub> COOH (also written as CH <sub>3</sub> CO <sub>2</sub> H, C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> , or HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ).

**Exercise 11. Insert the prepositions where necessary:**

1. Dental caries develops ... time.
2. ... the decay passes through enamel, the dentinal tubules, which have passages to the nerve of the tooth, become exposed, resulting in pain that can be transient, temporarily worsening with exposure ... heat, cold, or sweet foods and drinks.
3. Intermittent fever is a type or pattern of fever in which there is an interval where temperature is elevated ... several hours followed ... an interval when temperature drops back to normal.
4. Bacteria collect ... the teeth and gums in a sticky, creamy-colored mass called plaque.
5. Streptococcus mutans is naturally present in the human oral microbiota, ... with at least 25 other species of oral streptococci
6. Abdominal tenderness is a type of pain that someone experiences when they apply pressure ... their abdomen.
7. Inadequate antimicrobial treatment is an important factor ... the emergence of infections due to antibiotic-resistant bacteria.

8. Cellulitis specifically affects ... the dermis and subcutaneous fat.
9. Although the process of demineralization is dynamic, suitable minerals are available ... preventative aids such as fluoride toothpaste, dental varnish or mouthwash.
10. A persistent cough or a chronic cough is a common symptom ... many possible causes.

**Exercise 12. Put the sentences in the proper order to construct the terms “Caries” and “Xerostomia” :**

- a. Early stages are often without symptoms, but advanced stages of dental caries may lead to pain, infections and abscesses, or even sepsis.
- b. Dental caries is a disease where bacterial processes damage hard tooth structure
- c. This pathological condition may impair speech, chewing, and swallowing, cause pain and ulceration, and predispose to infection as well as rapidly progressing caries.
- d. Xerostomia is defined as dry mouth resulting from reduced or absent saliva flow.
- e. Streptococcus mutans is the main microbial pathogen in the etiology of caries.
- f. The earliest sign of a new carious lesion is the appearance of a chalky white spot on the surface of the tooth.
- g. Caries management means any and all efforts to prevent, arrest, remineralize, or restore caries lesions.
- h. It can be caused by etiologic factors such as systemic diseases and intake of various medications or by radiotherapy following head and neck cancer.

**Exercise 13. a) Memorize the meaning of the following term-elements:**

Prefix	Meaning	Example
infra-	below	infraorbital
inter-	between	intercellular
intra-	within	intraoral
perio-	involving the supporting structures	periodontal

**b) Match the adjectives with their explanations:**

1. periosteum	a. located or occurring within the nose, or taken through the nose
2. infrasonic	b. relating to or denoting sound waves with a frequency below the lower limit of human audibility
3. infrastructure	c. the basic physical and organizational structures and facilities
4. internuclear	d. the fibrous membrane of connective tissue covering the surface of cartilage except at the endings of joints
5. intraocular	e. dense layer of vascular connective tissue enveloping the bones except at the surfaces of the joints
6. intranasal	f. situated between nuclei
7. intrapsychic	g. existing or taking place within the mind or psyche
8. perichondrium	h. implanted in, occurring in, or administered by entering the eyeball

**Exercise 14. Find both the synonyms and antonyms for the following adjectives:**

persistent, gradual, common, distant, resistant, full, advanced, exposed, significant, severe

*chronic, susceptible, adjacent, complete, noticeable, mild, partial, widespread, minor, intermittent, sharp, heavy, primary, coated, durable, remote, rare, progressive, progressive, unprotected*

**Exercise 15. Make questions to the underlined words:**

1. Patients with dry mouth can develop cracks and fissures in the oral mucosa.
2. Being proactive and catching a cavity early is the best way to stop the decay from worsening.

3. More than 500 medicines are thought to cause a dry mouth
4. Periodontal pocketing almost always occurs around teeth, where faulty crown margins meet the gingival tissue.
5. The advance of caries may be arrested at the stage of demineralization.
6. This type of necrotic tissue is firmly adherent to base and edges.
7. Trismus can occur as a result of trauma to the jaw.
8. Several factors can affect the extent of tooth decay.
9. Arrested caries usually don't require surgical treatment, unless they pose a problem for tooth function.
10. Another reason why wisdom teeth might develop cavities is that it can be more difficult to clean them.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

Tooth Decay is the Most Prevalent Disease

The real disease burden of dental caries is the amount of unmet needs or untreated decay. In recent years, there **1 (to be)** a shift in the peak prevalence of untreated tooth decay from children to adults, possibly attributable to socioecologic factors. Despite the decline in dental caries, disparities **2. ( to persist)** among different racial, ethnic, educational, and income groups; it remains a modern curse for large segments of the population.

What makes some people more susceptible to tooth decay? Contrary to popular belief, it **3. (not to cause)** by childbirth or low dietary intake of calcium. Tooth decay typically **4. (to start)** on the chewing surfaces or proximal contacts of teeth.

At the early stage of tooth decay, when the decay **5. (to confine)** to the enamel, the tooth is asymptomatic, and the damage is reversible. When the decay **6. (to extend)** into the dentin, restorations are a consideration. The further the decay extends toward the pulp, the greater the risk of tooth sensitivity and pain.

At the earlier stage of decay, a tooth **7. (may treat)** with restorations, which are typically made of dental amalgam, resin (composite), glass ionomer, porcelain, or gold. When the bacteria **8. (to invade)** the pulp, a dental restoration will not treat the pain and infection. Root canal therapy **9. ( to need)** to remove the infected tissues in the pulp chamber and root canals. Further, if the tooth too **10. (to compromise)** with extensive destruction from the decay or if there are financial or other barriers to root canal therapy, extraction is likely the only option.

**Exercise 17. Read the text, fill in the gaps with the words given below:**

Diagnosis and Evaluation of Xerostomia

Diagnosis of xerostomia may be based on **1. ...** obtained from the patient's history, an examination of the oral cavity and/or sialometry. Xerostomia should be **2. ...** if the patient complains of dry mouth, particularly at night, or of difficulty eating **3. ...** such as crackers. When the mouth is examined, a **4. ...** may stick to the buccal mucosa.

The oral mucosa may be dry and sticky, or it may appear **5. ...** due to an overgrowth of *Candida albicans*. The red patches often affect the hard or soft palate and dorsal surface of the tongue. Occasionally, **6. ...** will be present, appearing as removable white plaques on any mucosal surface. The saliva may appear stringy, ropy or **7. ...**. Dental caries may be found at the cervical **8. ...** or neck of the teeth, the incisal margins or the tips of the teeth.

Several office tests and techniques can be **9. ...** to ascertain the function of salivary glands. In **10. ...**, collection devices are placed over the parotid gland or the submandibular/ sublingual gland duct orifices, and saliva is stimulated with **11. ...**. Values less than 0.1 mL/min are typically considered xerostomic, although reduced flow may not always be associated with complaints of dryness.

12. ... is an imaging technique that may be useful in identifying salivary gland stones and masses. Salivary scintigraphy can be useful in 13. ... salivary gland function. Minor salivary gland 14. ... is often used in the diagnosis of Sjögren's syndrome, human immunodeficiency virus-salivary gland disease, sarcoidosis, amyloidosis and graft-vs.-host disease. Biopsy of major salivary glands is an 15. ... when malignancy is suspected.

*pseudomembranous candidiasis, considered, assessing, evidence, foamy, dry foods, margin, tongue, depressor, utilized, citric acid, option, sialometry, sialography, biopsy*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

каріозне ураження  
 поява крейдянної білої плями  
 ферментовані вуглеводи  
 молочна та оцтова кислота  
 маса кремового кольору  
 головний патоген в етіології каресу  
 призупиняти каріозні ураження  
 відновлювати естетику  
 найчастіший наслідок  
 мінімізувати наявність органічних кислот

#### II. Дайте відповідь на питання:

1. What may advanced stages of dental caries lead to?
2. What is the earliest sign of a new carious lesion?
3. What is plaque?
4. What pathogenic species of bacteria causes dental caries?
5. What is teeth demineralization caused by?
6. What is a caries management protocol aimed at?

#### III. Розкрийте поняття:

Ксеростомія, карієс

## GINGIVITIS AND PULPITIS

### Гінгівіт та пульпіт

#### Exercise 1. Topic vocabulary:

adjacent	/ə' dʒeɪ.sənt/	прилеглий, суміжний
byproduct	/'baɪ.prəd.əkt, -əkt/	супутній продукт
cellulitis	/,sɛljʊ'laɪtɪs/	запалення підшкірної клітковини
elicit	/'i'lɪs.ɪt/	викликати
faulty	/'fɔl.ti/	дефектний
firmly	/'fɜ:m.li/	міцно
flossing	/'flɒs.ɪŋ/	чищення зубною ниткою
fracture	/'fræk.tʃər/	скол
inadequate	/'ɪ.næd.ɪ.kwət/	недостатній
intermittent	/,ɪn.tə'mɪt.ənt/	переривчастий
irreversible	/,ɪr.ɪ'vɜ:..sə.bəl/	незворотній



persistent	/pə'sɪs.tənt/	стійкий
resolve	/rɪ'zɒlv/	проходити
rinse	/rɪns/	полоскати
tenderness	/'ten.dənəs/	болючість
trismus	/'trɪzməs/	тризм

**Exercise 2. Read and memorize the pronunciation of the following words:**

Erythema /,er.ɪ'thi:mə/, halitosis /,hæ.lɪ'təʊ.sɪs/, chlorhexidine /klɒ:'hɛksɪdɪ:n/, encroach /ɪn'kroʊtʃ/, ischemia /ɪ'ski:mi.ə/, periapical /,per.ɪ'eɪ.pɪ.kəl /, adjacent /ə'dʒeɪ.sənt/, eventually /ɪ'ven.tʃu.ə.li/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Byproduct:** an important byproduct, natural byproducts, useful byproducts, a byproduct of proteins, the deep depression he fell into was a byproduct of his disease;

**Inadequate:** totally inadequate, size was inadequate, inadequate treatment, inadequate equipment, his knowledge of anatomy was quite inadequate;

**Faulty:** faulty vision, faulty pacemaker, faulty data, faulty assumption, faulty record-keeping meant that many patients did not get appropriate treatment;

**Fracture:** multiple fractures, fracture to the nasal bone, slight fracture, open fracture, she was diagnosed with a closed fracture of the left tibia;

**Intermittent:** intermittent complaints of cephalgia, intermittent bouts of illness, intermittent diarrhea, intermittent lameness, Acute Intermittent Porphyria has very specific triggers;

**Irreversible:** irreversible loss, irreversible processes, irreversible impact on society, paralysis was irreversible, Smoking has caused irreversible damage to his lungs;

**Tenderness:** marked sensitivity and tenderness, joint tenderness, knee tenderness, cause local irritation or tenderness, persistent tremor in the right hand, The disease causes pain and tenderness in the muscles;

**Persistent:** persistent difficulties, persistent activity, persistent excitation condition, Symptoms of the illness include a high temperature and a persistent dry cough.

**Exercise 4. Translate the following word combinations from English:**

Inadequate brushing and flossing, accumulate in faulty fillings, poorly cleaned orthodontic appliances, irreversible bone or other tissue damage, contain essential oils, bacterial byproducts, pathogens enter the pulp, through a tooth fracture, mild intermittent pain, elicit by thermal changes, a rapid buildup of pressure, other option besides a root canal, treatment of choice, tenderness on tapping the affected tooth, drain the pus, spread to the adjacent teeth, facial swelling and trismus.

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

Gingivitis and Pulpitis

Gingivitis is characterized by localized inflammation of the gums without a loss of the bone that supports the teeth. Inadequate brushing and flossing is by far the most common cause of

gingivitis. Without adequate brushing, plaque remains along the gum line of the teeth. Plaque also accumulates in faulty fillings and around the teeth next to poorly cleaned partial dentures, bridges, and orthodontic appliances.

In the early stage of gingivitis, bacteria in plaque build up, causing the gums to become inflamed and to easily bleed during tooth brushing. Although the gums may be irritated, the teeth are still firmly planted in their sockets. No irreversible bone or other tissue damage has occurred at this stage. Symptoms include erythema and swollen, bleeding gums with brushing or flossing. Pain is usually not associated with gingivitis, but there may be halitosis. Good oral hygiene, including frequent tooth brushing and use of chlorhexidine gluconate or hexetidine (rinse, usually reverses gingivitis. A mouth rinse containing essential oils is as effective as chlorhexidine in the treatment of gingivitis and may result in less calculus accumulation and tooth staining.

