MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY

PROFESSIONAL MEDICAL ENGLISH

Course Book for Higher Edication Students
Speciality 222 Medicine
IV level of accreditation

Executive Editor Professor L. H. Rusalkina

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P93 **Professional Medical English** : Course book for higher education students, speciality 222 Medicine of higher educational institutions of IV level of accreditation / L. H. Rusalkina, E. M. Mokriienko, N. V. Lazor, O. M. Bermas ; Executive Editor Prof. L. H. Rusalkina [Ebook]. – Odesa : ONMedU, 2023. – 256 p.
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The course book is intended for students of higher education in the specialty 222 Medicine of the second year of study in accordance with the requirements of the Professional English Language program.

The purpose of the course book is to form a foreign language communicative competence in the field of professional terminology in higher education medical students. The course book consists of 30 chapters organized according to the thematic principle. Each section contains a text, a thematic explanatory dictionary, a system of lexical and grammatical exercises of a communicative orientation and a case history. When compiling the course book, authentic text materials were used.

The course book can be used in postgraduate education courses, as well as for self-improvement of the professional English language level by practicing doctors.

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ПЕРЕДМОВА

Мета навчального посібника “Professional Medical English” — забезпечити здобувачів вищої освіти якісними матеріалами, необхідними для формування професійно-орієнтованих іншомовних комунікативних компетентностей в галузі медицини, що передбачає засвоєння загальнонаукової і фахової іншомовної термінології, формування умінь і навичок інтерпретації змісту оригінальної англомовної літератури за спеціальністю, удосконалення навичок професійного спілкування англійською мовою в усній та письмовій формах.

Навчальний посібник складено з використанням автентичних текстових матеріалів, які упорядковані у 30 розділів за тематичним принципом. Тематика посібника охоплює різні галузі медицини: внутрішні хвороби, хірургію, ендокринологію, інфекційні хвороби, дитячі інфекції, шкірні захворювання, захворювання нервової системи, тощо. Кожен розділ є автономною навчальною і структурно-методичною одиницею, тому матеріали посібника можуть бути використані вибірково, або в довільному порядку, якщо того потребує програма певного курсу чи індивідуальні навчальні потреби при самостійному вдосконаленні рівня англійської мови за професійним спрямуванням практикуючими лікарями.

У посібнику реалізується метод “занурення”, тобто “англійська через англійську”: замість тематичних двомовних словників до кожного розділу подано тлумачний словничок ключових медичних термінів за темою; відсутні вправи на переклад, пояснення та коментарі українською мовою, зате є завдання, які моделюють ситуацію професійної діяльності в англомовному середовищі, наприклад, аналіз фрагментів історії хвороби. Особлива увага приділяється роботі з дефініціями клінічних і загальнонаукових термінів, які є лексичною базою підмови медицини. В систему вправ включено завдання, пов’язані з продуктивними словотворчими моделями, притаманними науковому стилю мовлення, а також завдання граматико-морфологічного характеру, які забезпечують розуміння іншомовної фахової літератури та комунікаційну адекватність при використанні іноземної мови у професійному спілкуванні.

Навчальний посібник призначений для здобувачів вищої освіти за спеціальністю 222 Медицина, а також може використовуватися на курсах післядипломної освіти та для самостійного вдосконалення рівня англійської мови за професійним спрямуванням практикуючими лікарями.

PREFACE

The purpose of the course book “Professional Medical English” is to provide higher education students with high-quality materials required to form a professionally oriented foreign language communicative competence in the field of medicine, which encompasses the acquisition of general scientific and professional foreign language terminology, the formation of skills and abilities to interpret the original English-language medical literature, thus improving oral and written professional communication skills in English.

This coursebook thoughtfully organizes authentic textual materials into 30 thematic chapters spanning various medical disciplines: internal medicine, surgery, endocrinology, infectious diseases, children’s infections, skin diseases, CNS diseases, etc. Each section operates as a self-contained educational and methodological unit, allowing flexibility in selecting materials to suit course program requirements or individual educational needs during self-directed English language proficiency development among medical practitioners.

The course book adopts an immersive pedagogical approach using the “English through English” methodology. Instead of bilingual glossaries, each chapter provides a comprehensive explanatory glossary of topic-specific medical terminology. Translation exercises, Ukrainian-language explanations, and comments are conspicuously absent, replaced by tasks designed to simulate real-world professional scenarios in English-speaking environments, such as medical history analysis. The definitions of general scientific and clinical terms draw special attention. The exercise system incorporates productive word-formation models inherent to scientific discourse, along with tasks of grammatical and morphological nature, fostering an understanding of specialized foreign language literature and promoting effective communication in professional contexts.

The course book “Professional Medical English” is intended for students of higher education in the specialty 222 Medicine and can also be recommended for advanced/professional development courses and for self-study mastering English by practicing physicians.

DISEASES OF THE UPPER RESPIRATORY TRACT

Exercise 1. Topic vocabulary:

adenopathy, n	[əˈdenəˌpæθɪ]	large or swollen lymph nodes
aphonia, n	[æˈfəuniə]	loss of the voice
crypt, n	[kript]	any small recess, pit or cavity in the body
dysphagia, n	[disˈfeidʒiə]	difficulty in swallowing
dyspnea, n	[dispˈniə]	breathlessness or shortness of breath; labored or difficult breathing
edema, n	[iˈdi:mə]	swelling of soft tissues as a result of excess fluid accumulation
erythema, n	[eriˈθi(:)mə]	redness of the skin that results from capillary congestion
exudate, n	[ˈeksjudeit]	fluid that leaks out of blood vessels into nearby tissues
hoarseness, n	[ˈhɒ:snis]	abnormal voice changes manifested as a voice that sounds breathy, strained, rough, or has a higher or lower pitch; dysphonia
hyperemic, adj	[ˌhaɪpəˈri:mɪk]	denoting hyperemia – an excess of blood in the blood vessels in a specific part of the body
malaise, n	[məˈleiz]	a general feeling of being unwell
purulent, adj	[ˈpjʊərʊlənt]	containing, discharging or causing the production of pus

Exercise 2. Read the word combinations and explain them:

Membrane: thin membrane, mucous membrane, cellular membrane, permeable membrane

Treatment: long-term treatment, in-patient treatment, surgical treatment, hormone treatment, ineffective treatment, adequate treatment

Fever: slight fever, persistent fever, high fever, to cause fever, to suffer from fever

Inflammation: joint inflammation, acute inflammation, chronic inflammation, to reduce inflammation, signs of inflammation

Sign: apparent sign, visible sign, early sign, external sign, unmistakable sign

Exercise 3. Form nouns with the meaning of "process; action result" with the help of the suffix -ing. Use them in phrases or in sentences:

Model: bleed →bleeding

Find, act, smoke, walk, train, warm, cool, feel, understand, learn, swell, function swallow, sweat, think, sneeze.

Exercise 4. Explain the following word combinations:

Edematous and hyperemic tonsils, purulent exudate, symptomatic therapy, cervical adenopathy, frequent cause, inflammation, apparent dyspnea, laryngeal edema, marked erythema, the severity of the inflammation, to relieve discomfort

Exercise 5. Read the text and answer the questions below:

A respiratory disease is a medical term that encompasses pathological conditions affecting the respiratory tract.

Infections can affect any part of the respiratory system. They are traditionally divided into upper respiratory tract infections and lower respiratory tract infections.

DISEASES OF THE UPPER RESPIRATORY TRACT

The tonsils normally help to prevent infections. They act like filters to trap bacteria and viruses entering the body through the mouth and sinuses. The tonsils also stimulate the immune system to produce antibodies to help fight off infections

Tonsillitis is an acute inflammation of the palatine tonsils, usually due to streptococcal or, less commonly, viral infection. Tonsillitis is characterized by a sore throat and pain, most marked on swallowing and often referred to the ears. High fever, malaise, headache and vomiting are common. As a rule the tonsils are edematous and hyperemic. There may be a purulent exudate from the crypts and a white, thin membrane over the tonsils which is peeled away without bleeding.

Tonsillectomy is a surgical procedure in which each tonsil is removed from a recess in the side of the pharynx called the tonsillar fossa. Tonsillectomy should be considered if acute tonsillitis repeatedly develops after adequate treatment, or if chronic tonsillitis and a sore throat persist or are relieved only briefly by antibiotic therapy.

Pharyngitis is an acute inflammation of the pharynx. Usually viral in origin, it may also be due to a Group A or other bacteria. It is characterized by sore throat and pain on swallowing. The pharyngeal mucous membrane may be mildly red or severely inflamed and may be covered with a membrane and a purulent exudate. Fever cervical adenopathy, and leukocytosis are present in both viral and streptococcal pharyngitis but may be more marked in the latter.

Treatment is symptomatic and includes a diet, scald foot baths, warm compresses on the anterior part of the neck, milk with honey, steam inhalations and gargling. Antibiotic therapy is usually administered in severe forms of pharyngitis.

Laryngitis is an inflammation of the larynx. The most frequent cause of acute laryngitis is a viral URI. Laryngitis may also occur in the course of bronchitis, pneumonia, influenza, whooping cough, measles, and diphtheria. Excessive use of the voice, allergic reactions, and inhalation of irritating substances such as cigarette smoke can cause acute or chronic laryngitis.

Unnatural change of voice is usually the most prominent symptom. Hoarseness and even aphonia, together with a sensation of tickling, a constant wish to clear the throat, and an irritating cough that does not go away may occur. Symptoms vary with the severity of the inflammation. Fever, malaise, dysphagia, and throat pain may occur in more severe infections; dyspnea may be apparent if laryngeal edema is present. Indirect laryngoscopy discloses a mild to marked erythema of the mucous membrane that may also be edematous.