Pulpitis, an inflammation of the dental pulp, can occur when caries or its bacterial byproducts encroach on the dental pulp, leading to infection, or when pathogens enter the pulp through the apical foramen or through a tooth fracture. Reversible pulpitis occurs when dental caries encroaches on the pulp; it is associated with mild inflammation of the pulp and mild intermittent pain that can be elicited by thermal changes, especially cold drinks. If pulpitis is reversible, the inflammation and discomfort go away when you resolve the source of the irritation. For example, if the pulp in your tooth is inflamed because decay has reached the nerve endings, removing the decay and placing a filling allows the pulp to recover and eliminates any further discomfort. If reversible causes are left untreated, though, bacteria will eventually reach the pulp.

The pulp may be irreversibly damaged by an ongoing inflammation within the pulp chamber. In this situation, a rapid buildup of pressure, occlusion of blood vessels at the apical foramen, ischemia, and eventual necrosis of the pulp tissue occur. In irreversible pulpitis, the pain is often poorly localized, persistent, and dull. There is insufficient evidence in the literature to determine whether antibiotics are effective in relieving pain in patients with pulpitis.

When the condition is irreversible, pulpal inflammation does not go away even after removing the cause. In these cases, an endodontist must perform a root canal to remove the dying pulp, which will stop the pain. The only other option besides a root canal is tooth extraction, which is usually not the treatment of choice.

A complication of pulpitis is periapical abscess in the periodontal tissue around the apical foramen. Symptoms include tenderness on tapping the affected tooth and local lymphadenopathy. The periapical abscess is usually a localized infection that does not require antibiotic therapy. The dentist will remove the necrotic pulp tissue, drain the pus, and reconstruct or extract the tooth. If the abscess has spread to the adjacent teeth or to deeper tissue, causing cellulitis, antibiotic treatment should be initiated. A broad-spectrum, well-tolerated antimicrobial such as amoxicillin/clavulanate (Augmentin) or clindamycin (Cleocin) is recommended. If facial swelling, fever, and trismus are present, indicating severe cellulitis that involves deeper orofacial spaces, the patient should be hospitalized to receive intravenous antibiotics

**Exercise 6. Answer the questions according to the text:**

1. What are common causes of gingivitis?
2. Is there any irreversible bone or other tissue damage in the early stage of gingivitis?
3. What are the symptoms of gingivitis?
4. What may result in less calculus accumulation and tooth staining in the treatment of gingivitis?
5. When can reversible pulpitis occur?

6. What can relieve pain and discomfort in reversible pulpitis?
7. What is irreversible pulpitis characterized by?
8. What is the nature of the pain in irreversible pulpitis?
9. What must an endodontist perform in case of irreversible pulpitis?
10. What do the symptoms of periapical abscess include?

**Exercise 7. Read the sentences and decide if they contain true or false information.**

1. Gingivitis does not include any loss of bone and tissue that hold teeth in place.
2. Gum disease can be caused by a number of factors, but poor oral hygiene is the most common cause.
3. Gingivitis is usually painless and has no symptoms.
4. Using an antimicrobial mouthwash can help prevent plaque buildup on your teeth.
5. In reversible pulpitis, there is typically mild inflammation in the pulp, and people have short-lived pain.
6. Cold drinks can produce brief sensation of pain in reversible pulpitis.
7. Irreversible pulpitis pain tends to be dull and lingers after the stimuli have been removed.
8. Root canal therapy is usually not the treatment of choice.
9. Antibiotics help eliminate the infection, but removing the diseased pulp and draining the pus are more important.
10. Antibiotics are highly effective in relieving pain in patients with pulpitis.

**Exercise 8. Translate the word combinations into English:**

Недостатня чистка щіткою та зубною ниткою, накопичуватися у дефектних пломбах, погано очищені ортодонтичні прилади, незворотне пошкодження тканин, містити ефірні олії, бактеріальні побічні продукти, через скол у зубі, усунення джерела подразника, легкий переривчастий біль, викликати зміною температури, швидке наростання тиску, інший варіант окрім кореневого каналу, стійкий тупий біль, болючість при постукуванні ураженого зуба, поширюватись на сусідні зуби, набряк обличчя та тризм.

**Exercise 9. Translate the sentences into English:**

1. Гострий і хронічний пульпіти найчастіше зустрічаються в стоматологічній практиці.
2. Гострий пульпіт спричиняють бактерії, що осідають на оголеній пульпі.
3. Для гострого пульпіту характерний сильний пульсуючий біль, підвищення температури, головний біль і загальне нездужання.
4. Характерними симптомами хронічного пульпіту є помірний чи слабкий біль, або повна його відсутність.
5. При абсцесі пульпи часто буває важко виявити хворий зуб через відсутність характерних ознак.
6. Пацієнти з гіперпластичним пульпітом часто не відчувають болю.
7. При некрозі пульпи зуб або видаляють, або проводять курс ендодонтичного лікування.
8. При некрозі пульпи біль спочатку поступово зменшується, а потім зовсім зникає.

**Exercise 10. Match the terms to their explanations:**

1. Augmentin	a. ... is a symptom in which a noticeably unpleasant breath odour is present.
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2. Cellulitis	b. ... refers to the enlargement of one or more lymph nodes.
3. Erythema	c. ... is a common, potentially serious bacterial skin infection. The affected skin appears swollen and red and is typically painful and warm to the touch.
4. Halitosis	d. ... is a restriction in blood supply to tissues, causing a shortage of oxygen that is needed for cellular metabolism
5. Necrosis	e. ... is a painful condition that restricts normal mandibular movement and function as a result of masticatory muscle spasms
6. Lymphadenopathy	f. ... is a collection of pus at the root of a tooth, usually caused by an infection that has spread from a tooth to the surrounding tissues.
7. Periapical abscess	g. ... is a prescription medicine used to treat the symptoms of many different infections caused by bacteria.
8. Tenderness	h. .... is a form of cell injury which results in the premature death of cells in living tissue by autolysis
9. Trismus	i. ... is a type of skin rash caused by injured or inflamed blood capillaries. It usually occurs in response to a drug, disease or infection. Rash severity ranges from mild to life threatening.
10. Ischemia	j. ... is pain or discomfort when an affected area is touched. It should not be confused with the pain that a patient perceives without touching.

**Exercise 11. Insert the prepositions where necessary:**

1. ...adequate brushing, plaque remains ... the gum line of the teeth.
2. ... the early stage of gingivitis, bacteria in plaque build ..., causing the gums to become inflamed and to easily bleed during tooth brushing.
3. Dental caries develops ... time.
4. Once the decay passes ...enamel, the dentinal tubules become exposed, resulting in pain.
5. If the pulp in your tooth is inflamed because decay has reached ... the nerve endings, removing the decay and placing a filling allows the pulp to recover and eliminates any further discomfort.
6. Bacteria collect around the teeth and gums ... a sticky, creamy-colored mass called plaque.
7. The only other option ...a root canal is tooth extraction, which is usually not the treatment of choice.
8. Streptococcus mutans is naturally present in the human oral microbiota, ...at least 25 other species of oral streptococci
9. Suitable minerals are available ... preventative aids such as fluoride toothpaste, dental varnish or mouthwash.
10. Symptoms include tenderness ... tapping the affected tooth and local lymphadenopathy.

**Exercise 12. Put the sentences in the proper order to construct the terms “Gingivitis”, “Pulpitis”, “Periapical abscess”:**

- a. The only option besides a root canal, which will stop the pain, is tooth extraction, which is usually not the treatment of choice.
- b. Pain is usually not associated with gingivitis, but there may be halitosis.

- c. Gingivitis is characterized by localized inflammation of the gums usually caused by inadequate brushing.
- d. In case when the abscess has not spread to the adjacent teeth or to deeper tissue, the dentist will remove the necrotic pulp tissue and drain the pus.
- e. If the pulp is irreversibly damaged a rapid buildup of pressure, occlusion of blood vessels at the apical foramen, ischemia, and eventual necrosis of the pulp tissue occur. In this case, the pain is often poorly localized, persistent, and dull.
- f. Pulpitis, an inflammation of the dental pulp, can occur when when pathogens enter the pulp.
- g. In the early stage of gingivitis, symptoms include erythema and swollen, bleeding gums with brushing or flossing.
- h. Periapical abscess, a localized collection of pus at the root of a tooth, usually does not require antibiotic therapy.
- i. If pulpitis is reversible, the inflammation, mild intermittent pain and discomfort go away when you resolve the source of the irritation.
- j. Good oral hygiene, including frequent tooth brushing and use of chlorhexidine gluconate or hexetidine , mouth rinse containing essential oils may result in less calculus accumulation and tooth staining.

**Exercise 13. All terms below mean “inflammation of an organ”. Explain the terms in English:**

Gingivitis, periodontitis, osteomyelitis, stomatitis, glossitis, laryngitis, periostitis, pulpitis.

**Exercise 14. Form the antonyms adding appropriate negative prefixes to the adjectives below and translate them:**

ill	im	in	ir	mis	non	un

Regular, adequate, pure, logical, steroidal, mature, sensitive, available, able, complete, comfortable, tolerant, relevant, sufficient, legible, common, reparable avoidable, responsive, aligned, accidental, conscious.

**Exercise 15. Make questions to the underlined words:**

1. Symptoms include bleeding gums with brushing or flossing.
2. Blending the color of the restorative resin into the color of the tooth is essential.
3. Dentists divide discoloration into three main categories.
4. Antibiotics are not effective in relieving pain in patients with irreversible pulpitis
5. Reversible pulpitis occurs when dental caries encroaches on the pulp.
6. Tooth enamel is 96 percent mineral, which makes it durable and damage-resistant.
7. Gum disease can have a profound effect on your oral health.
8. Your tooth enamel provides your teeth with the strength to bite and chew and withstand dental problems.
9. The pulp may be irreversibly damaged by an ongoing inflammation within the pulp chamber.
10. HIV-salivary gland disease occurs in some individuals infected with HIV .

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

1. If the infection (to be) severe, the child will need to be treated in the hospital and receive antibiotics through an intravenous (IV) catheter.
2. Different types of bacteria (to involve) in this process that can lead to an infection in the inside of the tooth.
3. The pain (to reduce) significantly by physiotherapeutic procedures before the patient (to examine) by the endodontist.
4. Avoid medications such as ibuprofen or aspirin to manage toothache as these generally (not to consider) safe during pregnancy.
5. A 9-year-old boy having caries (to refer) to a pediatric dental clinic after two previous extractions in a general practice.
6. The endodontic treatment (to complete) by the end of the next week.
7. Recent studies (to show) a positive relationship between caries and dental erosion and the consumption of soft drinks.
8. To manage dental pain, Tylenol (to recommend) for pain relief.

**Exercise 17. Read the text, fill in the gaps translating the words given Ukrainian:**

Abscesses

The terms dental abscess, dentoalveolar abscess, and odontogenic abscess are often used synonymously to describe abscesses formed in the **1. тканини навколо зуба**. The cause may be an endodontic infection (acute apical abscess) or a periodontal infection (periodontal abscess and pericoronitis). The acute apical abscess is the **2. найчастіша форма** of dental abscesses.

The acute abscess can be regarded as an **3. запущена стадія** of the symptomatic form of apical periodontitis. In acute endodontic infections, not only are the involved bacteria located in the root canal, but they **4. поширюються в прикореневі тканини** and have the potential to **5. розповсюджується на анатомічні простори** of head and neck to form a **6. запалення пішкірної клітковини** or phlegmon, which is a disseminating **7. дифузний запальний процес** with **8. формуванням гною**.

Clinically, the patient with acute apical abscess experience **9. слабкий або сильний біль** and swelling. Trismus may occur. **10. Системні прояви** may also develop, including fever, lymphadenopathy, **11. нездужання, головний біль та нудоту**. Because the acute reaction to endodontic infection may **12. розвинутих дуже швидко**, the involved tooth may not show radiographic **13.свідоцтва (доказ)** of periradicular bone destruction. When a periradicular radiolucency is radiographically observed, the abscess is usually the result of exacerbation of a previous chronic **14. асимптоматичний стан**. In most cases, the tooth is **15.надзвичайно чутливий** to percussion.