There is no specific treatment for viral laryngitis. Voice rest and steam inhalations give symptomatic relief and promote resolution of acute laryngitis.

Exercise 6. Answer the questions:

What is tonsillitis?

1. What are the symptoms of tonsillitis?
2. What types of pharyngitis are there?
3. What are the symptoms of pharyngitis?
4. What does the treatment of pharyngitis include?
5. What are the most frequent causes of laryngitis?
6. What are the symptoms of laryngitis?
7. What does the treatment of laryngitis include?

Exercise 7

I. Memorize that *-itis [aitis]* means *inflammation of an organ, tissue, etc.* Write the terms using this term-element:

1. Inflammation of the liver – …
2. Inflammation of the larynx and vocal folds – …
3. Inflammation of the stomach – …
4. Inflammation of the bronchi – …
5. Inflammation of the ear – …
6. Inflammation of the nerve – …
7. Inflammation of the peritoneum – …
8. Inflammation of the pharynx – …

II. Explain the term meaning *excision (surgical removal)*. Translate it:

Model: *tonsillectomy is excision of the tonsils*

Gastrectomy, pancreatectomy, nephrectomy, splenectomy, laryngectomy, hysterectomy, adenectomy, sclerectomy

Exercise 8. Read the definition and fill in the blanks with the words given in brackets:

(Pharyngoplasty, pharyngomycosis, pharyngotomy, pharyngoscope, pharyngolaryngitis, laryngopathy, laryngograph, laryngology, tracheostomy, tracheorrhagia, tracheitis)

1. Inflammation of the trachea	
2. Making an opening in the anterior part of the trachea for tube introduction in order to facilitate breathing	
3. Inflammation of both throat and voice box	
4. Invasion of the mucous membrane of the throat by fungi	
5. An instrument used for inspection of the throat mucous membrane	
6. A surgical procedure of making an incision into the throat to remove a tumor or anything obstructing the passage	
7. Systematized knowledge of the action and function of the voice box	
8. An instrument for making a tracing of movements of the vocal folds	
9. Trachea bleeding	
10. Any larynx pathology	
11. Plastic surgery of the throat	

Exercise 9. Match the words in italics to their synonyms:

1. Bleeding	a) leading
2. Edematous	b) pertussis
3. Examination	c) application
4. Fever	d) breathlessness
5. Whooping cough	e) hemorrhage
6. Hoarseness	f) reddened
7. Prominent	g) inspection
8. Use	h) temperature
9. Dyspnea	i) swollen
10. Hyperemic	j) dysphonia

Exercise 10. Change the sentences to Passive Voice according to the model:

Model: I stick a label. – The label is stuck by me.

a)

1. The nurse sponges the patient's skin.
2. A poisonous remedy causes death.
3. The doctor checked up my kidneys
4. The child takes cod liver oil.
5. The surgeon rinses his hands.
6. The doctor administers healing ointments.
7. The patient takes sedatives.
8. The physician has filled in the case history.

b)

1. The nurse has put a new outer bandage on the patient's wound.
2. The doctor had determined dull heart sounds by percussion before the electrocardiogram was taken.
3. The surgeon on duty has arrested a profuse abdominal bleeding.
4. The nurses had laid the patient down on a stretcher when the doctor came into the ward.
5. The surgeon has just performed the operation for appendicitis.
6. The surgeon has taken out the stitches today.
7. The nurse has removed the dressing carefully.
8. The ENT doctor has examined the patient's throat.

Exercise 11. Put questions to the underlined words:

1. Catarrhal condition of the throat decreases the patient's work capacity.
2. Bad teeth and chronic inflammation of the tonsils should receive timely treatment.
3. Pain is most marked on swallowing.
4. Dyspnea may be apparent if laryngeal edema is present.
5. Chronic tonsillitis is relieved by antibiotic therapy.
6. Acute symptoms vary with the severity of the inflammation.
7. Indirect laryngoscopy discloses marked erythema of the mucous membrane.
8. Steam inhalations promote recovery from acute laryngitis.

Exercise 12. Open the brackets and put the verbs in the correct tense and voice:

1. Tonsillitis (to characterize) by sore throat and pain, often radiated to the ears.
2. If chronic tonsillitis and sore throat persist, the patient (to perform) tonsillectomy.
3. Pharyngitis (to mark) by sore throat and pain on swallowing.
4. The most frequent cause of acute laryngitis (to be) a viral URI.
5. If your tonsillitis (to cause) by a bacterial infection, the doctor may prescribe antibiotics.
6. In tonsillitis the membrane (to peel away) without bleeding.
7. Indirect laryngoscopy (to disclose) a mild to marked erythema of the mucous membrane.
8. Most researchers (to suggest) that the most contagious time frame for laryngitis is when the infected person (to have) a fever.

***Exercise 13. Read the case presentation and fill in the table below with the appropriate information:**

A 14-year-old girl is admitted to the hospital with a 3-week history of sore throat leading to significantly decreased oral intake. She reports progressive worsening of a painful sore throat resulting in avoidance of nearly all oral intake and an associated weight loss. She has presented to care twice, 2 weeks and 2 days earlier. During each of those visits, rapid group A streptococcal (GAS) antigen testing and follow-up GAS culture were negative. She was discharged with symptomatic care for presumed viral pharyngitis. She vomited twice but has not had fevers, cough, rash, or diarrhea.

On examination, the patient is tachycardic to 150 beats/min, afebrile, and other vital signs are normal. Her mucous membranes are dry. She has posterior and anterior cervical lymphadenopathy and erythematous enlarged tonsils with mild exudates.

Patient	Symptoms/ Complaints	Laboratory tests	Physical examination	Presumptive diagnosis

Exercise 14. Explain the following terms (tonsillitis, pharyngitis, laryngitis) using the following plan:
1. It is an inflammatory disease of …
2. It is manifested by the following symptoms …
3. It can be diagnosed by … .
4. It can be treated by …. .
5. If untreated it may result in … .

TASKS FOR SELF-CONTROL

Answer the questions:
What upper respiratory diseases are there?
What are the symptoms of tonsillitis?
What are the manifestations of pharyngitis?
What does treatment for pharyngitis include?
What are the most frequent causes of laryngitis?
What are the symptoms of laryngitis?
What does the treatment of laryngitis include?

Explain the medical terms: tonsillitis, pharyngitis, laryngitis, tonsillectomy

DISEASES OF THE LOWER RESPIRATORY TRACT

Exercise 1. Topic vocabulary:

abundant, *adj*	[əˈbʌnd(ə)nt]	existing in plentiful supply
concomitant, *adj*	[kənˈkɔmit(ə)nt	occurring or existing at the same time as something else
coryza, *n*	[kəˈraizə]	acute inflammation of the mucous membranes, marked by sneezing, lacrimation, and profuse secretion of watery mucus
myalgia, *n*	[maiˈældʒiə]	muscle pain
self-limiting, *adj*	[self-ˈlımıtıŋ]	in clinical medicine to refer to any disease whose natural history is to resolve without treatment
specimen, *n*	[ˈspesimin]	a portion or quantity of material for use in testing, examination, or study
sputum, *n*	[ˈspju:təm]	mucus and other matter brought up from the lungs by coughing
wheezing, *n*	[ˈwi:ziŋ]	a whistling sound associated with labored breathing

Exercise 2. Read the word combinations, explain them and use in phrases or sentences:

Infection: viral infection, fungal infection, primary infection, recurrent infection, rare infection, bacterial infection

Sputum: mucopurulent sputum, thick sputum, rusty sputum, blood streaked sputum

Symptom: common symptom, visible symptom, acute symptom, mental symptom

Disease: rare disease, curable disease, congenital disease, contagious disease treatable disease

Cough: mild cough, persistent cough, chronic cough, dry cough, barking cough

Exercise 3. Explain the following word combinations:
Acute self-limited inflammation; weakened patients; a common cold; secondary bacterial infection; onset of bronchitis; abundant and mucoid sputum; a severe uncomplicated case; persistent fever; concomitant chronic pulmonary disease; purulent sputum; persistent chills; blood streaked or rusty sputum; lethal complications

Exercise 4. Read the text and answer the questions below:

DISEASES OF THE LOWER RESPIRATORY TRACT

Bronchitis is an inflammation of the lining of the bronchial tubes. The inflammation can be caused by an infection or by other factors that irritate the airways, such as cigarette smoking, allergies and exposure to fumes from some chemicals. Bronchitis can either be of brief duration (acute) or have a long course (chronic).

Acute bronchitis is usually caused by a viral infection. It usually begins with the symptoms of a cold, such as a runny nose, sneezing, and dry cough. However, the cough soon becomes deep and painful. The cough produces yellow or green sputum. These symptoms may be accompanied by a fever of up to 38.8°C. Wheezing after coughing is common. There may also be pain behind the sternum (breastbone) and fever. Symptoms may be relieved by drinking plenty of fluids and inhaling steam or using a humidifier. Cough suppressants are used only when the cough is dry and produces no sputum.

Acute bronchitis is a clinical diagnosis based on history, past medical history, lung exam, and other physical findings.

Acute bronchitis is self-limiting and treatment is typically symptomatic and supportive therapy. For cough relief, nonpharmacological and pharmacological therapy should be offered. Nonpharmacological therapy includes hot tea, honey, ginger, throat lozenges, etc. Although most cases clear up without further treatment, acute bronchitis may be serious in people who already have lung damage. Antibiotics are indicated when there is concomitant chronic obstructive pulmonary disease, when purulent sputum is present, or when high fever persists and the patient is more than mildly ill.

Pneumonia is an acute infection of the lung parenchyma including alveolar spaces and interstitial tissue.

It is important to understand the different classifications of pneumonia.
– *Community-acquired pneumonia* (CAP) is lung parenchyma infection in a non-hospitalized patient.
– *Hospital-acquired pneumonia* (HAP) or nosocomial pneumonia is a new lung parenchyma infection that occurs after 48 hours of hospitalization.
– *Ventilator-associated pneumonia* (VAP) occurs in the subset of HAP patients that are mechanically ventilated.

The most common causes of pneumonia in adults are bacteria. Pneumococcal pneumonia is often preceded by an URI. The onset is often sudden with a single shaking chill; persistent chills suggest an alternative diagnosis. This is ordinarily followed by fever, pain with breathing on the involved side (pleurisy), cough, dyspnea, and sputum production. The temperature rises rapidly to 38 to 40.5°C; the pulse is usually 100 to 140/min; and respiration accelerates to 20 to 45/min. Additional common findings are nausea, vomiting malaise, and myalgia. The cough may be dry initially, but usually becomes productive with purulent, blood-streaked or rusty sputum.

Serious, potentially lethal complications include overwhelming sepsis, sometimes associated with the adult respiratory distress syndrome and/or septic shock.

Pneumococcal pneumonia should be suspected in anyone with an acute febrile illness associated with chest pain, dyspnea, and cough. A presumptive diagnosis can be based on the history, changes on chest x-ray, and culture of appropriate specimens. Treatment depends on the kind of pneumonia. Mild pneumonia can usually be treated at home with rest, antibiotics and by drinking plenty of fluids. More severe cases may need hospital treatment.

Exercise 5. Answer the questions:
1. What is acute bronchitis often preceded by?
2. What is bronchitis caused by?
3. What are the symptoms of bronchitis?
4. What is the treatment for bronchitis?
5. What is the most common cause of pneumonia?
6. What is pneumococcal pneumonia preceded by?
7. How can pneumonia be classified?
8. What are the symptoms of pneumonia?
9. What are the complications of pneumonia?
10. When should pneumococcal pneumonia be suspected?

Exercise 6. Form adjectives using the suffix -al. Use them in phrases:

Model: face →facial

Abdomen, accident, nature, function, norm, hormone, centre, experiment, biology, artery, bronchus, intestine.

Exercise 7

a) Memorize the meaning of the following term-elements.

Bronch(o)-[brɒŋkəu] – combining form of Greek origin denoting ***bronchus***

Pneum(o)-[nju:məu] – combining form of Greek origin denoting ***breathing, lung, air***

Pulm(o)-, pulmon(o)-[pʌlmə(nə)] – combining form of Greek origin denoting ***lungs***

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

(*Bronchoedema, bronchoplasty, bronchogenic, bronchoconstriction, pneumoalveolography, pneumobilia, pneumocardial, pneumodynamics, pneumoectomy, pulmonary, pulmonologist, pulmonohepatic*)

1. Pertaining to the lungs and heart	
2. X-ray examination of the air sacs of the lungs	
3. A specialist in lung diseases	
4. Narrowing of the bronchus lumen	
5. Pertaining to the lungs	
6. Swelling of the mucosa of the bronchial tube	
7. Presence of air or other gases in the bile system	
8. Surgical alteration of the configuration of a bronchus	
9. Changes in breathing process	
10. Originating from the bronchi	
11. Pertaining to the lungs and liver	
12. Resection of lung tissue	

Exercise 8. Match the terms to their definitions:

1. Hypoxemia	a) inflammation of the lungs caused by bacteria, in which the alveoli become filled with the inflammatory cells and the lung becomes solid
2. Pneumonia	b) a rise in body temperature above 36.6ºC
3. Coryza	c) reduction of the oxygen concentration in the arterial blood, recognized clinically by the presence of central and peripheral cyanosis
4. Leukocytosis	d) a catarrhal inflammation of the mucous membrane in the nose due to either a cold or hay fever
5. Fever	e) an increase in the number of white blood cells in the blood

Exercise 9. Use correct verb forms:

1. Considerable skill, patience and tact (to require) to examine a child.
2. Yesterday he (to awake) with a severe headache.
3. The doctor thought that the patient (to recover) from his illness but on the contrary he (to get) worse.
4. I (to feel) wretched for I (to catch) a severe cold the day before.
5. Infectious diseases (to transmit) by direct contact or through the respiratory route.
6. Medical students (to practise) in the clinic at patient's bed-side in order to learn to recognize and treat various diseases.
7. The man (to die) unless he (to operate on) without delay.
8. Infection (to occur) when the infected secretion (to come) in contact with your nose or eyes.

Exercise 10. Put questions to the underlined words:

1. Acute bronchitis may develop <u>after a common cold</u>.
2. Diagnosis is usually based on <u>the symptoms and signs</u>.
3. <u>Oral fluids</u> are advised during the febrile course.
4. Antibiotics are indicated <u>when there is concomitant chronic obstructive pulmonary disease.</u>
5. <u>Persistent chills</u> suggest an alternative diagnosis.
6. Lab studies usually show <u>leukocytosis with a shift to the left</u>.

7. Antibiotic treatment is not useful in treating simple chronic bronchitis.
8. Symptoms are caused by inflammation of the mucous membranes in the upper respiratory tract.

Exercise 11. Fill in the missing prepositions. Some of prepositions may be used more than once:

in *by (2) on during to (2) for (2) from*

1. Bacteria can become resistant … the antibiotic.
2. Pneumonia affects about 450 million people globally per year, and results … about 4 million deaths.
3. If the pneumonia is severe, the affected person is admitted … hospital.
4. Acute bronchitisis characterized… the development of acoughor small sensation in the back of the throat, with or without the production ofsputum.
5. Cigarette smokingis the most common cause of chronic bronchitis, followed … exposure to air pollutants.
6. Treatment of pneumonia depends … the underlying cause.
7. Acute bronchitis often develops … anupper respiratory infectionsuch as the common coldorinfluenza.
8. Most people with URIs may visit their doctor … relief … symptoms.

Exercise 12. Open the brackets and put the verbs in the correct tense and voice.

1. A chest radiograph frequently (to use) in diagnosis of lung diseases.
2. Pneumonia (to be) a common disease throughout human history.
3. The word pneumonia (to be) from Greek πνεύμων (pneúmōn) meaning "lung".
4. The symptoms of pneumonia (to describe) by Hippocrates (460–370 BC).
5. Sir William Osler, known as "the father of modern medicine", (to describe) pneumonia as "the old man's friend".
6. 12 November (to declare) as the annual World Pneumonia Day in 2009.
7. Hospital-acquired pneumonia (HAP) or nosocomial pneumonia (to refer) to any pneumonia contracted by a patient in a hospital at least 48–72 hours after being admitted.

Exercise 13. Fill in the table *Bronchitis&Pneumonia* to describe the terms:

	Common cause	Classifica-tion	Symptoms	Diagno-sis	Treat-ment
Bron-chitis					
Pneumo -nia					

***Exercise 13. Read the case presentation and fill in the table below with the appropriate information:**

CHIEF COMPLAINT: Cough and fever for four days

HISTORY: Mr. Alcot is a 68-year-old man who developed a harsh, productive cough four days prior to being seen by a physician. The sputum is thick and yellow with streaks of blood. He developed a fever, shaking chills, and malaise along with the cough. One day ago he developed pain in his right chest that intensifies with inspiration. Past history reveals that he had a chronic smoker's cough for "10 or 15 years" which he describes as being mild, non-productive and occurring most often in the early morning. He smoked 2 packs of cigarettes per day for the past 50 years.

COURSE OF ILLNESS: Following a chest x-ray which revealed acute pneumonia in the right middle lobe, the patient was treated with antibiotics as an outpatient. During the 10 days of treatment, the patient's fever abated and he felt somewhat better.

https://www.meddean.luc.edu/lumen/meded/mech/cases/case9/case1qa.htm

Patient	Complaints	Past history	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What are the symptoms of bronchitis?
2. What is the treatment of bronchitis?
3. What is the most common cause of pneumonia?
4. How can pneumonia be classified?
5. What are the symptoms of pneumonia?
6. What are the complications of pneumonia?

Explain the medical terms: bronchitis, pneumonia

PULMONARY TUBERCULOSIS

Exercise 1. Topic vocabulary:

BCG vaccine, *n*	[ˌbiːsiː ˈdʒiːˈvæksiːn]	BCG stands for Bacille Calmette Guerin, a vaccine used to prevent tuberculosis (TB)
discharge, *n*	[disˈʧaːdʒ]	a fluid that comes out of the body. Discharge can be normal or a sign of disease
immunocompromised, *adj*	[iˌmjʊːnə ˈkɒmprəmaizd]	having a weakened immune system
lesion, *n*	[ˈliːʒn]	a region in an organ or tissue which has suffered damage through injury or disease
nodular, *adj*	[ˈnɒdjʊlə]	relating to, characterized by, or occurring in the form of nodules – small knot-like masses of tissue or aggregation of cells
rales, *n pl.*	[ˈraːlz]	abnormal rattling sounds heard when examining unhealthy lungs with a stethoscope
resurgence, *n*	[riˈsɜːdʒəns]	the act or fact of rising again or returning
sputum, *n*	[ˈspjuːtəm]	a mixture of saliva and mucus coughed up from the respiratory tract, typically as a result of infection or other disease
tubercle, *n*	[ˈtjuːbəkl]	a small, rounded nodule produced by the bacillus of tuberculosis
vulnerable, *adj*	[ˈvʌlnərəbl]	easily injured, wounded, or affected by a disease

Exercise 2

a) Memorize the plural forms of nouns of the Latin and Greek origin:

Latin	
singular	**plural**
-us [əs] bacill**us**	**-i [ai]** bacill**i**
-a [ə] vertebr**a**	**-ae [i:]** vertebr**ae**
-um [əm] bacteri**um**	**-a [ə]** bacteri**a**
Greek	
-sis [sis] synthe**sis**	**-ses [siz]** synthe**ses**

b) Write the correct plural forms of the following nouns:

Diagnosis –
Stimulus –
Datum –
Formula –
Nucleus –
Analysis –
Spirillum –

Exercise 3. Form nouns with the help of the suffix -(a)(t)ion. Use them in phrases or in sentences:

Model*: *to infect – infection (інфікувати – інфекція)

to characterize, to form, to inhale, to fluctuate, to detect, to combine, to populate, to vaccinate, to examine, to auscultate, to palpate, to complete, to migrate.