**Завдання для самоконтролю**

**I. Перекладіть словосполучення:**

1. недостатня чистка щіткою
2. незворотне пошкодження тканин
3. містити ефірні олії
4. усунення джерела подразника
5. швидке наростання тиску
6. терапія кореневого каналу
7. стійкий тупий біль
8. болючість при постукуванні
9. випустити гній
10. поширитись на сусідні зуби

**II. Дайте відповідь на питання:**

1. What are common causes of gingivitis?
2. What are the symptoms of gingivitis?
3. When can reversible pulpitis occur?
4. What can relieve pain and discomfort in reversible pulpitis?
5. What is irreversible pulpitis characterized by?
6. What must an endodontist perform in case of irreversible pulpitis?
7. What is the nature of the pain in irreversible pulpitis?
8. What do the symptoms of periapical abscess include?

**III. Розкрийте поняття:**

Гінгівіт, пульпіт, періапикальний абсцес

**DENTAL FILLINGS****Пломби****Exercise 1. Learn the following words:**

blend	/blend/	зливатися
comparable	/'kɒm.pə.r.ə.bəl/	приблизно однаковий
crack	/kræk/	тріщина
deposit	/dɪ'pɒz.ɪt/	накопичуватися
discolor	/dɪ'skɒl.ə/	знекольоруватися
durable	/'dʒʊə.rə.bəl/	довговічний
numb	/nʌm/	занімілий
obvious	/'ɒb.vi.əs/	очевидний
profound	/prə'faʊnd/	глибокий
release	/rɪ'li:s/	вивільняти
site	/saɪt/	місце
versatile	/'vɜ:.sə.taɪl/	універсальний
withstand	/wɪð'stænd/	витримувати

**Exercise 2. Read and memorize the pronunciation of the following words:**

Amalgam /ə'mæl.gəm/, ceramic /sə'ræm.ɪk/, composite /kəm'pəz.ɪt, kəm-/,  
ionomer /aɪ'ɒnəmə/, outweigh /,aʊt'wei/, porcelain /'pɔ:.səl.ɪn/, strength /streŋθ/, rough /rʌf/.

**Exercise 3. Choose appropriate words from ex.1 to complete the sentences below:**

1. White fillings ... in with teeth for a natural look that is also long-lasting.
2. Gum disease can have a ... effect on your oral health.
3. The digestive organs which ... enzymes into the small intestine are the pancreatic acini and the intestinal wall itself.
4. A focal infection is defined as the initial ... of infection from which organisms travel via the bloodstream to another area of the body.
5. ... urine is often caused by medications, certain foods or food dyes.
6. Teeth undergo a lot of pressure and can ... different temperatures from eating and drinking.
7. Tartar is a yellow or brown substance that ... on your teeth.
8. Meralgia paresthetica is a nerve condition that causes an area of skin over the upper outer thigh to feel ... .

**Exercise 4. Translate the following word combinations from English:**

Deposite local anesthetics, provide profound anesthesia, the use or a topical anesthetic, individual response to the drug, method to insert the filling, vascularity and pH, opt for certain fillings, durable as well as affordable, chemically bond, discolor the surrounding tooth, blend well with tooth enamel, versatile material, modify small gaps, fillings below the gumline, release fluoride over time smooth out any rough edges.

### **Exercise 5. Read and translate the text:**

#### Dental Fillings

The procedure for a dental filling is used to repair minor fractures or decay in the teeth, as a form of restorative dental treatment. A dental filling can help to even out the surface of the tooth and improve the function of the jaw for biting and chewing.

The dentist begins the procedure by preparing the tooth and necessary surrounding areas. The area around the affected tooth will be numbed up, usually with the use or a topical anesthetic. The needle may be inserted in several different areas around the tooth, but local anesthetics need to be deposited as close to the nerve as possible so that optimal diffusion of the drug may occur, providing profound anesthesia and a pain-free dental experience. The patients individual response to the drug, vascularity and pH of tissues at the site of drug administration, the type of injection administered affect the depth and duration of local anaesthetics' action.

The specific method used to insert the filling depends on the type of filling a patient is getting. Many patients opt for amalgam (silver) fillings. This type of filling is very durable as well as affordable and can withstand chewing pressure for well over a decade. However, many patients do not want fillings that are readily obvious or visible. Furthermore, sometimes amalgam tooth fillings can discolor the surrounding tooth or cause cracks or fractures.

A dentist may recommend composite fillings if the teeth to be restored are near the front of the mouth. These fillings blend well with tooth enamel and don't look like fillings. Composite fillings chemically bond with the existing tooth structure, which gives the affected tooth even more support. It is also a very versatile material and can fix chips in the teeth or modify small gaps.

The disadvantage of composite fillings is that they are not quite as durable as amalgam fillings. They also require more chair time to place, and they can be up to twice as expensive as amalgam fillings. For many patients, however, the benefits of amalgam fillings far outweigh these concerns.

Another material sometimes used in fillings is gold. One of the biggest advantages of gold is its strength and durability. The disadvantages of gold is in its extreme cost, visibility in the mouth and more time in the dental chair.

Less common than other tooth fillings are ceramic fillings and glass ionomer fillings. Ceramic tooth fillings are usually made from porcelain, are extremely durable and can last well over 15 years. They are quite expensive though, even more so than gold, so many patients tend to steer away from ceramic tooth fillings.

Glass ionomer fillings can have a range of compositions, but the chief constituents are alumina, silica, and calcium. This type of tooth filling is usually used for fillings below the gumline and release fluoride over time, which helps to strengthen the surrounding tooth structure. However, this material can be quite weak and dentists will typically only use for small fillings near the gumline and away from any chewing surfaces. Pricing is comparable to composite tooth fillings.

The last step will involve your dentist giving you carbon paper to bite on to ensure that the filling isn't too high. If it is, the high-speed handpiece will be used to file it to its proper place. The dentist will smooth out any rough edges and polish the tooth.

### **Exercise 6. Answer the questions according to the text:**

1. How can the optimal diffusion of local anesthetics be provided?
2. What affects the depth and duration of local anaesthetics' action?
3. What does the specific method used to insert the filling depend on?



4. Why do many patients opt for amalgam?
5. Which fillings blend well with tooth enamel?
6. What is one of the biggest advantages of gold?
7. Which type of tooth fillings is the most expensive?
8. What are ceramic tooth fillings usually made from?
9. Why are glass ionomer fillings usually used for fillings below the gumline?
10. What are the last steps in the procedure of dental filling?

**Exercise 7. Read the sentences and decide if they contain true or false information**

1. Optimal diffusion of the anaesthetizing drug occurs independently of the site of the shot.
2. Composite fillings mimic the appearance of natural teeth.
3. Some composite and gold fillings may require a second visit to the specialist.
4. The cost of glass ionomer fillings is almost the same as composite tooth fillings.
5. The disadvantage of gold is in its extreme fragility.
6. Amalgam fillings are both long-lasting and cheap if compared to other filling materials.
7. Sometimes amalgam tooth fillings can change the colour of the surrounding teeth or even damage them.
8. Glass ionomer fillings always have the same composition.
9. Glass ionomer fillings may release fluoride, which helps to prevent further tooth decay.
10. If there is too much filling, the carbon paper will darken it.

**Exercise 8. Translate the word combinations into English:**

Індивідуальна реакція на препарат, забезпечити глибоку анестезію, спосіб вставлення пломби, міцний і доступний, хімічний зв'язок, надзвичайно висока вартість, зміцнення навколишньої структури зуба, універсальний матеріал, вивільнення фтору з часом, згладжування будь-яких абразивних країв, переконатися, що пломба не зависока, копіювальний папір.

**Exercise 9. Translate the sentences into English:**

1. Зубна пломба вирівнює поверхню зуба та покращує жування.
2. Область навколо ураженого зуба буде знечужена, як правило, із застосуванням місцевого знеболення.
3. Індивідуальна реакція пацієнтів на препарат, судинність та рН тканин у місці введення препарату, тип введеної ін'єкції впливають на глибину та тривалість дії місцевих анестетиків.
4. Цей тип пломб дуже міцний, а також доступний і може витримати навантаження від жування протягом більше десяти років.
5. Композитні пломби хімічно з'єднуються з існуючою структурою зуба, що надає ураженому зубу ще більшу підтримку.
6. Однією з найбільших переваг золотих пломб є його міцність і довговічність.
7. Скляні іономерні пломби можуть мати різноманітний склад, але головними складовими є оксид алюмінія, силікат та кальцій.
8. Стоматолог згладить будь-які шершаві краї і відполірує зуб.

**Exercise 10. Match the terms to their explanations:**

1. Amalgam fillings	a. ... is a chemical element with the symbol Ca and atomic number 20.
2. Alumina	b. ... is an inorganic, monatomic anion with the chemical formula F,

	whose salts are typically white or colorless.
3. Calcium	c. ...also known as silicon dioxide,, is an oxide of silicon with the chemical formula SiO <sub>2</sub> , most commonly found in nature as quartz and in various living organisms.
4. Fluoride	d. ... is a ionic-covalent solid that does not yield under load as metals and alloys do. The strong chemical bonds in this substance are the roots of several of its characteristics such as the low electric and thermal conductivity.
5. Gold	e. ... also known as “silver fillings” because of their silver-like appearance.It is a mixture of metals, consisting of liquid (elemental) mercury and a powdered alloy composed of silver, tin, and copper.
6. Local anesthetic	f. ... causes absence of pain sensation. When it is used on specific, nerve paralysis can be achieved.
7. Silica	g. ... produce superficial loss of sensation in conjunctiva, mucous membranes, or skin, produced by direct application of local anesthetic solutions, ointments, gels or sprays. It is a type of local anesthetics.
8. Topical anesthetic	h. ... In a pure form, it is a bright, slightly reddish yellow, dense, soft, malleable, and ductile metal.

**Exercise 11. Insert the prepositions where necessary.**

1. The patients individual response ... the drug affect the duration of local anaesthetics' action.
2. Many patients opt ... amalgam (silver) fillings.
3. Ceramic tooth fillings are usually made ... porcelain.
4. This type of tooth filling is usually used for fillings ... the gumline and release fluoride ... over time.
5. This material can be quite weak and dentists will typically only use for small fillings ... the gumline and ... from any chewing surfaces.
6. Pricing is comparable ... composite tooth fillings.
7. Pericoronitis is an acute, localized infection caused by food particles and microorganisms trapped ... the gingival flaps of a partially erupted tooth or an impacted wisdom tooth.
8. If cellulitis occurs, patients should be treated ... antibiotics.
9. Periodontal abscess is a severe consequence of periodontitis and may present as a red, fluctuant swelling of the gingiva that is extremely tender ... palpation.
10. The lesions can be microscopic ... tissue, where they cause pain but are invisible.

**Exercise 12. Put the sentences in the proper order to construct the terms “Dental filling anesthesia”, “Amalgam fillings”, “Composite fillings”, “Glass ionomer fillings”:**

- a. Amalgam fillings are made of mixture of metals, consisting of liquid (elemental) mercury and a powdered alloy composed of silver, tin, and copper.
- b. The disadvantage of these fillings is that they are not quite as durable as amalgam fillings, require more chair time to place, and are twice as expensive as amalgam fillings.
- c. The area around the affected tooth to be filled is numbed up, usually with the use or a topical anesthetic.
- d. The needle may be inserted in several different areas around the tooth, but local anesthetics need to be deposited as close to the nerve as possible in order to provide profound a pain-free dental experience.
- e. They are very durable and affordable and can withstand chewing pressure for well over a decade, however, many patients do not want visible fillings.
- f. Glass ionomer fillings can have a range of compositions, but the chief constituents are alumina, silica, and calcium.
- g. Composite fillings blend well with tooth enamel and do not look like fillings.

- h. This type of tooth filling is usually used for fillings below the gumline and release fluoride over time, which helps to strengthen the surrounding tooth structure.
- i. These fillings chemically bond with the existing tooth structure, which gives the affected tooth even more support.
- j. The patients individual response to the drug, vascularity and pH of tissues at the site of drug administration, the type of injection administered affect the depth and duration of local anaesthetics' action.