Exercise 4. Explain the following word combinations/phrases:

the causative agent of the disease, nodular lesions, a primary tubercle, natural immune defenses, to fluctuate with the patient's resistance, blood streaked sputum discharge, tuberculous rales in the lungs, a resurgence of pulmonary tuberculosis, immunocompromised patients

Exercise 5. Read the text and answer the questions below:

PULMONARY TUBERCULOSIS

Pulmonary tuberculosis (PT) is an infectious bacterial disease. The causative agent of the disease is Mycobacterium tuberculosis that was first identified by R. Koch in 1882. The lungs are primarily involved, then the infection can spread to other organs. The disease is characterized by the formation of nodular lesions (tubercles) in the mediastinum. These lesions are small rounded masses of cells, produced by bacteria. They are firm and spheroid. As a rule, PT is spread with tiny droplets that float in the air after sneezing or coughing by the infected person.

In pulmonary tuberculosis the bacillus is inhaled into the lungs where it sets up a primary tubercle and spreads to the nearest lymph nodes. Natural immune defenses may heal it at this stage. Alternatively, the disease may smoulder for months or years and fluctuate with the patient's resistance. Many people become infected but show no symptoms. Others develop a chronic infection and can transmit the bacillus by coughing and sneezing.
In the early stages of pulmonary tuberculosis the patient usually complains of general malaise, fatigue, loss of appetite and as a result loss of body weight, caused by tuberculous intoxication. The subfebrile fever persists for a long time. Then cough superadds.

Symptoms of the active form of pulmonary tuberculosis include high fever that ranges from 38° to 39°C, profuse night sweats, breathing difficulty, and cough with blood streaked sputum discharge.

Pulmonary tuberculosis is treated by various combinations of antibiotics. The treatment may last up to 6–8 months. Preventive measures must include the detection of cases by X-ray screening of vulnerable populations and vaccination with BCG vaccine of those with no immunity to the disease. Regular physical examinations are necessary as well: auscultation reveals characteristic tuberculous rales in the lungs; palpation identifies the swollen lymph nodes in the neck or other areas. Another method of detecting pulmonary tuberculosis is a yearly Mantoux test.

Recently, there has been a resurgence of pulmonary tuberculosis in immunocompromised patients (i.e. who have HIV or AIDS). The number

of patients with the disease has also increased due to patients not completing drug courses.

In some cases the bacilli spread from the lungs to the blood-stream, setting up millions of tiny tubercles throughout the body (miliary tuberculosis), or migrate to the meninges to cause tuberculous meningitis. Entering by mouth bacilli may spread to abdominal lymph nodes, leading to peritonitis, and sometimes spread to other organs, joints, and bones.

Though pulmonary tuberculosis is curable, it is a terminal disease if not treated in time. So, if a person develops any signs slightly resembling pulmonary tuberculosis, he should immediately seek help from phthisiatrician.

Exercise 6. Answer the questions:
1. What kind of disease is pulmonary tuberculosis?
2. What is pulmonary tuberculosis caused by?
3. What kind of formations is the disease characterized by?
4. How can a person become infected with pulmonary tuberculosis?
5. What are the symptoms of pulmonary tuberculosis at the early stage?
6. What are the symptoms of pulmonary tuberculosis in the active form?
7. What does the treatment of pulmonary tuberculosis consist in?
8. How can pulmonary tuberculosis be prevented?
9. What complications may pulmonary tuberculosis lead to?

Exercise 7. Match the kinds of diagnostic procedures to their explanations:

1. X-ray screening	a) a method of skin testing aimed at detecting tuberculosis, named after the French physician
2. Vaccination	b) examination by touch for the purpose of diagnosing disease
3. Mantoux test	c) the procedure during which a patient is thoroughly examined from head to toes
4. Physical examination	d) the laboratory analysis of specimen taken from the patient for culturing the Mycobacterium tuberculosis organisms
5. Auscultation	e) laboratory examination of physical / chemical properties and the number of erythrocytes, leukocytes, etc.

6. Palpation	f) process of giving injections of a killed microbe in order to stimulate the immune system against it, thus, preventing disease
7. Blood analysis	g) the act of listening, either directly or through a stethoscope or other instrument, to sounds within the body as a method of diagnosis
8. Sputum analysis	h) a radiographic image of the body internal organs and structures, usually used for diagnostic purposes

Exercise 8. Find the synonyms in the text to the words and word-combinations given below:

therapy –	respiration –
inoculation –	excessive perspiration –
check-up –	productive cough –
nodular lesion –	cause of disease –

Exercise 9. Insert the necessary preposition:

at; by; due to; in (2); to (2); of

1. In pulmonary tuberculosis there are a lot of nodular lesions … the mediastinum.
2. Yesterday the patient complained … general malaise, slight fatigue and headaches.
3. Profuse sweats … night serve the grave sign of pulmonary tuberculosis.
4. Swollen lymph nodes … the neck indicated the presence of infection in the body.
5. People having no immunity … diseases often suffer from various infections.
6. TB spreads throughout the world … patients not completing drug courses.
7. People with pulmonary TB can transmit it … coughing and sneezing.
8. The bacilli of pulmonary TB can migrate … the meninges and cause tuberculous meningitis.

Exercise 10. Insert the appropriate modal verb *can / could, may / might, must, should* and explain your choice:

1. She … not go to the library because she has no time. (logical conclusion)

2. “You … go for a walk every day,” the doctor said. (obligation)
3. He … go to the movies in the evening. (hypothetic possibility)
4. You … work more at your pronunciation. (advice)
5. He … invite you to the theatre. (hypothetic possibility)
6. The child … not walk though he is 2 years old. (capability)
7. … I take your pencil? (permission)
8. You … follow his instructions. (certainty without fail)

Exercise 11. Put questions to the underlined words:

1. Mycobacterium tuberculosis causes pulmonary tuberculosis.
2. This disease may affect bones, joints, lymphatic glands, kidneys.
3. Coughing can become worse at night and in the morning.
4. A considerable elevation of temperature is observed in pneumonic forms of TB.
5. Loss of body weight may be the typical sign of pulmonary tuberculosis.
6. Natural immune defenses can sometimes heal the disease in the early stages.
7. There is a resurgence of pulmonary TB among immunocompromised patients.
8. Millions of tiny tubercles are carried throughout the body by the blood stream.

Exercise 12. Put the verb in brackets into the correct tense form. Translate them into Ukrainian:

1. The causative agent of tuberculosis (to discover) by Koch in 1882.
2. The microscopic examination (to reveal) pus cells in sputum yesterday.
3. The patient states that the fever (to persist) at a level of 38°C for several months.
4. Profuse night sweats (to serve) the evidence of a severe form of tuberculosis.
5. Loss of body weight (can, to cause) by tuberculous intoxication.
6. Cough (to super-add) after the disease has been in progress for some time.
7. Mycobacterium tuberculosis (to produce) characteristic tuberculous changes in the mediastinum.
8. In the early stage of pulmonary TB the patient (may, to complain) of a general malaise, fatigue, loss of appetite and body weight.

Exercise 13. Fill in the table *Pulmonary Tuberculosis* to describe the term:

1.	Type of disease	
2.	Set of symptoms	
3.	Data of examinations	
4.	Treatment	
5.	Complications	

***Exercise 14. Read the case presentation and fill in the table below with appropriate information. Explain the terms in bold (you may need a dictionary):**

A 69-year-old male patient had come to the hospital twice with a diagnosis of **community-acquired bacterial pneumonia**. The patient was a smoker without family history of interest. Three weeks before admission to the hospital, he developed a fever accompanied by night sweats, a dry irritating cough, **asthenia**, **anorexia** and weight loss (10 kg in 2 months). In the three days prior to admission he noticed pain in his tongue radiating to the right ear. The pain was accentuated by chewing and made eating difficult.

Physical examination: The patient's **vital signs** were as follows: **respiratory rate** – 28/min, central heart rate – 100 beats/ minute, blood pressure – 110/70 mmHg. His general alterations in his skin nor palpable **lymphadenopathy** in any lymph node chain. Cardiopulmonary examination revealed a globally decreased vesicular **wheeze** with scattered **crackles** in both lungs especially in the upper 2/3 of the left lung…

http://www.scielo.org.co/scielo.php?pid=S0120-99572014000200015&script=sci_arttext&tlng=en

Patient	Symptoms/ Complaints	Physical examination findings	Presumptive diagnosis
			pulmonary and lingual tuberculosis

TASKS FOR SELF-CONTROL

Answer the questions:
1. What kind of disease is pulmonary tuberculosis?
2. What is pulmonary tuberculosis caused by?
3. What kind of formations is pulmonary tuberculosis characterized by?
4. How can a person become infected with pulmonary tuberculosis?
5. What are the symptoms of pulmonary tuberculosis at the early stage and in the active form?
6. What does the treatment of pulmonary tuberculosis include?
7. How can pulmonary tuberculosis be prevented?
8. What complications may pulmonary tuberculosis lead to?