**Exercise 13. Write a word for each of the following definitions:**

1. near the nose \_\_\_\_\_
2. inflammation of the pharynx \_\_\_\_\_
3. pertaining to the larynx \_\_\_\_\_
4. endoscopic examination of a bronchus \_\_\_\_\_
5. inflammation of the bronchioles \_\_\_\_\_
6. narrowing of a bronchus \_\_\_\_\_
7. plastic repair of the larynx \_\_\_\_\_
8. surgical incision of the trachea \_\_\_\_\_

**Exercise 14. Correct the misused words, transforming them into required parts of speech:**

1. These surfaces constitute frontline barriers limiting the **invasive** by both commensal and **pathogenesis** bacteria.
2. The wound has characteristics of an injury **occurrence** from one blow and **multiplication** blows.
3. The findings confirmed that most patients with low pain **intensive** find their pain **tolerance**.
4. No medicine is **complete** risk free.
5. Clinical presentation and symptoms of the virus vary in frequency and **severe**.
6. Hyposmia is **part** loss of smell.
7. Knowledge **acquire** is crucial for the quality and **efficient** of a planned knowledge-based system.
8. Diseases caused by protozoa that are **transmit** by **contamination** drinking water are considered waterborne diseases
9. Any **worsened** of air quality is likely to **harmful** public health.
10. **Advance** disease, also called end-stage or terminal cancer, may occur when there are few signs that remission is **possibility**.

**Exercise 15. Make questions to the underlined words:**

1. Pain in the teeth and response to thermal stimuli points to pulpitis.
2. The blood leaves the vessels under the action of compression.
3. Pulp death or necrosis takes place in advanced case of acute pulpitis.
4. Pulpitis is caused when mechanical action irritates the pulp tissue.
5. In infective tooth disease the inflamed pulp becomes a place for spreading the bacteria.
6. Chemical irritants produce destructive action on the dental tissue.
7. Venous congestion may cause acute inflammation of the pulp and its necrosis.
8. Dental health organizations advocate preventive and prophylactic measures.

**Exercise 16. Open the brackets, using the verbs in brackets in the correct participle forms:**

1. Dehydration ( **to result** ) from impaired water intake, emesis, diarrhea or polyuria can result in xerostomia.

2. Despite considerable advances in the technology and techniques (**to use**) for dental procedures such as dental crown placement, very few dental procedures last a lifetime and complications can occasionally present.
3. In sarcoidosis, noncaseating epithelioid granulomas in salivary glands result in (**to reduce**) salivary flow.
4. These patients should also avoid (**to irritate**) foods that are dry, spicy, astringent or excessively hot or cold.
5. If possible, tobacco and alcohol intake should (**to eliminate**) to control dental caries.
6. The type of pain (**to describe**) by each patient may vary considerably.
7. If the dental crown of a patient becomes (**to detach**), it is essential that they seek professional dental advice as soon as possible.
8. (**to protrude**) teeth, or 'buck teeth', is a common dental problem.
9. Modern dental implants consist of a titanium screw that is fixed in the jawbone to replace the dental root, a (**to connect**) abutment made of titanium for tooth replacement, and the visible dental crown.
10. Depression is a clinical condition that, contrary to popular opinion, cannot simply be (**to overcome**) with time and it needs to be (**to treat**).

**Exercise 17. Read the text, fill in the gaps with the words given below:**

Disadvantages of Dental Crowns

There are some disadvantages of dental crowns, such as the need to **1.** ... into the **2.** ... before the crown can be **3.** ... , This is often **4.** ... and irreversible.

Some patients may **5.** ... shortly after the procedure, particularly **6.** ... . Another issue is pain or sensitivity when biting down, which is most often caused by the crown being too high and obstructing the teeth on the opposite jaw. Fortunately, this can easily be remedied by **7.** ... of the crown.

Crowns may sometimes become **8.** ..., particularly those made of porcelain. It is possible to repair small chips without removing the crown, while larger or **9.** ... in the crown may require its complete replacement.

In some patients, the **10.** ... used to hold the crown in place may wash away. This can cause the crown to **11.** ... **become loose** and allow bacteria to enter **12.** ..., resulting in tooth decay. Occasionally the crown may fall off completely, usually due to the **13.** ... of the crown or the use of **14.** ... to hold the crown in place, requiring **15.** ... of the crown.

Rarely, an allergic reaction may occur to porcelain or one of the metals used to form the crown.

*chipped, sensitivity to hot or cold, underneath the tooth, experience discomfort, right shape, fitted, extensive, become loose, file the tooth, insufficient dental cement, multiple breaks, dental cement, adjusting the height, refitting or replacement, improper fit.*

**Завдання для самоконтролю**

**I. Перекладіть словосполучення:**

1. амальгамні, композитні та іономерні пломби
2. індивідуальна реакція на препарат
3. накопичуватися якомога ближче до нервів
4. міцний і доступний
5. зміцнення навколишньої структури зуба
6. вивільнення фтору з часом

7. згладжування будь-яких абразивних країв
8. копіювальний папір

**II. Дайте відповідь на питання:**

1. What are the most common materials used in the procedure of dental filling?
2. How can the optimal diffusion of local anesthetics be provided?
3. What does the specific method used to insert the filling depend on?
4. Why do many patients opt for amalgam?
5. Which fillings blend well with tooth enamel?
6. What are the last steps in the procedure of dental filling?

**III. Розкрийте поняття:**

Анестезія при пломбуванні, амальгамна пломба, композитна пломба, склоіономерна пломба

**DENTAL CROWNS**

**Коронки**

**Exercise 1. Topic vocabulary:**

break off	/breɪk/	відбити, відколоти
core	/kɔːr/	серцевина
drawback	/'drɔː.bæk/	недолік
encompass	/ɪn'kʌm.pəs/	охоплювати
file	/faɪl/	спилувати, шліфувати
incorporate	/ɪn'kɔː.pə.rɪt/	об'єднати, звести до купи
inlay	/'ɪn.leɪ/	вкладка
long-lasting	/'lɒŋ'lɑː.stɪŋ/	довготривалий
onlay	/'ɔːn.leɪ/	накладка
out-of-sight	/aʊt əv saɪt/	за межами поля зору
pit	/pɪt/	ямка
porcelain-fused-to-metal	/'pɔː.səl.ɪn fjuːzɪt tə met.əl /	металокерамічний
portion	/'pɔː.ʃən/	частина, відділ
reshape	/'riː.ʃeɪp/	змінювати форму
resize	/'riː.saɪz/	змінювати розмір
specifications	/'spes.ɪ.fɪ'keɪ.ʃən/	характеристики, вимоги
with respect to	/'rɪ'spekt/	стосовно

**Exercise 2. Read and memorize the pronunciation of the following words:**

palladium /pə'leɪdɪəm/, nickel /'nɪk.əl/, chromium /'krɒ.mi.əm/, comparison /kəm'pær.ɪ.sən/, sculpt /skʌlpt/, ensure /ɪn'ʃʊːr/, fissure /'fɪʃ.ər/.

**Exercise 3. Choose appropriate words from ex.1 to complete the sentences below:**

1. If necessary, part of the filling will be ... down to restore the natural bite.
2. Look for details in technical ... of dental equipment.
3. An inlay will ... the pits and fissures of a tooth.
4. Ask your doctor about the benefits and ... of taking antibiotics for your diagnosis.
5. I am writing ... your letter of 15 June.
6. Why should you whiten your teeth if they are ....?
7. Teeth are remarkably strong, but they can chip, crack or... .

8. Practitioners ... years of training and experience to offer oral health care and expertise to patients.

**Exercise 4. Translate the following word combinations from English:**

Reshape and resize, all resin or all ceramic, in terms of wear down, chip or break off, withstand biting and chewing forces, good choice for people with metal allergies, provide the best natural color match, a hard inner core, inlays and onlays, pits and fissures of a tooth, based on an impression of your bite, be filed to make room for the crown, choose a shade, specifications of the impression.

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

Dental Crowns

A crown is a type of dental restoration that helps reshape, resize and strengthen a tooth that has been broken or worn down by decay.

Permanent crowns can be made from all metal, porcelain-fused-to-metal, all resin, or all ceramic. Metals used in crowns include gold, palladium, nickel or chromium. Metal crowns rarely chip or break, last the longest in terms of wear down, and only require a small amount of tooth to be removed. They can also withstand biting and chewing forces. The metallic color is the main drawback. Metal crowns are a good choice for out-of-sight molars.

Porcelain-fused-to-metal dental crowns can be matched to the color of the teeth beside them. However, sometimes the metal under the crown's porcelain cap shows through as a dark line. Other drawbacks are that the crown's porcelain portion can chip or break off and there is more wearing down of the teeth opposite them in the mouth (the top and bottom tooth that come into contact when the mouth is closed.)

All-resin dental crowns are less expensive than other crown types. However, they wear down over time and are more likely to break than porcelain-fused-to-metal crowns.

All-ceramic or all-porcelain dental crowns provide the best natural color match than any other crown type. They are also a good choice for people with metal allergies. However, they are not as strong as porcelain-fused-to-metal crowns. They also may wear down the teeth opposite them in the mouth a little more than metal or resin crowns. All-ceramic crowns are a good choice for front teeth.

Pressed ceramic crowns have a hard inner core. They replace the metal liner that is used in the all-ceramic crown-making process. Pressed ceramic crowns are capped with porcelain, which provides the best natural color match. They are also more long-lasting than an all-porcelain crown.

Partial crowns are used when a tooth or a series of teeth do not require a full dental crown. Inlays and onlays are used in molars or premolars, when the tooth has experienced too much damage to support a basic filling, but not so much damage that a crown is necessary. The key comparison between them is the amount and part of the tooth that they cover. An inlay will incorporate the pits and fissures of a tooth, mainly encompassing the chewing surface between the cusps. An onlay will involve one or more cusps being covered. If all cusps and the entire surface of the tooth is covered, this is then known as a crown.

The procedure to place a crown on a tooth usually involves two visits to the dentist. In the first visit, you will need to undergo a series of x-rays. Next the tooth will be filed to make room for the crown. If a large portion of the tooth's surface area is already missing, then the dentist will use a material to enlarge the tooth so that it can hold the crown in place.

Once the tooth is reshaped, a paste or putty will be applied to make an impression of the tooth that will undergo the procedure. These impressions include the above or below teeth to ensure that a patient's bite won't be impacted by the crown. Some dentists use digital scanners for this part. All crowns are manufactured in a lab and are based on an impression of your bite and jaw. For porcelain crowns, a patient and dentist need to choose a shade that resembles that of the tooth. Finally, your dentist could opt to install a temporary crown to protect the tooth until the

permanent one is ready for implantation. The second visit usually begins with the dentist removing the temporary crown. They will then inspect the permanent crown to make sure the colour and fit match the specifications of the impression. If all goes according to plan, a local anesthetic will be used to numb the tooth. The last step, of course, is securing the permanent crown in place with dental cement.

**Exercise 6. Answer the questions according to the text:**

1. What is a dental crown?
2. What can permanent crowns be made from?
3. Which crowns are a good choice for out-of-sight molars?
4. What are the drawbacks of porcelain-fused-to-metal dental crowns?
5. For whom are all-ceramic or all-porcelain dental crowns a good choice?
6. What are partial crowns also called?
7. What is the difference between inlays/onlays and crowns?
8. What is laboratory manufacture of all crowns based on?
9. Why do teeth need to be filed before placing crowns?
10. What should be inspected during the second visit to the dentist?

**Exercise 7. Find mistakes in the sentences and correct them:**

1. Metal crowns do not wear down easily, but it is necessary to remove a substantial amount of tooth to fix them.
2. Because of metal in their composition, porcelain-fused-to-metal dental crowns cannot match the color of surrounding natural teeth.
3. All-resin dental crowns are not the cheapest among other crown types.
4. All-ceramic or all-porcelain dental crowns are contraindicated for people with metal allergies.
5. If all cusps and the entire surface of the tooth is covered with the onlay, it is still considered an onlay.
6. The procedure to place a crown on a tooth is usually performed in a single session.
7. Pressed ceramic crown is mechanically strong because it is reinforced with a metal liner.
8. Permanent crowns are always made from one single substance.