Explain the medical term: pulmonary tuberculosis

HYPERTENSION

Exercise 1. Topic vocabulary:

asymptomatic, *adj*	[æˌsɪmptəˈmætɪk]	without symptoms
confusion, *n*	[kənˈfjuːʒ(ə)n]	change in mental status in which a person is not able to think with his or her usual level of clarity; feeling disoriented
drowsiness, *n*	[ˈdraʊzɪnəs]	a feeling of being sleepy and lethargic; sleepiness
life expectancy, *n*	[ɪkˈspɛkt(ə)nsi]	the number of years a person can expect to live
moderate, *adj*	[ˈmɒdərɪt]	average in amount, intensity, quality, or degree
persistent, *adj*	[pəˈsɪstənt]	continuing to exist or occur over a prolonged period
potassium, *n*	[pəˈtæsɪəm]	a chemical element with the symbol K (from Neo-Latin kalium) and atomic number 19
sedentary, *adj*	[ˈsɛdntərɪ]	characterized by much sitting and little physical exercise
stroke, *n*	[strəʊk]	when a blockage or bleed of the blood vessels either interrupts or reduces the supply of blood to the brain

Exercise 2. Pronounce correctly:
Hydrargyrum [haiˈdrɑːʤɪrəm], thiazide-diuretics [ˈθaɪəzɪː(ai)d ˌdaɪjuˈretɪks], calcium channel blockers [ˈkalsɪəm ˈʧænl ˈblɒkəs], beta blockers [ˈbiːtə ˈblɒkəs], vasodilators [veizəʊ daɪ ˈleɪtəs], angiotensin-converting enzyme (ACE) inhibitors [ændʒiəʊˈtensɪn kənˈvəːtɪŋ ˈenzaɪm ɪn ˈhɪbɪtəs], angiotensin receptor blockers [ændʒiəʊˈtensɪn rɪ ˈseptə ˈblɒkəs].

Exercise 3. Form new words adding the prefixes *hyper-(*above*)* and *hypo-(*under*)*. Explain them:

Model: tension – hypertension

Activity, function, genesis, metabolism, secretion, sensitivity, thyroidism

Model: tension – hypotension

Hydration, mobility, nutrition, toxisity, vitaminosis, uresis, salivation, glycemia

Exercise 4. Read and explain the following word-combinations:

systemic arterial blood pressure; obvious medical cause; persistent hypertension; chronic kidney failure; shortened life expectancy; accelerated hypertension; sedentary lifestyle; potassium deficiency; inherited genetic mutations; family history of hypertension, managing stress

Exercise 5. Read the text and answer the questions below:

HYPERTENSION

Hypertension or high blood pressure is a long termmedical condition in which the systemic arterial blood pressure is elevated. It happens when blood flows through the blood vessels with a force greater than normal, when the force of the blood pumping through the arteries is too strong. The more pressure the blood exerts on the artery walls, the higher the blood pressure will be.

Blood pressure involves two measurements, systolic and diastolic. Normal blood pressure is 120 over 80 mm of Hg (Hydrargyrum, mercury). The first figure is the systolic blood pressure, the pressure there is in the arteries when your heart is contracting. The second, or lower figure, is the diastolic blood pressure, which is the pressure in your arteries between heart beats. High blood pressure is anything above 140/90 mm/Hg. Hypertension is the opposite of hypotension. Hypertension is classified as either primary hypertension or secondary hypertension. About 90–95% of cases are categorized as “primary hypertension,” which means high blood pressure with no obvious medical cause. The remaining 5–10% of cases (secondary hypertension) is caused by other conditions that affect the kidneys, arteries, heart or endocrine system.

Persistent hypertension is one of the risk factors for stroke, myocardial infarction and heart failure, and is a leading cause of chronic kidney

failure. Moderate elevation of arterial blood pressure leads to shortened life expectancy. Dietary and lifestyle changes can improve blood pressure control and decrease the risk of associated health complications, although drug treatment may prove necessary in patients for whom lifestyle changes are ineffective or insufficient.

Mild to moderate essential hypertension is usually asymptomatic. Accelerated hypertension is associated with headache, drowsiness, confusion, vision disorders, nausea, and vomiting.

Although no direct cause for hypertension has been identified, there are many factors such as sedentary lifestyle, smoking, stress, obesity, potassium deficiency, salt sensitivity, alcohol intake, and vitamin D deficiency that increase the risk of developing hypertension. Risk also increases with aging, some inherited genetic mutations, and having a family history of hypertension.

Lifestyle changes and medications can lower blood pressure and decrease the risk of health complications. Lifestyle changes include:
• salt intake reduction
• fat intake reduction
• weight loss
• getting regular exercise
• quitting smoking
• reducing alcohol consumption
• managing stress

If lifestyle changes are not sufficient blood pressure medications are used. First line medications for hypertension include thiazide-diuretics, calcium channel blockers, beta blockers, vasodilators, angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers.

Diuretics. Diuretics, sometimes called water pills, are medications that help your kidneys eliminate sodium and water from the body. These drugs are often the first medications tried to treat high blood pressure.

Angiotensin-converting enzyme (ACE) inhibitors. These medications (e.g. benazepril) help relax blood vessels by blocking the formation of a natural chemical that narrows blood vessels.

Calcium channel blockers. These medications (e.g. amlodipine) help relax the muscles of your blood vessels. Some slow your heart rate.
Beta-blockers (e.g. bisoprolol) reduce blood pressure by blocking the effects of certain stress hormones, such as epinephrine.

These drugs may be used alone or in combination. The majority of people require more than one medication to control their hypertension.

Exercise 6. Answer the questions to the text:

1. What is hypertension?
2. What is systolic blood pressure?
3. What is diastolic blood pressure?
4. What blood pressure is considered to be normal?
5. What may persistent hypertension lead to?
6. What is accelerated hypertension associated with?
7. What increases the risk of developing hypertension?
8. What medicines do the first line medications for hypertension include?

Exercise 7. Find the opposites to the following words:

1. Effective	a) shortened
2. Prolonged	b) secondary
3. Decreased	c) hypotension
4. Hypertension	d) ineffective
5. Deteriorate	e) elevated
6. Sufficient	f) insufficient
7. Primary	g) congenital
8. Inherited	h) improve

Exercise 8. Match the words to their definitions:

1. Diuretic	a) drug, agent, or nerve that can cause dilatation of the walls of blood vessels
2. Calcium	b) any of a group of complex proteins or conjugated proteins that are produced by living cells and act as catalysts in specific biochemical reactions
3. Vasodilator	c) a peptide of physiological importance that is capable of causing constriction of blood vessels, which raises blood pressure

4. Angiotensin	d) a substance that inhibits a metabolic or physiological process
5. Enzyme	e) a sensory nerve ending that changes specific stimuli into nerve impulses
6. Receptor	f) a malleable silvery-white metallic element of the alkaline earth group
7. Inhibitor	g) an agent that blocks a physiological function
8. Beta-blocker	h) acting to increase the flow of urine

Exercise 9. True or false? Correct the false sentences.

1. Systolic blood pressure is pressure between heart beats.
2. Primary hypertension means hypertension without any predisposing reasons.
3. Persistent hypertension may lead to heart failure.
4. There are many symptoms accompanying hypertension.
5. Losing weight helps to treat hypertension.
6. Moderate elevation of blood pressure doesn't influence life expectancy.
7. Primary hypertension is more spread than secondary one.
8. Drugs are prescribed when hypertension is very high.

Exercise 10. Put questions to the underlined words:

1. The heart has to work harder to pump the blood around the body on physical exertion.
2. Blood pressure involves two measurements.
3. Normal blood pressure is 120/80 mm/Hg.
4. Hypertension is classified as either primary hypertension or secondary hypertension.
5. Moderate elevation of arterial blood pressure leads to shortened life expectancy.
6. Dietary and lifestyle changes can improve blood pressure control.
7. Accelerated hypertension is associated with headache, drowsiness, confusion, vision disorders, nausea, and vomiting.
8. The first line of treatment for hypertension includes some lifestyle changes.

Exercise 11. Open the brackets put the verbs into the appropriate tense (Active or Passive):

1. Occupation (not to play) an important role in the etiology of hypertension.

2. Hypertension in the older age group (to associate) with loss of elasticity of the aorta and its main branches.
3. Hypertension (to be) more common in the female than in the male.
4. Hypertension (to tolerate) better during the child-bearing years in the female than hypertension in male.
5. Lifestyle changes (to recommend) together with me
6. Making healthy lifestyle changes can sometimes (to help) reduce your chances of getting high blood pressure.
7. Dietary and lifestyle changes (to decrease) the risk of associated health complications.
8. No direct cause for hypertension (to identify) yet.

Exercise 12. Complete the following sentences choosing suitable words or words combinations from the box:

at home; decisions ; at least; measurement; drug stores; readings; in the past 30 minutes; health care provider; at night

Blood pressure measurement

Blood pressure is a … of the force on the walls of your arteries as your heart pumps blood through your body.

You can measure your blood pressure… . You can also have it checked at your health care provider's office, a fire station, or with blood pressure machines in … and other places.

How to Prepare for the Test

Before you measure your blood pressure:

- Rest for …5 minutes before blood pressure is taken.
- Do not take your blood pressure when you are under stress, have had caffeine or used a tobacco… , or have exercised recently.
- Take two or three … at a sitting. Take the readings 1 minute apart. Remain seated. When checking your blood pressure outside the doctor's office, note the time of the readings. Your … may suggest that you do your readings at certain times.
- You may want to take your blood pressure in the morning and … for a week.
- This will give you at least 12 readings and will help your health care provider make … about your blood pressure treatment.

Exercise 13. Put the sentences into the correct order to measure your blood pressure:

How the blood pressure measurement is performed

1. As the air continues to be let out, the sounds will disappear. The point at which the sound stops is recorded. This is the diastolic pressure.
2. You or your health care provider will wrap the blood pressure cuff snugly around your upper arm. The lower edge of the cuff should be 1 inch above the bend of your elbow.
3. The cuff will be inflated quickly. This is done either by pumping the squeeze bulb or pushing a button. You will feel tightness around your arm.
4. Next, the valve of the cuff is opened slightly, allowing the pressure to slowly fall.
5. Your arm should be supported so that your upper arm is at heart level.
6. Sit in a chair with your back supported. Your legs should be uncrossed, and your feet on the floor.
7. As the pressure falls, the reading when the sound of blood pulsing is first heard is recorded. This is the systolic pressure.
8. Roll up your sleeve so that your arm is bare.

Exercise 14. a) fill in in the table; b) describe the term *hypertension* using the information of the table:

1.	General characteristics	
2.	Symptoms	
3.	Analyses	
4.	Treatment	
5.	Complications	

***Exercise 15. Read the case presentation and fill in the table below with appropriate information. Explain the clinical terms in bold:**

A 50 year-old-female teacher visited Services Hospital Lahore with the complaints of **headache**, nausea, **drowsiness**, **blurred vision**, and **fatigue**. She was experiencing those symptoms last 2 months. She was also suffering from diabetes mellitus type 2 since 2. She had recently diagnosed with hypertension.

Medication Therapy

Bisoprolol Fumarate 5mg OD *(daily)*

Amlodipine 5 mg OD
Sitamet Sitagliptin + Metformin HCl 50mg +1000mg BD *(twice a day)* to lower blood sugar
Care Plan
Lifestyle modifications:
Exercise and walk to reduce body weight
Proper diet rich in fruits, vegetables, whole grains, low fat poultry and fish
Low dietary salt and sugar intake
Avoid red meat, fats and alcohol
https://medwinpublishers.com/VIJ/VIJ16000211.pdf

Patient	Symptoms/ Complaints	Past medical history	Diagnosis	Recommended lifestyle changes

TASKS FOR SELF-CONTROL

Answer the questions
1.What is hypertension?
2.What is systolic blood pressure?
3.What is diastolic blood pressure?
4.What blood pressure is considered to be normal?
5.What may persistent hypertension lead to?
6.What are the symptoms of accelerated hypertension?
7.What increases the risk of developing hypertension?
8.What medicines do the first line medications for hypertension include?

Explain the terms
hypertension
primary hypertension
secondary hypertension
systolic blood pressure
diastolic blood pressure

MYOCARDIAL INFARCTION

Exercise 1. Topic vocabulary:

angina (pectoris)	[anˈdʒʌɪnə ˈpektərɪs]	the medical term for chest pain or discomfort due to coronary heart disease
consciousness, *n*	[ˈkʌnʃəsnis]	the state of being conscious; fully alert, aware, oriented, and responsive to the environment
indigestion, *n*	[indiˈdʒestʃən]	a condition of impaired digestion
ischemia, *n*	[isˈkiːmiə]	inadequate blood supply to a local area due to blockage of blood vessels leading to that area
palpitation, *n*	[pælpɪˈteɪʃ(ə)n]	an abnormally rapid or irregular beating of the heart
plaque, *n*	[plaːk]	a semi-hardened accumulation of substances, e.g cholesterol plaque
recurrent. *adj*	[rɪˈkʌr(ə)nt]	appearing or occurring again
rupture, *n*	[ˈrʌptʃə]	a break or tear in any organ or soft tissue

Exercise 2. Pronounce correctly:
Myocardial infarction [maɪəˈkɑːdɪəl ɪnˈfɑːkʃ(ə)n], blood supply [blʌd səˈplʌɪ], epigastrium [ˌɛpɪˈgastrɪəm], echocardiography [ˌɛkəʊkɑːdɪˈɒgrəfi], dispnea [dɪspˈniːə], erythrocyte [ɪˈrɪθrə(ʊ)sʌɪt], thrombus [ˈθrɒmbəs], accelerated heartbeat [əkˈseləreɪtɪd ˈhɑːtbiːt].

Exercise 3. Remember roots, suffixes, and prefixes related to the heart and blood vessels:

Component	Meaning	Example
CARDIO-	heart	echocardiogram = sound wave image of the heart
CYTE-	cell	thrombocyte = clot forming cell
HAEM-	blood	haematoma = a tumor or swelling filled with blood

THROMB-	clot, lump	thrombocytopenia = deficiency of thrombocytes in the blood
ERYTHRO-	red	erythrocyte = red blood cell
LEUKO-	white	leukocyte = white blood cell
VAS-	vessel / duct	cerebrovascular = blood vessels of the cerebrum of the brain
-EMIA	condition of blood	anaemia = abnormally low levels of red blood cells

Exercise 4. Read and explain the following word-combinations:
Interruption of blood supply; rupture of an atherosclerotic plaque; chronic kidney disease, heart failure; sensation of tightness, pressure, or squeezing; angina pectoris; feeling of indigestion; a recurrent myocardial infarction.

Exercise 5. Read and translate the text:

MYOCARDIAL INFARCTION

Myocardial infarction, commonly known as a heart attack, is an interruption of blood supply to a part of the heart causing heart cells to die. This is most commonly due to occlusion of a coronary artery after the rupture of an atherosclerotic plaque. The resulting ischemia, if left untreated for a sufficient period of time, can cause damage or death of the heart muscle tissue.

Heart attack rates are higher in intense exertions, such as psychological stress or physical exertion. Acute severe infection, such as pneumonia, can trigger myocardial infarction. Important risk factors are previous cardiovascular disease, older age, tobacco smoking, diabetes, high blood pressure, obesity, chronic kidney disease, heart failure, excessive alcohol consumption.

The onset of symptoms in myocardial infarction is usually gradual, over several minutes. Chest pain is the most common symptom of acute myocardial infarction and is often described as a sensation of tightness, pressure, or squeezing. Chest pain due to ischemia of the heart muscle is termed angina pectoris. Pain radiates most often to the left arm, but may also radiate to the lower jaw, neck, right arm, back, and epigastrium.

Other symptoms include weakness, nausea, vomiting, and palpitation. Loss of consciousness and sudden death can occur in myocardial infarction. Women may experience fewer typical symptoms than men, most commonly shortness of breath, weakness, a feeling of indigestion, and fatigue. Approximately one quarter of all myocardial infarctions are "silent", without chest pain or other symptoms.

Among the diagnostic tests available to detect heart muscle damage are an electrocardiogram (ECG) and echocardiography. Various blood tests can also be used to check for proteins that are associated with heart damage, such as troponin.

Heart attacks require immediate treatment, so mostly treatment begins in the emergency room. A minimally invasive procedure called percutaneous coronary interventionor angioplasty may be used to unblock the arteries that supply blood to the heart.

A number of different ***medications*** can also be used to treat a heart attack:
– Blood thinners, such as aspirin, are often used to break up blood clots and improve blood flow through narrowed arteries.
– Thrombolytics are often used to dissolve clots.
– Antiplatelet drugs, such as clopidogrel, can be used to prevent new clots from forming and existing clots from growing.
– Sublingual nitroglycerin can be used to widen your blood vessels.
– Beta-blockers lower blood pressure and relax the heart muscle. This can help limit the severity of damage to the heart.
– ACE (angiotensin-converting enzyme) inhibitors can also be used to lower blood pressure and decrease stress on the heart.
– Pain relievers may be used to reduce any discomfort a patient can feel.

The risk of a recurrent myocardial infarction decreases with blood pressure control and lifestyle changes, regular exercise, a certain diet for patients with heart disease, and limitation of smoking and alcohol intake.

Exercise 6. Answer the questions:
1. What is myocardial infarction?
2. What can untreated ischemia lead to?
3. What is the most common cause of myocardial infarction?
4. What are the important risk factors for myocardial infarction?

5. List all possible symptoms of myocardial infarction.
6. What diagnostic tests are used to detect heart muscle damage?
7. What does the treatment for acute myocardial infarction include?
8. What should people do to decrease the risk of a recurrent myocardial infarction?

Exercise 7. What do these medical terms mean (find the match)?

1. Dyspepsia	a) gases
2. Thrombus	b) vomiting
3. Flatulence	c) shortness of breath
4. Emesis	d) eating disorder
5. Palpitation	e) nausea
6. Retching	f) accelerated heartbeat
7. Dyspnea	g) indigestion
8. Anorexia	h) clot

Exercise 8. Which clinical term is described?

Malaise, angina, heartburn, murmurs, dyspnea, sweating, arrhythmia, indigestion

1. Difficulty in breathing;
2. Process of eliminating fluid through the pores of the skin;
3. Burning sensation beneath the breastbone caused by irritation of the esophagus;
4. Feeling of unease or a mild sickness;
5. Difficulty in digesting food, accompanied by abdominal pain, belching, etc.;
6. Pressure in the chest;
7.Abnormal sound heard through a stethoscope over the region of the heart;
8. Any deviation from the normal rhythm in the heartbeat.