**Exercise 8. Translate the word combinations into English:**

Змінити форму та розміри, повністю з композитної пластмаси, основний недолік, з точки зору зносу, сколотися або відламатися, витримує навантаження при кусанні та жуванні, хороший вибір для людей з алергією на метали, забезпечуйте найкращу відповідність природного кольору, жорстка внутрішня серцевина, вкладки та накладки, ямки та тріщини зуба, оснований на відбитку прикусу, спилити для забезпечення простору для коронки, вибирати відтінок, характеристики відбитка.

**Exercise 9. Match two parts and translate the sentences:**

1. It was not all that long ago that if you had seriously damaged teeth, your only solutions	a. and your tooth may be more susceptible to environmental stimuli after a dental crown treatment.
2. The goal of esthetic dentistry is	b. deteriorated, or if the crown doesn't have a reasonable size of tooth structure on which to attach.
3. The decrease in enamel thickness reduces its protective nature,	c. were to have very deep fillings or to have your teeth extracted and then be fitted with dentures.

4. Most people assume that because you have a dental crown,	d. to improve the patient's appearance.
5. In order to create the ideal smile we would have to balance	e. cutting teeth for crowns increases the chance that the tooth will require a root canal.
6. The crown may fall off if it doesn't fit properly, if the attachment cement has	f. have been reported in the PFM crowns with use over the period of time.
7. Research has demonstrated that	g. the sizing and adjust the shade.
8. Various complications, including chipping of the porcelain, recurrent caries, loss of retention,	h. cavities will no longer be an issue.

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

1. Коронка - це тип реставрації зубів, який допомагає змінити розмір і форму, а також зміцнити зуб, що піддався руйнуванню.
2. До металів, що використовуються в коронках, належать золото, паладій, нікель або хром.
3. Металеві коронки рідко відколюються або ламаються, вони тривають найдовше з точки зору зносу.
4. Недолік зубних коронок з порцеляновим покриттям полягає у тому, що зуби навпроти них у роті більше зношуються.
5. Цільнокерамічні або повністю порцелянові зубні коронки забезпечують найкращу відповідність природного кольору, ніж будь-який інший тип коронки.
6. Пресовані керамічні коронки мають жорстку внутрішню серцевину.
7. Накладка буде покривати ямки і тріщини зуба, в основному охоплюючи жувальну поверхню між буграми.
8. Якщо значна частина поверхні зуба вже відсутня, стоматолог використовує матеріал для збільшення зуба, щоб він міг утримувати коронку на місці.
9. Ваш стоматолог може вирішити встановити тимчасову коронку для захисту зуба до тих пір, поки постійна не буде готова до імплантації.
10. Ваш стоматолог перевіряє виготовлену постійну коронку, щоб переконатися, що колір та характеристики відповідають вимогам.

**Exercise 11. Insert the prepositions where necessary:**

1. Do not eat sticky food or food that is excessively chewy like caramel, as these foods could pull the crown ... the tooth.
2. The occipital and auriculotemporal nerves were not tender ... palpation.
3. The doctor was concerned ... my family history of skin cancer.
4. In this case continued attempts to remove the tooth ... the forceps will only lead to undue laceration.
5. People who smoke are ... greater risk of having a heart attack.
6. The patient should be advised to go home very quietly, to avoid all forms of excitement, to assume the sitting position ... the day, and to use a high pillow ... night.
7. The patient should be fed ... a bent tube, and all fluids should be given cold.
8. I've made you an appointment ... a specialist ... three week's time.
9. Babies are immunized three times ... their first year.
10. In extreme cases, with sign of collapse, normal saline solution must be infused ... the median basilic vein.

**Exercise 12. Put the sentences in the proper order to construct the terms "Metal crowns", "All-ceramic crowns", "Partial crowns" :**

- a. Metal crowns can be made from gold, palladium, nickel or chromium. They are extremely durable and can withstand biting and chewing forces.
- b. If all cusps and the entire surface of the tooth is covered, this is then known as a crown.



- c. As many patients consider their metallic colour a drawback, these crowns are a good choice for out-of-sight molars.
- d. Inlays and onlays are used in molars or premolars, when the tooth has experienced too much damage to support a basic filling, but not so much damage that a crown is necessary.
- e. An onlay will involve one or more cusps being covered.
- f. All-ceramic dental crowns provide the best natural color match than any other crown type, so they are a good choice for front teeth.
- g. They also may wear down the teeth opposite them in the mouth a little more than metal or resin crowns.
- h. They are not the most durable ones.
- i. An inlay will incorporate the pits and fissures of a tooth, mainly encompassing the chewing surface between the cusps.
- j. The key comparison between them is the amount and part of the tooth that they cover.

**Exercise 13. Write a word that means the opposite of each of the following:**

1. superior \_\_\_\_\_ 5. external \_\_\_\_\_
2. profundus \_\_\_\_\_ 6. lateral \_\_\_\_\_
3. volar \_\_\_\_\_ 7. dexter \_\_\_\_\_
4. plantar \_\_\_\_\_ 8. proximal \_\_\_\_\_

**Exercise 14. Replace the words from the text with their synonyms from the table below:**

1 prior to	7 compromised	14 insure
1 primary	8 performed	15 surrounding
3 maintain	9 decreasing	16 guidelines
5 appearance	10 room	20 appropriate
6 encapsulate	11 stump	21 option

**Dental Crowns: Purpose, Procedure and Important Facts**

- 1 Before the development of crown technology the initial treatment for decaying, weak, fractured, or discolored tooth-teeth was extraction.
- 3 Dental crowns, also known as caps were innovated and designed to help provide the 4 functionality of your damaged teeth. By using a custom design and specific materials, a 5 manufactured crown can restore the strength, shape, size and natural look of your original 6 tooth/teeth. The rationale for installing a crown is to fully cover and protect the last bit of your 7 own exposed tooth and tooth roots.
- 8 The procedure for preparing your tooth for a crown should be carefully carried out. This can 9 be accomplished by reducing its size by 0.8 – 1.5 mm (drilling it sideways). If the process is 10 successful there should be enough space for the crown to be placed securely on top of your 11 tooth fragment.
- 12 The design of your crown and placement under or above the gum line depends on esthetics, 13 stability of the fit and hygienic benefits of its final positioning. Great care must be exercised to 14 make sure your permanent crown prevents future complications or damages to the health of 15 your remaining tooth, its root and adjacent gum tissue.
- 16 There are established clinical instructions that dictate the maximum reduction limits which are 17 based on conditional necessity to provide the longest lasting results. Reducing less of your 18 natural tooth surface while insuring a secure and perfect fit, is the purpose and intention with 19 dental crown placements.
- 20 Deciding upon the suitable material for your dental crowns is also a serious matter, as each 21 choice presents its own peculiar set of pluses and minuses.

**Exercise 15. Make questions to the underlined words:**

1. CNS depressants should not be combined with prescription pain medicines.

2. Nonsurgical periodontal therapy procedures generally require intermediate duration anesthetics.
3. Periodontists can also perform surgical procedures for patients with severe gum disease.
4. Mild vasodilative effect of some local anesthetics used in dentistry results in an increased rate of anesthetic absorption into the bloodstream.
5. Malocclusion is the most common condition orthodontics have to do with.
6. 95% of paresthesia cases occur in the mandible.
7. Antiplatelet medications have the potential for bleeding associated with particular dental procedures.
8. Orthodontists are primarily known for straightening teeth.
9. A relative contraindication describes a circumstance when the drug may be used carefully after thoughtful consideration of risk vs. benefit.
10. Braces work by putting pressure on the teeth.

**Exercise 16. Open the brackets, using the verbs in the correct tense and voice forms:**

1. Teeth that already pulpally (**to treat**) and are clinically and radiographically sound should present no threats.
2. The dental implants and crowns that they (**to fit**) gave a final result that allowed this patient to smile again without needing a denture.
3. This 24 year old woman presented to us with constant pain from all back teeth. Since she was pregnant at the time, the pain (**to cause**) her significant distress.
4. If the patient cannot comply with this recommendation, loose teeth (**should remove**).
5. This patient initially arrived for an emergency appointment at dental clinic a loose dental crown, but it also (**to discover**) that he had very worn teeth and a number of missing back teeth.
6. Keep in mind that it (**to take**) roughly two weeks for the office to process and send your disability forms.
7. The patient (**to allow**) to leave the bed and walk without aid on the day of surgery.
8. Your family will be allowed to stay with you until you are taken to the anesthesia consultation, after which they (**to ask**) to wait in the designated waiting area.
9. On examination specialists found that the patient (**to suffer**) from chronic periodontal disease and a failed fixed restoration with decay.
10. Unfortunately, if you have a crown made today, it's likely in 5, 10 or 20 years it no longer (**to match**) your own teeth. This is because your natural teeth stain and your crown tooth will not.

**Exercise 17. Read the text, fill in the gaps:**

Case Study

A 58-year-old male **1.** ... to a dental office for a routine checkup. Examination **2.** ... a nonhealing ulceration of the lower lip. When questioned about the area, the patient claimed the ulcer had been present for at least six months, maybe longer. No pain or discomfort was noted by the patient. When questioned about excessive sun **3.** ..., the patient stated that he spends many hours outdoors and does not use sunblock. The patient denied a history of **4.** ... and alcohol use. No history of **5.** ... to the area was noted.

The patient had a previous history of regular and routine dental care. At the time of the dental appointment, the patient was not taking **6.** ... of any kind. No significant problems were noted during the health history.

Physical examination of the head and neck region revealed no **7.** ... findings. The patient's vital signs were all found to be within normal limits. No palpable lymph **8.** ... were detected. No other abnormal extraoral findings were noted. Oral examination revealed an ulcerative **9.** ... of

the vermilion of the lower lip, measuring one centimeter in diameter. When palpated, the periphery of the lesion felt indurated.

Based on the clinical information presented, which one of the following is the most likely 10. ...?

- a) erosive lichen planus    b) actinic cheilitis    c) squamous cell carcinoma\*  
d) traumatic ulcer    e) recurrent herpes labialis

*exposure, diagnosis, medications/medicines, smoking, presented, revealed, trauma/injury, abnormal, nodes, lesion*

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. змінити форму та розміри
2. сколотися або відлаMATися
3. найкраща відповідність природньому кольору
4. ямки та тріщини
5. відбиток прикусу
6. забезпечення простору для коронки
7. вибрати відтінок
8. характеристики відбитка

#### II. Дайте відповідь на питання:

1. What is a dental crown?
2. What can permanent crowns be made from?
3. What are the benefits and drawbacks of porcelain-fused-to-metal dental crowns?
4. What is the difference between inlays/onlays and crowns?
5. What is the laboratory manufacture of all crowns based on?
6. Why do teeth need to be filed before placing crowns?

#### III. Розкрийте поняття:

Металева коронка, цілнокерамічна коронка, часткова коронка

### DENTAL EXTRACTION

#### Видалення зуба

#### Exercise 1. Topic vocabulary:

aftercare	/'ɑ:f.tə.keər/	подальший догляд
current	/'kʌr.ənt/	теперішній, поточний
encourage	/ɪn'kʌr.ɪdʒ/	стимулювати
extensive	/ɪk'sten.sɪv/	обширний
flap design	/flæp/	дизайн лоскута
interaction	/,ɪn.tə'ræk.ʃən/	взаємодія
obtain	/əb'teɪn/	здобути
option	/'ɒp.ʃən/	варіант
preemptive	/,pri:'emp.tɪv/	профілактичний
prolong	/prə'lɒŋ/	подовжувати
roll	/rəʊl/	валик
subside	/səb'saɪd/	затихати, спадати

susceptible	/sə'sep.tə.bəl/	вразливий
visible	/'vɪz.ə.bəl/	помітний
wad	/wɒd/	КОМОК
wear off	/weər/	МИНАТИ

**Exercise 2. Read and memorize the pronunciation of the following words:**

Alternative /ɒl'tɜː.nə.tɪv/, antimicrobial /,æ.n.tɪ.mɑɪ'krəʊ.bi.əl/, bio /baɪ.əʊ/, gauze /gɔːz/, postoperative /,pəʊst'ɒp.ər.ə.tɪv/, peripherally /pə'rɪf.ər.əlɪ/, socioeconomic /,səʊ.si.əʊ,ek.ə'nɒm.ɪk/, technique /tek'ni:k/, warranted /'wɒr.ən.tɪd/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Aftercare:** rehabilitation in aftercare, arrange an aftercare plan, aftercare services, outpatient aftercare, patient aftercare consisted of assisting the patient to get up from the couch and guiding the patient to the dressing cubicle;

**Extensive:** extensive knowledge, extensive alterations, extensive integration, several of the crash victims had to have extensive plastic surgery;

**Interaction:** constant interaction, successful interaction, direct interaction, the conference encourages interactions among experts in different fields;

**Option:** various options, the list of options, the safest option, to offer options, the options are limited at the moment;

**Preemptive:** preempt the invasion, preempt the attempt, to preempt the problem, to preempt any further escalations of events, a higher-priority process can preempt lower-priority processes;

**Prolong:** prolonged or recurred fever, extensive and prolonged survey, prolonged first stage, the goals of medicine practice in general are to prolong life;

**Subside:** subside immediately, clinical symptoms subsided, the cholera outbreak subsided, the pulmonary edema subsided and hypoxemia improved;

**Susceptible:** susceptible to aggressive factors, highly susceptible to the environment, susceptible to the influence, susceptible to further infection, results showed that bats were less susceptible than mice to the genotype 5 viruses.

**Exercise 4. Translate the following word combinations from English:**

To be considered the last option, prosthetic indications, congenital heart defect, any mechanical or bio heart valves, avoid any possible drug interactions, visible above the gums, remove in one piece, remove the tooth in pieces, prevent from growing into the normal position, an important aspect of aftercare, bite gently on a roll or wad of gauze, preemptive and postoperative pain management, local anaesthetic wears off, subside within 2–3 days, extend from the upper jaw to the eye socket, adequate flap design, jaw fracture and soft tissue trauma.

**Exercise 4. Read and translate the text:**

Tooth Extraction

Tooth extraction is one of the dental treatments which should be considered the last option. A decrease in the number of teeth may result in poor dietary habit and deterioration of quality of life. The number of extracted teeth can serve as an indicator of socioeconomic and oral hygiene level. Extraction of permanent teeth is performed for several reasons including dental caries, periodontal disease, orthodontic reasons, impacted teeth, failed dental treatment, prosthetic indications and other reasons.

Before dental extraction, it is important to obtain the patient's dental and medical history. Some specifics that need to be shared include: history of bacterial endocarditis, congenital heart defect, any mechanical or bio heart valves, liver disease, artificial joint replacements, impaired immune system. These conditions can make a patient more susceptible to infections. It is important to

also include a complete list of current medications, so the dental provider can avoid any possible drug interactions. Blood thinners, for example, can prolong healing after the treatment is completed.

Dental surgeons may classify extractions as simple or surgical. A simple extraction involves a tooth that is visible above the gums and that a dentist can remove in one piece. A surgical extraction is more complicated and involves the removal of gum tissue, bone, or both. The surgeon may need to remove the tooth in pieces.

Dental extraction is the removal of a tooth from its socket in the bone. Teeth are often removed due to impaction, when they are prevented from growing into their normal position in the mouth by gum tissue, bone, or other teeth. Impaction is a common cause for the extraction of wisdom teeth. Extraction may be used to remove teeth that are so badly decayed or broken that they cannot be restored. In addition, patients sometimes choose extraction as a less expensive alternative to filling or placing a crown on a severely decayed tooth.

An important aspect of aftercare is encouraging a clot to form at the extraction site. The patient should put pressure on the area by biting gently on a roll or wad of gauze for several hours after surgery. Once the clot is formed, it should not be disturbed. The patient should not rinse, spit, drink with a straw, or smoke for at least 24 hours after the extraction.

Preemptive and postoperative pain management is part of patient care when performing extractions. A tooth extraction will almost always be followed by pain of varying degree which starts 2–3 hours after the extraction, as the effect of local anaesthetic wears off. The pain will usually subside within 2–3 days. The pain can usually be alleviated with a peripherally acting anti-inflammatory drug. Typically, over-the-counter medications such as acetaminophen or ibuprofen are enough to control the pain after a routine extraction. In more severe cases, a centrally acting analgesic may be prescribed.

A tooth extraction may be complicated by the formation of a haematoma in the surrounding soft tissues. The haematoma may extend from the upper jaw to the eye socket and from the lower jaw to the neck. However, the haematomas are usually not this extensive. Extensive haematomas, accompanied by swelling, pose an infection risk and the prescription of a systemic antimicrobial is warranted.

Simple extractions can become complicated when tooth roots are fractured. Adequate lighting, magnification, and surgical techniques are important when performing surgical (complicated) extractions. Radiographs should be taken before extractions and also during the procedure to assist with difficult extractions. Adequate flap design and bone removal are necessary when performing surgical extractions. Complications, including ocular trauma, jaw fracture, and soft tissue trauma, are avoided or minimized with proper patient selection and technique.

**Exercise 6. Answer the questions according to the text:**

1. Which dental treatment should be considered the last option?
2. What are the reasons for extraction of permanent teeth ?
3. Why is it important to obtain the patient's dental and medical history before dental extraction?
4. Why is it important to include a complete list of current medications before dental extraction?
5. What is classified by dental surgeons as simple extraction?
6. What is classified by dental surgeons as surgical extraction?
7. Why will tooth extraction almost always be followed by pain of varying degree?
8. What is important when performing surgical extractions?
9. What may simple tooth extractions be complicated by?
10. What may surgical tooth extractions be complicated by?

**Exercise 7. Read the sentences and decide if they contain true or false information:**

1. Anticoagulants can prolong healing after the tooth extraction.
2. A surgical extractions are more complex procedures than simple extractions.
3. If a patient cannot afford expensive tooth restoration, extraction is an alternative.

4. It is uncommon to experience pain after a tooth extraction.
5. The pain after extraction can usually be soothed with locally acting pain killer.
6. In order not to disturb a clot formed at the site of extraction, the patient should use a straw for drinking.
7. The pain of varying degree starts 2–3 days after the extraction, as the effect of local anaesthetic wears off.
8. Extensive haematomas after extraction are not common.
9. Difficult extractions require radiographs during and after the procedure.
10. Proper technique and equipment minimize the risk of complications.

**Exercise 8. Translate the word combinations into English:**

Вважатися останнім варіантом, вроджена вада серця, будь-які механічні або біо клапани серця, уникати будь-яких можливих взаємодій ліків, видимий над яснами, видаляти цілою частиною, видаляти зуб шматочками, не дозволяти рости в нормальному положенні, важливий аспект догляду, акуратно прикусити валик або тампон, попереджувальне та післяопераційне знеболення, місцеве знеболення минає, стихати протягом 2–3 днів, поширюється від верхньої щелепи до очної впадини, перелом щелепи і травма м'яких тканин.

**Exercise 9. Translate the sentences into English:**

1. Видалення зуба - одна з процедур, яку слід вважати останнім варіантом.
2. Видалення постійних зубів проводиться з кількох причин, включаючи карієс зубів, пародонтоз, ортодонтичні причини, невдале лікування зубів, протезування та інші причини.
3. Перед видаленням зубів важливо отримати стоматологічний та медичний анамнез пацієнта.
4. Повний перелік поточних препаратів необхідний, щоб стоматолог міг уникнути можливих взаємодій лікарських засобів.
5. Стоматологічні хірурги можуть класифікувати видалення як прості або хірургічні
6. Зуби часто видаляються через скупчення, коли тканини ясен, кісток або інших зубів не дозволяють зубу нормально рости.
7. Попереджувальне та післяопераційне знеболення є частиною догляду за пацієнтами при видаленні зуба.
8. Біль зазвичай може бути полегшений протизапальним препаратом периферичної дії.
9. Видалення зуба може ускладнитися утворенням гематоми в навколишніх м'яких тканинах.
10. Рентгенограми слід робити перед видаленням, а також під час процедури надання допомоги при важких випадках.

**Exercise 10. Arrange sentences in any order referring them to the given terms (you can use some sentences twice):**

Topical anaesthesia	Local anaesthesia	General anaesthesia

1. It is best reserved for short surgeries and cooperative patients.
  - a. These anesthetics are effective to a depth of 2-3mm and are effective in reducing the discomfort of the initial penetration of the needle into the mucosa.
  - e. These anesthetics are available in gel, liquid, ointment, patch and pressurized spray forms.
  - h. The most common ... anesthetics used in dentistry are those with benzocaine or lidocaine.
  - d. Anesthetics (LAs) are used to block transmission of impulses in nerve fibers, to reduce or eliminate sensation.
  - b. Mechanism of action of anesthetics — reversibly inhibit nerve transmission by binding voltage-gated sodium channels in the nerve plasma membrane.

- g. It is applied to a specific region in the body where the procedure will be performed.
- i. It causes a person to 'fall asleep' while the medical procedure takes place.
- k. Drugs given to induce this type of anaesthesia can be either as gases or vapours, or as injections .
- f. These anaesthetics exert their action by the activation of inhibitory central nervous system (CNS) receptors, and the inactivation of CNS excitatory receptors.
- c. It is not used during all medical proceduress due to the high risks associated with this procedure.
- j. These anesthetics affect the chemoreceptor trigger zone and brainstem vomiting center, eliciting nausea and vomiting following treatment.

**Exercise 11. Insert the prepositions where necessary:**

1. Viruses and self-proteins are examples of proteins produced ... of the cell.
2. Dental health problems are certainly not limited ... the developing countries.
3. What is the process of drawing leukocytes ... the site of an infection? - It is Chemotaxis.
4. The secondary immune response ... a previously encountered pathogen is swifter and stronger than the primary immune response.
5. Solution (eg: 10% formalin) storage at 4°C slows ... the autolysis of the cells and tissues ... their own enzymes which they contain.
6. Teeth are often removed ... impaction, when they are prevented from growing ... their normal position in the mouth by gum tissue, bone, or other teeth.
7. A 12 year old boy presents ... acute onset of sore throat, fever to 38.9 degrees C and painful anterior cervical lymphadenopathy.
8. The diagnosis of septicemia should be considered in patients who are ... increased risk of blood stream infection.
9. After a tooth extraction, the patient should not smoke ... at least 24 hours.
10. It is extremely difficult to eradicate staphylococcal infection ... the presence of a foreign body.

**Exercise 12. Put the sentences in the proper order to construct the terms “Simple extraction”, “Surgical extraction”, “Postoperative pain management”:**

- a. General dentists often carry out this procedure in their dental practices, using a local anesthetic to numb the area and reduce the pain experienced by the patient.
- b. It is typically carried out under general anesthetic by an oral surgeon in a dental hospital setting
- c. Typically, over-the-counter medications are enough to control the pain after a routine extraction, but in more severe cases, a centrally acting analgesic may be prescribed.
- d. Instruments to elevate the affected tooth and grasp the visible portion are needed, such as an elevator and dental forceps.
- e. A simple extraction involves a tooth that is visible above the gums and that a dentist can remove in one piece.
- f. The tooth may need to be fragmented into several pieces to allow it be removed.
- g. It is part of patient care when performing extractions.
- h. Post-extraction pain can usually be alleviated with a peripherally acting anti-inflammatory drug.
- i. A tooth extraction will almost always be followed by pain of varying degree which starts 2–3 hours after the extraction, as the effect of local anaesthetic wears off.
- j. A surgical extraction is more complicated than a simple extraction and involves the removal of gum tissue, bone, or both.