Exercise 9. What disease is described?

Heart attack, atherosclerosis, hypertension, diabetes, hypoxia, pneumonia, obesity, cholecystitis

a) high pressure (tension) in the arteries;
b) a medical condition when a patient has too much body fat;
c) an inflammation of one or both lungs which is usually caused by bacteria, viruses, or fungi;
d) a process of progressive thickening and hardening of the artery walls as a result of fat deposits on their inner lining;
e) chest discomfort that occurs when there is decreased blood oxygen supply to an area of the heart muscle;
f) a chronic condition associated with abnormally high levels of sugar (glucose) in the blood;
g) the death of heart muscle from the sudden blockage of a coronary artery by a blood clot;
h) inflammation of the gall bladder due to bacterial infection or the presence of gallstones.

Exercise10. Fill in the table *Myocardial Infarction* to describe the term:

1	Definition	
2	Causes	
3	Symptoms	
4	Risk factors for recurrent MI	
5	Examinations	
6	Treatment	

Exercise 11. Read the passage on heart transplantation and fill in the gaps with appropriate prepositions:

after, in, for, as, to, of, from

One of the most important advances ….. heart surgery during the 1960s was the transplantation of the health heart immediately ….. the death of an individual (the donor) ….. a recipient suffering ….. incurable heart disease. In the 1980s new advances in the design and construction ….. an artificial heart – both the entire organ and such parts as the valves and large blood vessels – showed some promise in treating cardiovascular disease. The artificial heart has often been used …… a temporary measure until a permanent human donor heart can be located. In addition, it is often unclear how long the recipient will have to wait ….. a donor.

Exercise 12. Open the brackets, using the proper tense and voice form of the verbs:

Last year the patient Green, aged 65, (to admit) to the hospital with acute chest pain. He (to experience) shortness of breath and pain that (to radiate) to the left arm. The doctor immediately (to suspect) a heart attack and (to make) the patient (to take) an ECG. The diagnosis (to confirm) by the abnormal reading of the ECG. The blood analyses (to reveal) a number of cardiac enzymes. The cardiologist (to administer) his patient an adequate treatment. To relieve pain he (to give) nitroglycerin. Fortunately, the patient (not to have) any complications, because the doctor's help (to be) prompt and thorough. Very soon patient Green's condition (to improve).

Exercise 13. Put questions to the underlined words:

1. Myocardial infarction is also known as a heart attack.
2. MI means the death of heart muscle.
3. MI is caused by the sudden blockage of a coronary artery by a blood clot.
4. Coronary arteries supply the heart muscle with blood and oxygen.
5. Blockage of a coronary artery deprives the heart muscle of blood and oxygen.
6. The onset of symptoms in myocardial infarction is usually gradual.
7. Acute severe infection, such as pneumonia, can trigger myocardial infarction.
8. In MI pain radiates most often to the left arm.

***Exercise 14. Read the case report and fill in the table below with the appropriate information. Explain the words in bold (you may need a dictionary):**

An 80-year-old man with multiple **comorbidities** was admitted into the coronary care unit at Ibn Sina Medical College Hospital (Dhaka, Bangladesh) with severe central chest pain and respiratory distress after receiving the first dose of Moderna vaccine on July 26, 2021. On admission, his blood pressure was 110/70 mmHg, pulse 90 beats/min, respiratory rate 22 breaths/min, temperature 36.7°C. He had a vesicular breath sound with **bilateral basal crepitations** and normal heart sounds. On the ECG, significant changes were observed. Other lab findings were significant troponin-I: 1.72 ng/ml, trace protein and glucose in the urine, total **white blood cell count**: 12820/cm3; HbA1c, 7.5%; serum creatinine, 1.56 mg/dl; serum

electrolytes: sodium 133 mmol/L, chloride 92 mmol/L. The patient had a medical history of prior myocardial infarction, diabetes mellitus, and hypertension but no chronic kidney disease, cerebrovascular disease, or bronchial asthma. After admission, he was treated conservatively with necessary medications and monitored periodically. The patient was diagnosed with acute myocardial infarction with **left ventricular failure** with acute kidney injury on chronic kidney disease with diabetes mellitus and hypertension. He was discharged from the hospital on day six with proper medicinal support with full recovery.

https://f1000research.com/articles/11-617

Patient	Symptoms/ Complaints	Past medical history	Vital signs on admission	Examin-ation	Diag-nosis

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is myocardial infarction?
2. What can untreated ischemia lead to?
3. What is the most common cause of myocardial infarction?
4. What are the important risk factors for myocardial infarction?
5. List all possible symptoms of myocardial infarction.
6. What diagnostic tests are used to detect heart muscle damage?
7. What does the treatment for acute myocardial infarction include?
8. What should people do to decrease the risk of a recurrent myocardial infarction?

Explain the terms: myocardial infarction, angina pectoris

DISEASES OF THE STOMACH

Exercise 1. Topic vocabulary:

antacid, *n*	[ˌæntˈæsɪd]	any substance used to counteract or neutralize gastric acids and relieve the discomfort caused by gastric acidity
belching, *n*	[belʧɪŋ]	voluntary or involuntary, sometimes noisy, release of air from the stomach or esophagus through the mouth
bloating, *n*	[bloʊtɪŋ]	retention of gas in the stomach or GI tract
cytoprotective, *adj*	[ˈsaitə(u)prəˈtektiv]	descriptive of a drug or agent protecting cells from damage expected to occur
gastroscopy, *n*	[gæˈstrɔskəpi]	examination of the inside of the stomach using a gastroscope passed through the mouth and esophagus
heartburn, *n*	[ˈhɑːtbɜːn]	a burning sensation behind the sternum due to spasmodic reflux of acid from the stomach into the esophagus
perniciousaneamia, *n*	[pəˈniʃəs əˈniːmɪə]	a decrease in red blood cells that occurs when the intestines cannot properly absorb vitamin B12
reflux,*n*	[ˈriːflʌks]	a backward or return flow

Exercise 2. Using adjective ending *-ic* or *-al* write a word for each of the following definitions:

*E.g. Pertaining to the caecum – caec**al***

1. Pertaining to the intestines –
2. Pertaining to the duodenum –

3. Pertaining to the epigastrium –
4. Pertaining to the rectum –
5. Pertaining to the anus –
6. Pertaining to the pancreas –
7. Pertaining to the esophagus –

Exercise 3. Explain the following word-combinations:
chronic bile reflux; blood-streaked vomiting; complete blood count test; over-the-counter antacids, life-threatening consequences of the disease; ulcer recurrence; to aggravate the pain

Exercise 4. Read and translate the text:

THE DISEASES OF THE STOMACH

The stomach is an important organ in the body that plays a vital role in digestion of foods, releases various enzymes and also protects the lower intestine from harmful organisms.

Most common disorders affecting the stomach are gastritis and gastric ulcer.

Gastritis is an inflammation of the lining of the stomach. Gastric (peptic) ulcer is a sore (lesion) in the stomach lining, which contains special cells producing acids and enzymes, that help break down food, and mucus protecting the stomach lining from acid. When the stomach lining is inflamed, it produces less acid, enzymes, and mucus.

The causes of these two diseases are very much alike.

The main acute causes are extensive alcohol consumption or prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin, traumatic injury or severe infections. Chronic causes are chronic bile reflux. But the primary cause is the infection caused by bacteria, Helicobacter pylori. The bacteria produce substances that weaken the stomach's protective mucosa and make it more susceptible to the damaging effects of acid and pepsin.

Gastritis and gastric ulcers are often linked to heavy alcohol consumption. Caffeine stimulates acid secretion in the stomach aggravating the pain and contributes to recurrence.
People with gastritis and peptic ulcers experience dull, burning, sharp or gnawing abdominal pain between the breastbone and the navel. The patient may suffer from nausea, belching, bloating and heartburn.

Patients with gastritis suffer from vomiting that may be clear, green or blood-streaked, depending on the severity of the inflammation. Other symptoms typical for gastritis are indigestion and pernicious anemia.

A diagnosis of gastric disease is made on the basis of the symptoms, complete blood count test, presence of H. pylori, urinalyses, stool samples, endoscopy, stomach biopsy, etc.

Once the cause of the disease is identified, exposure should be avoided. If some food is triggering the inflammation, you should exclude it. Over-the-counter antacids in liquid or tablet forms treat mild gastritis and peptic ulcer. Antacids neutralize stomach acid and can provide fast pain relief. Proton pump inhibitor appears to inhibit H. pylori activity.

Cytoprotective agents protect the tissues lining the stomach. Consumption of hot or spicy food is contraindicated. Patients with pernicious anemia are given B_{12} injections. Most patients use a combination of antibiotics and a proton pump inhibitor to treat H. pylori infection.

If left untreated, gastritis may lead to stomach ulcers and stomach bleeding. Life-threatening consequences of the disease can be stomach cancer.

Exercise 5. Answer the following questions:
1. What are the functions of the stomach?
2. What are the diseases of the stomach?
3. What similar symptoms do gastritis and peptic ulcer have?
4. What are the causes of gastritis and peptic ulcer?
5. What is the diagnosis of gastric diseases based on?
6. How are gastric diseases treated?
7. What are the complications of gastritis?