**Exercise 13. Find appropriate words in the indicated lines:**

1an administration of a substance producing loss of sensation to pain
3situated below another and especially another similar <u>superior</u> part of an upright body
4loss of sensation with or without loss of consciousness
4pertaining to the lower jaw
5 anaesthetization
8conveying nerve impulses from the <u>sense</u> organs to the nerve centers
10tending to prevent or relieve anxiety
11a crystalline compound $C_{14}H_{22}N_2O$ that is used in the form of its hydrochloride as a local anesthetic and as an antiarrhythmic agent
12something wanted or needed
13a general anesthetic that is administered intravenously and intramuscularly in the form of its hydrochloride $C_{13}H_{16}ClNO \cdot HCl$
15substance in which all components are homogeneously mixed with a liquid
15 able to be removed or separated from something
17a tube with a <u>puncturable</u> cap on one end and a sliding plug on the other end
18remains of something broken, thrown away or destroyed
19with artificially raised pressure in it

**Dental Anesthesia and Dental Syringe**

1 Dental anesthesia is the process of anesthetization for the purpose of operation on the dental, gingival, 2and its associated oral structures. The dental anesthesia procedure relieves the patients discomfort and 3pain during the dental treatment. Normally, the inferior alveolar nerve is anesthetized for dental anesthesia 4procedures. The usual site of injecting dental anesthesia is the mandibular foramen. This causes the 5blockage of the inferior dental nerve, causing the loss of sensation in the lower lip, chin, tongue and the 6teeth.

7 During the process of dental anesthetization, different anesthetic agents are used to block the inferior 8alveolar nerves sensory transmission to the central nervous system. Topical anesthetics like Eugenol, 9benzocaine are applied to the oral tissues with a sterile swab to relieve buccal surface pain. Nitrous oxide, 10the anti-anxiety agent, relaxes the patient during the dental procedures. Anti-anxiety agents are used for 11moderate sedation purpose. Lidocaine, xylocaine, septocaine or marcaine, or any other suitable 12anesthetic agent, depending on the procedural requirement, induces local anesthesia. Deeper sedation or 13general anesthesia under ketamine or fentanyl may be required in certain dental cases.

14 The dentist uses specialized dental syringe containing a breech-loading syringe that has an anesthetic 15solution packed in a hermetically sealed cartridge. The syringe tip is detachable from the syringe body. 16This dental syringe containing the anesthesia is inserted towards the root apex of the tooth until the bone 17is contacted. The dental carpule contains the anesthetic agent of xylocaine with epinephrine. The dental 18syringe may also contain an additional tool to supply water or air to remove debris while conducting the 19dental procedure. A 3-way dental syringe is used which can supply pressurized air, water, and a mist of 20water and air through separate channels to assist the dental procedure.

**Exercise 14. Form verbs the and adjectives with the help of the following nouns and translate them:**

VERB	NOUN	ADJECTIVE
	functionality	
	extirpation	
	destruction	
	deposit	
	misalignment	
	substitution	
	removal	
	referral	
	range	



	straightening	
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**Exercise 15. Make questions to the underlined words:**

Indications for Third-molar Extraction

1. Defining the indications for third-molar extraction is a topic of controversy among dentists.
2. The dentist's management of third molars depends on identifying the presence of symptoms attributable to the third molar.
3. Dodson developed a useful guide that serves as a systematic and unambiguous way to classify third molars.
4. Group A third molars are common and recognized readily.
5. Patients with third molars in group A have symptoms such as severe pain, edema or trismus.
6. Physical and radiographic examination findings may reveal acute pericoronitis, dental caries or localized or spreading fascial space infection or a combination of the preceding.
7. 25 to 30 percent of impacted third molars are extracted because of acute or recurrent pericoronitis.
8. Dental caries may be present because of the patient's difficulty in reaching the region to clean it adequately.
9. Pericoronitis or caries that has resulted in pulpal necrosis can result in a localized or spreading fascial space infection.
10. Treatment of third molars in group A focuses on addressing the presence of disease.

**Exercise 16. Open the brackets completing the sentences with the given verbs. All of them require gerunds after them:**

**admit(accept the fact), avoid, delay, deny, keep on, involve, justify, recommend, risk, mention**

1. Other approaches to treating alpha-1 antitrypsin deficiency (to treat) the complications of emphysema and cirrhosis.
2. Patients with lung disease should (to smoke) cigarettes as well as second hand smoke.
3. The study says that "a significant number of patients" do not fully understand they (to develop) serious heart disease complications.
4. In some cases, your doctor may recommend doing a kidney or lung biopsy to diagnose Churg-Strauss syndrome.
5. He (to have) any associated symptoms of dyspnea, wheezing, nasal congestion, fever, or chills.
6. On careful questioning he (to have) pain in the urethra on passing urine.
7. In fact, one study suggested that people use diet drinks to help (to eat) more calories.
8. The doctor told me also that I will always be "diabetic", so I plan to lose even more weight and (to exercise).
9. He (to work) in that company.
10. A lack of moisture at the surface of a wound can halt cellular migration, decrease blood oxygenation, and seriously (to heal).

**Exercise 17. Read the sentences, fill in the gaps with the appropriate words.**

1. An inflammation is a ... response to cellular injury that is marked by capillary dilatation, leukocytic infiltration, redness, heat, and pain and that serves as a mechanism initiating the elimination of noxious agents and of damaged tissue.
2. An ... is exaggerated or pathological immunological reaction (as by sneezing, difficult breathing, itching, or skin rashes) to substances, situations, or physical states that are without comparable effect on the average individual.

3. ... refers to an inflammatory condition of the liver. It's commonly caused by a ... infection, but there are other possible causes. This condition may be autoimmune or occurs as a secondary result of medications, drugs, toxins, and ... .
- 4 ... is a malignant tumor of potentially unlimited growth that expands locally by invasion and systemically by metastasis.
5. ... , also known as water tablets, help reduce fluid... in your body. They are drugs that promote sodium and water excretion by inhibiting sodium reabsorption in renal tubules.
6. ... are medicines that include sedatives, tranquilizers, and hypnotics. These drugs can slow brain activity, making them useful for treating anxiety, panic, acute stress reactions, and sleep disorders.
7. A malocclusion is a misalignment or incorrect ... between the teeth of the two dental arches when they approach each other as the jaws close. The term was coined by Edward Angle, the "father of modern ... ".
8. ... is a sticky, colorless film of bacteria and sugars that constantly forms on our teeth. It is the main cause of cavities and gum disease, and can harden into ... if not removed daily.
- 9 ...., an inflammation of the dental pulp, can occur when caries or its bacterial byproducts encroach on the dental pulp, leading to infection, or when pathogens ... the pulp through the apical foramen or through a tooth fracture.
10. Dental filling is a treatment to ... the function, integrity, and morphology of missing tooth structure resulting from caries or external ... as well as to the replacement of such structure supported by dental implants.

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

останній варіант  
 вроджена вада серця  
 унікати взаємодій ліків  
 видаляти цілою частиною  
 попереджувальне та післяопераційне знеболення  
 важливий аспект догляду  
 акуратно прикусити валик або тампон  
 стихати протягом 2–3 днів

#### II. Дайте відповідь на питання:

1. What are the reasons for extraction of permanent teeth ?
2. Why is it important to obtain the patient's dental and medical history before dental extraction?
3. What is classified by dental surgeons as simple extraction?
4. What is classified by dental surgeons as surgical extraction?
5. Why will tooth extraction almost always be followed by pain of varying degree?
6. What may simple tooth extractions be complicated by?

#### III. Розкрийте поняття:

Просте видалення, хірургічне видалення, післяопераційне знеболення

### DENTAL IMPLANTS

### Зубні імпланти

#### Exercise 1. Topic vocabulary:

abutment	/ə' bʌt.mənt/	абатмент
compatibility	/kəm.pæt.ə'bil.ə.ti/	сумісність

conventional	/kən'ven.ʃən.əl/	стандартний
durable	/'dʒʊə.rə.bəl/	довговічний
endosseous	/,en.d'ɒs.i.əs/	внутрішньокістний
exert	/ɪg'zɜ:t/	застосовувати
fixture	/'fiks.tʃər/	імплантат
integrate	/'ɪn.tɪ.greɪt/	інтегруватися, з'єднуватися
pilot hole	/'paɪ.lət/	направляючий отвір
post	/pəʊst/	штифт
precision	/prɪ'sɪʒ.ən/	точність
screw	/skru:/	шуруп
smooth	/smu:ð/	гладенький
stent	/stent/	стеніт
stitch	/stɪtʃ/	шов
sturdy	/'stɜ:.di/	міцний
surgical guide	/'sɜ:.dʒɪ.kəl gaɪd /	хірургічний шаблон
tightly	/'taɪt.li/	щільно

**Exercise 2. Read and memorize the pronunciation of the following words:**

Inferior /ɪn'fɪə.ri.ər/, osteotomy /,ɒs.ti'ɒt.ə.mi/, peri-implantitis / ,per.ɪ ɪm.plɑ:n 'taɪ.tɪs/, saline /'seɪ.laɪn/, titanium /tɪ'teɪ.ni.əm/ /taɪ'teɪ.ni.əm/, sinus /'saɪ.nəs/.

**Exercise 3. Read the word combinations and sentences with the new words and translate them into Ukrainian:**

**Conventional:** conventional treatment, conventional approach, conventional behaviour, traditional and non-conventional medicines, conventional medicine is traditional medicine that the majority of us are familiar with;

**Durable:** light and durable, extremely durable, durable material, durable fabrique, titanium is durable and naturally resistant to rust and corrosion;

**Fixture:** advanced fixture design, titanium-based fixture, surgical replacement fixtures, fixture is the titanium device which replaces the original root of the tooth;

**Integrate:** highly integrated, integrated systems, one of the main functions of connective tissue is to integrate organs and organ systems in the body.

**Precision:** high precision, require great precision, a precision instrument, degree of precision, life expectancy data were offered with great precision in this study;

**Smooth:** a smooth surface, a smooth texture, a smooth consistency, the stratum lucidum is a smooth layer of the epidermis located just above the stratum granulosum;

**Stitch:** to remove stitches, close cuts with stitches, lacerations require stitches, her head wounds needed 50 stitches;

**Tightly:** tightly adherent, tightly connected, tightly packed, tightly focused on something, the cells are very tightly attached to membranes.

**Exercise 4. Translate the following word combinations from English:**

Endosseous implant or fixture, affect the chances of osseointegration, sturdy, titanium post, a conventional implant, a roughened or smooth surface, compatibility with bone and oral tissues, nearby anatomic structures, pilot holes, precision drills, damage the osteoblast by overheating, cooling saline or water spray, integrate with the jawbone, attached to the implant or an abutment, tightly fitted into this socket, exert any forces on the healing implant, peri-implantitis and mechanical failures.

**Exercise 4. Read and translate the text:**

**Dental Implants**

Dental implants (also known as an endosseous implant or fixture) are natural-looking replacements for missing teeth that also provide the same function as a natural tooth root. Success or failure of implants depends on the health of the person receiving the treatment, drugs which affect the chances of osseointegration, and the health of the tissues in the mouth.

A dental implant is a small, sturdy, titanium post that acts as the root structure would do for a natural tooth. A typical conventional implant consists of a titanium screw with a roughened or smooth surface. The majority of dental implants are made of commercially pure titanium, which is available in four grades depending upon the amount of carbon, nitrogen, oxygen and iron contained. Titanium metal is used because of its compatibility with bone and oral tissues.

Placement of dental implants is a surgical procedure and carries the normal risks of surgery including infection, excessive bleeding and necrosis of the flap of tissue around the implant. Nearby anatomic structures, such as the inferior alveolar nerve, the maxillary sinus and blood vessels, can also be injured when the osteotomy is created or the implant placed.

After reflecting the soft tissue, and using a surgical guide or stent as necessary, pilot holes are placed with precision drills at highly regulated speed to prevent burning or pressure necrosis of the bone. The pilot hole is expanded by using progressively wider drills. Care is taken not to damage the osteoblast or bone cells by overheating. A cooling saline or water spray keeps the temperature low. The titanium implant is tightly fitted into this socket and the gum is stitched back over the implant.

Once the implant has been placed it is left to heal and integrate with the jawbone. A variable amount of healing time is required for osseointegration before either the dental prosthetic (a tooth, bridge or denture) is attached to the implant or an abutment is placed which will hold a dental prosthetic/crown.

The bone tissue will grow and anchor itself into the microscopic rough surface of the implant. During this "healing period" patients are given temporary teeth (bridges) or continue to wear dentures. It is important that any temporary teeth do not exert any forces on the healing implant. After the healing period the gum is lifted again and a post is attached to the implant with a temporary crown. Four to six weeks later when the surrounding gum tissue has matured, the final permanent restoration can be fitted to the implant.

The risks and complications related to implant therapy divide into those that occur during surgery (such as excessive bleeding or nerve injury), those that occur in the first six months (such as infection and failure to osseointegrate) and those that occur long-term (such as peri-implantitis and mechanical failures).

Implants are very durable and can last a lifetime. They require the same maintenance as natural teeth; this includes brushing, flossing and regular dental check-ups.

**Exercise 6. Answer the questions according to the text:**

1. What is the function of an endosseous implant?
2. What does the success or failure of implants depend on?
3. What are the majority of dental implants made of?
4. Why is Titanium the best material for manufacturing dental implants?
5. Why is it necessary to keep temperature low while placing pilot holes?
6. What process starts once the implant has been placed?
7. When can the final permanent restoration be fitted to the implant?
8. What are the risks and complications related to implant therapy?
9. What maintenance do implants require?
10. How long can implants last?

**Exercise 7. Read the sentences and decide if they contain true or false information:**

1. Commercially Pure (CP) Titanium is represented by four distinct grades.
2. Placement of dental implants is completely free from risks of surgery.
3. The pilot hole is wide enough to insert the titanium implant.

4. After the titanium implant has been tightly fitted into the drilled socket, the gum is left to heal by its own.
5. Osseointegration requires variable amount of healing time.
6. Both dental prosthetic and abutment are always attached to the implant.
7. Pressure on temporary teeth does not affect the process of implant healing.
8. Every stage of implant therapy is associated with certain risks.
9. Excessive bleeding is a common long-term complication of implant therapy.
10. As implants are very durable, it is unnecessary to provide them with the same maintenance as natural teeth.

**Exercise 8. Translate the word combinations into English:**

Внутрішньокістний імплантат, впливати на шанси на осеоінтеграцію, звичайний імплантат, шершава або гладка поверхня, сумісність з кістковою таниною, прилеглі анатомічні структури, пілотні(направляючі) отвори, високоточний дріль, пошкоджувати остеобласти при перегріванні, охолодження сольовим розчином або водяним спреєм, інтегруватися з щелепною кісткою, чинити будь-який тиск на імплант, що загоюється, періімплантит та механічні пошкодження.

**Exercise 9. Translate the sentences into English:**

1. Успіх імплантатів залежить від здоров'я людини, яка отримує лікування.
2. Типовий імплантат складається з титанового гвинта з шершавою або гладкою поверхнею.
3. Розміщення зубних імплантатів є хірургічною процедурою і несе в собі звичайні ризики хірургічного втручання, включаючи інфекцію, надмірну кровотечу та некроз ділянки тканини навколо імплантату.
4. Направляючі отвори здійснюють за допомогою високоточних свердел з високорегульованою швидкістю, щоб запобігти опіку.
5. Охолоджуючий сольовий розчин або водяний спрей підтримують низьку температуру.
6. Кількість часу, що необхідна для загоєння та осеоінтеграції, може варіювати.
7. Після того, як імплантат буде розміщений, його залишають гоїтися та інтегрувати з щелепною кісткою.
8. Кісткова тканина буде рости і закріплюватися в мікроскопічну шершаву поверхню імплантата.
9. Важливо, щоб будь-які тимчасові зуби не чинили ніякого тиску на імплантат, що загоюється.
10. Імпланти вимагають такого ж піклування, як і природні зуби: чистки, зубної нитки регулярних оглядів.

**Exercise 10. Match the terms to their explanations:**

1. Abutment	a. ... is the largest of the paranasal sinuses.
2. Inferior alveolar nerve	b. ... refers to the process of bone growing right up to the implant surface. When this process occurs, the implant is tightly held in place by the bone. The process typically takes four to six months to occur well enough for the implant dentist to complete the restorations.
3. Maxillary sinus	c. ...are cells with a single nucleus that synthesize bone.
4. Osseointegration	d. ...is any surgery that cuts and reshapes bones.
5. Osteoblasts	e. ... connecting pieces that join the prosthesis to the implants.
6. Osteotomy	f. ... is a site-specific infectious disease that causes an inflammatory process in soft tissues, and bone loss around an osseointegrated implant.

7. Peri-implantitis	g. ... titanium bolt or screw that is placed in the bone to eventually support a tooth or crown.
8. Fixture	h. ... is a branch of the mandibular nerve( which is itself the third branch of the trigeminal nerve), these nerves supply sensation to the lower teeth.

**Exercise 11. Insert the prepositions where necessary:**

1. Implantation is usually carried out ... local anesthesia.
2. A small hole is drilled ... the jawbone ... the precise location ... the intended implant.
3. The implant integrates with the jawbone ... between 6 weeks ...6 months.
4. People with poorly controlled diabetes may not be good candidates ... implants.
5. Any temporary teeth should not exert any forces ... the healing implant.
6. Four ... six weeks later the final permanent restoration can be fitted ... the implant.
7. Dental implants are not indicated ... smokers and those ... uncontrolled chronic diseases or systemic problems.
8. People ... poorly controlled diabetes may not be good candidates ... implants as well
9. On admission, the patient was afebrile, and the left wrist was moderately swollen and tender ... palpation.
10. Researchers in prospective studies of occlusal caries in patients with asymptomatic third molars reported ... an increasing frequency of caries with increasing age and erupted third molars.

**Exercise 12. Put the sentences in the proper order to construct the terms “Titanium implant”, “Osseointegration” :**

- a. Osseointegration is the process of implant integration with the jawbone.
- b. A variable amount of healing time is required before either the dental prosthetic (a tooth, bridge or denture) is attached to the implant or an abutment is placed which will hold a dental prosthetic/crown.
- c. Titanium implant is a small, sturdy, titanium post that acts as the root structure would do for a natural tooth.
- d. The grade of commercially pure titanium depends upon the amount of carbon, nitrogen, oxygen and iron contained.
- e. Since the connective tissue connects directly with the implant, the risk of it falling out or becoming loose is eliminated.
- f. This metal is used because of its compatibility with bone and oral tissues.
- g. A typical conventional implant consists of a titanium screw with a roughened or smooth surface.
- h. A number of microscopic holes on the surface of dental implants provide osteoblasts and connective tissue the ability to secure the implant into the bone.

**Exercise 12. Make special questions to the underlined words:**

1. Impaction is a common cause for the extraction of wisdom teeth.
2. The integration of the implant with the jawbone lasts between 6 weeks to 6 months.
3. Before dental extraction, it is important to obtain the patient's dental and medical history.
4. During the "healing period" patients are given temporary bridges or dentures.
5. A typical conventional implant consists of a titanium screw with a roughened or smooth surface.
6. The grade of commercially pure titanium depends upon the amount of carbon, nitrogen, oxygen and iron contained.
7. When the condition is irreversible, pulpal inflammation does not go away even after removing the cause.

8. After implantation the gum is stitched back over the implant.

9. A simple extraction involves a tooth that is visible above the gums and that a dentist can remove in one piece.

10. If the abscess has spread to the adjacent teeth or to deeper tissue, antibiotic treatment should be initiated.

**Exercise 13. Explain the meaning of each term in one sentence or a word combination:**

1. allergy 2. laryngitis 3. osteoma 4. tracheoscopy 5. xerodermia 6. pseudomembrane  
7. lactostasis 8. lipolysis 9. osseointegration 10. lidocaine

**Exercise 14. In the text below, find synonyms and antonyms to the following words:**

synonyms	antonyms
2 velocity	5 appropriate
3 from outside, from inside	8 elimination
4 buildup	9 superficial
6 membrane	12 thickening
7 received	13 partially
11 yellowing	19 darkening
14 connected	
15 bonding	
16 congenital	

**Tooth Staining**

1 Many types of color problems may affect the appearance of teeth, and the causes of these 2 problems vary, as does the speed with which they may be removed. Discolorations may be 3 extrinsic or intrinsic.

4 Extrinsic stains usually result from the accumulation of chromatogenic substances on the 5 external tooth surface. Extrinsic color changes may occur due to poor oral hygiene, ingestion of 6 chromatogenic food and drinks, and tobacco use. These stains are localized mainly in the 7 pellicle and are either generated by the reaction between sugars and amino acids or acquired 8 from the retention of exogenous chromophores in the pellicle.

9 Intrinsic stains are usually caused by deeper internal stains or enamel defects. They are 10 caused by aging, ingestion of chromatogenic food and drinks, tobacco usage, enamel 11 microcracks, tetracycline medication, excessive fluoride ingestion, severe jaundice in infancy, 12 porphyria, dental caries, restorations, and the thinning of the enamel layer.

13 Discoloration from drug ingestion may occur either before or after the tooth is fully formed. 14 tetracycline is incorporated into the dentin during tooth calcification, probably through 15 chelation with calcium, forming tetracycline orthophosphate, which causes discoloration. 16 Moreover, intrinsic stains are also associated with inherited conditions.

17 Tooth stains caused by aging, genetics, smoking, or coffee are the fastest to respond to 18 bleaching: Yellowish aging stains respond quickly to bleaching in most cases, whereas blue- 19 gray tetracycline stains are the slowest to respond to bleaching, while teeth with brown 20 fluorescence are moderately responsive.

**Exercise 15. Open the brackets, using the verbs in the correct tense and voice forms:**

**Case study**

The patient **1. (to present)** with very loose teeth as a result of gum and bone disease. Our approach **2. (to require)** a very comprehensive treatment plan, which **3. (to include)** periodontics, dental implants, porcelain crowns and teeth whitening.

Initially, several teeth were too diseased and **4. (have to extract)**. Following this, the patient **5. (to see)** by our hygienists for about 6 months to get her bone and gums healthier. We also **6. (to use)** laser treatment to assist with this healing process.

Orthodontics **7. (to apply)** to the upper teeth to get the upper smile as good as possible before a cosmetic gingivectomy to get the gum heights of the teeth correct. This is very important, as the teeth can never look good unless the height and positioning to the gums is even and correct.

Once the remaining teeth **8. (to be)** healthy and the upper teeth were in the correct position, implants were used to replace all missing teeth, upper and lower. These had to heal for 4 months before the crowns **9. (can replace)** over the implants.

Finally, we **10. (to whiten)** the remaining teeth to get a nice white colour before making the crowns to match the permanent teeth.

### Exercise 17. Read and complete the text:

The majority of dental treatments are carried out to prevent or treat the two most common oral diseases which are **1. ...** (tooth decay) and **2. ...** (gum disease or pyorrhea). Common treatments involve the restoration of teeth, **3. ....**, **2. ....**, **3. ...** treatment and **4. ...**.

Dental specialists by nature of their general training they can carry out the majority of dental treatments such as restorative (**5. ....**, **6. ...**, **7. ...**), prosthetic (**8. ...**), endodontic (**9. ...**) therapy, periodontal (**10. ...**) therapy, and extraction of teeth, as well as performing examinations, radiographs, and diagnosis. Dentists can also prescribe medications such as **11. ....**, **12. ....**, and any other drugs used in patient management.

Dentists also encourage prevention of oral diseases through proper **13. ...** and regular **14. ...** for professional cleaning and evaluation. Oral infections and inflammations may affect overall health and conditions in the oral cavity may be indicative of **15. ....**, such as osteoporosis, diabetes, celiac disease or cancer. Many studies have also shown that gum disease is associated with an increased risk of diabetes, heart disease, and preterm birth. The concept that oral health can affect systemic health and disease is referred to as "oral-systemic health".

### Завдання для самоконтролю

#### I. Перекладіть словосполучення:

1. внутрішньокістний імплантат
2. шершава або гладка поверхня
3. сумісність з кістковою таниною
4. прилеглі анатомічні структури
5. пошкоджувати остеобласт при перегріванні
6. періімплантит та механічні пошкодження.
7. високоточний дріль
8. чинити будь-який тиск на імплант

#### II. Дайте відповідь на питання:

1. What is the function of an endosseous implant?
2. Why is Titanium the best material for manufacturing dental implants?
3. Why is it necessary to keep temperature low while placing pilot holes?
4. When can the final permanent restoration be fitted to the implant?



5. What are the risks and complications related to implant therapy?
6. What maintenance do implants require?

**III. Розкрийте поняття:**

Титановий імплант, осеоінтеграція