Exercise 6. Match the following terms to their definition:

1. Gastritis	a) expelling the wind from the stomach noisily through the mouth
2. Belching	b) an adjunct to diagnosis that involves removing a small sample of living tissue from the body for examining under the microscope
3. Peptic ulcer	c) a gram-negative, microaerophilicbacterium found in the stomach, and may be present in other parts of the body, such as the eye
4.Gastrectomy	d) a flexible instrument, comprising fiber optics or a miniature video camera, that permits internal visual examination of the stomach
5. Biopsy	e) painful sore in the lining of the stomach
6. Gastroscope	f) non-steroidal anti-inflammatory drugs
7. NSAIDs	g) an inflammation of the stomach lining (mucosa)
8. Helicobacter pylori	h) the surgical removal of a part of the stomach

Exercise 7. Complete the following sentences choosing suitable words from the box:

alcohol, spicy foods, infection, perforate, H.pylori, pernicious aneamia, bile reflux, NSAIDs

1. …… or smoking can make gastritis worse.
2. Consumption of ……. and alcohol should be strictly prohibited in patient with gastritis.
3. You're more likely to develop gastritis if you're at risk of ……..
4. You may need surgery if your ulcers …….., bleed or obstruct the stomach.
5. …….. weakens the lining so acid can reach the stomach and duodenal wall.
6. …….. are a class of drugs that provides analgesic (pain-killing) and antipyretic (fever-reducing) effects, and, in higher doses, anti-inflammatory effects.
7. Chronic cause of gastritis may be …… that is a backflow of bile into the stomach.
8. ……. occurs when the stomach lacks red blood cells or

hemoglobin needed to properly absorb and digest vitamin B12.

Exercise 8. Run through the text and find out expressions synonymous to the given ones:

The major cause, to make pain worse, acid production, alcohol intake, hemorrhage, dangerous results, drugs sold without prescription, the return of the disease.

Exercise 9. Choose the correct word that completes each of the following sentences:

1. Ulcer and cirrhosis are not (rare, rear) diseases among those who are prone to alcohol.
2. The animal insulin can (course, cause, coarse) allergic reactions.
3. At later stages gastric cancer can be treated but rarely can be (diagnosed, cured).
4. When gastric cancer is found at an early stage, there is better chance of (convalescence, premature death).
5. Smokers, who have stopped smoking, (lower, increase) their risk of getting gastritis.
6. Stomach cancer is a disease in which (malignant, benign) cells appear in the stomach.
7. Chemotherapy is a treatment that uses (chemical drugs, rays) to stop the growth of cancer cells.
8. After the stomach surgery the patient should take vitamin (supplements, addition) and injections of vitamin B_{12}.

Exercise 10. Learn the following Greek and Latin term elements used in medicine. Give your examples of medical terms with these term elements:

_____algia – pain in an organ
_____scope – denotes a viewing instrument, used for examining smth
_____itis – denotes inflammation of an organ
_____logy – denotes a branch of science
_____tomy – combining form meaning “cutting, incision” of an organ
_____ectomy – meaning “excision” of the part specified by the initial element
_____rrhagia – means “profuse discharge,” “abnormal profuse flow”
_____malacia – means softening, or loss of consistency, of an organ or tissue

Exercise 11. Add the missing part of the clinical terms pertaining to the pathology of the stomach:

1. Gastro _____ (an instrument inserted through the mouth to inspect the inside of the stomach)
2. Gastr _____ (the surgical removal of a part of the stomach)
3. Gastr_____ (inflammation of the stomach lining)
4. Gastro_____ (softening of stomach lining due to poor blood supply or an inflammation)
5. Gastroentero_____ (the branch of medicine that is concerned with the disorders of the gastrointestinal tract)
6. Gastros _____ (surgical incision into the stomach)
7. Gastro_____ (a bleeding from the blood vessels and the stomach lining)
8. Gastr_____ (pain in the stomach or abdominal region)

Exercise 12. Put questions to the underlined words:

1. Stomach acids contribute to ulcer formation.
2. Slight elevation of temperature is observed in acute gastritis.
3. A diagnosis can be based on the history changes of the chest X-ray.
4. The patient has noticed that her gastric pains appear after eating.
5. The pain often occurs between meals and early in the morning.
6. The bacteria have produced substances that weaken the stomach's mucosa.
7. The patient felt much relief after having taken this drug.
8. You should talk to your doctor before stopping any medicine or starting any gastritis treatment on your own.

Exercise 13. Open the brackets using the verbs correctly:

1. Next Monday the patient suffering from severe liver damage (to make) a dialysis.
2. Preventive measures already (to carry) out to prevent early signs of gastric cancer.
3. The patient (to feel) relief after he (to take) this medicine 2 hours before.
4. While the doctor (to examine) the patient, he (to notice) the enlargement of lymphatic glands.
5. If gastritis (not to treat) properly, it will lead to even cancer of the stomach.
6. The patient (to suffer) from chronic gastritis for over 3 years.
7. This patient (to become) ambulatory two weeks ago.

Exercise 14. Fill in the table *Gastritis&Gastric Ulcers* to describe the terms:

1	Definition	1) Gastritis 2) Gastric ulcer
2	Causes	
3	Symptoms	
4	Risk factors	
5	Examination	
6	Treatment	
7	Complications	

***Exercise 15. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold:**

A 47-year-old man presented with four days of subjective fevers, abdominal pain, and **vomiting**. Past medical history was remarkable for **hypertension** and uncontrolled type 2 diabetes mellitus. There was no history of nonsteroidal anti-inflammatory drugs or alcohol use. No prior endoscopies were available for review. On admission, the patient was **tachycardic** to 122 beats/min. Physical examination was remarkable for **epigastric tenderness**. Admission laboratory studies revealed a **leukocytosis** of 30.3 K/mcL (normal: 3.4–10.4 K/mcL). Blood cultures were obtained, and the patient was started on piperacillin/tazobactam within five hours of presentation to the emergency department. Contrast-enhanced abdominal computed tomography (CT) revealed diffuse gastric wall thickening up to 1.6 cm with mucosal enhancement extending to the proximal duodenum.

Esophagogastroduodenoscopy (EGD) redemonstrated gastric thickening with diffuse **erythema** and a 6-mm nonbleeding ulcer.

Blood cultures returned positive for group A beta-hemolytic streptococcus and antibiotics were de-escalated to ampicillin/sulbactam.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7971729/

Patient	**Symptoms**	**Past history**	**Examinations**	**Treatment**
			– physical exam – laboratory studies – instrumental studies	

TASKS FOR SELF-CONTROL

Answer the questions:

1. What are the functions of the stomach?
2. What is the function of stomach lining?
3. What are the diseases of the stomach?
4. What similar symptoms do gastritis and peptic ulcer have?
5. What are the causes of gastritis and peptic ulcer?
6. How are gastric diseases treated?
7. What is the diagnosis of gastric diseases based on?
8. What are the complications of gastritis

Explain the terms: gastritis, gastric ulcer

CHOLECYSTITIS

Exercise 1. Topic vocabulary:

cholelithiasis, *n*	[ˈkɒləlɪθəsɪs]	The presence of one or more calculi (gallstones) in the gallbladder
disability, *n*	[ˌdisəˈbiliti]	A physical or mental condition that limits a person's movements, senses or activities
gangrene, *n*		death of body tissue due to a lack of blood flow or a serious bacterial infection
jaundice, *n*	[ˈdʒɔːndɪs]	yellow staining of the skin and sclerae by abnormally high blood levels of the bile pigment bilirubin
morbidity, *n*	[mɔːˈbɪdətɪ]	the amount of disease within a population
mortality, *n*	[mɔːˈtælɪtɪ]	a term used for death rate, or the number of deaths in a certain group of people in a certain period of time
perspiration, *n*	[pɜːspɪˈreɪʃ(ə)n]	the secretion of fluid by the sweat glands
tenderness, *n*	[ˈtendənəs]	pain or discomfort when an affected area is touched

Exercise 2. Pronounce correctly:
Cholecystitis [ˌkɒlɪsɪsˈtaɪtɪs], catarrhal [kəˈtɑːr(ə)l], gangrenous [ˈgæŋgrɪnəs], bilirubin [ˌbɪlɪˈruːbɪn], alkaline phosphatase [ˈælkəlaɪn ˈfɒsfəteɪz], cholecystectomy [kˌəʊlsɪstˈɛktəmi], hypochondrium [haɪpəˈkɒndrɪəm]

Exercise 3. Explain the following word-combinations:
obstruction of the cystic duct; accumulation of bile; swelling of the gallbladder; uncomplicated cholecystitis; insufficient oxygen; tender and distended; severe tenderness; slight jaundice of sclerae; surgical site infection

Exercise 4. Read and answer the questions below:

ACUTE CHOLECYSTITIS

Cholecystitis (Greek, -*cholecyst*, "gallbladder", combined with the suffix-*itis*, "inflammation") is inflammation of the gallbladder, which occurs most commonly due to gallstones (cholelithiasis). Blockage of thecystic duct with gall stones causes accumulation of bile in the gallbladder and increased pressure within the gallbladder. Concentrated bile, pressure, and sometimes bacterial infection irritate and damage the gallbladder wall, causing inflammation. Inflammation and swelling of the gallbladder can be reduced to areas of the gallbladder, which can lead to cell death. The main forms of cholecystitis are the following: catarrhal, purulent and gangrenous.

Risk factors forcholelithiasisand cholecystitis are similar and include increasing age, female sex, pregnancy, certain medications, obesity, and rapid weight loss. Females are twice as likely to develop cholecystitis as males. Uncomplicated cholecystitis has an excellent prognosis; however, more than 25% of patients require surgery or develop complications such as infection, gangrene or perforation of the gallbladder. Complications of acute cholecystitis increases morbidity and mortality.

The patient with cholecystitis is known to complain of intense pain, localized in the right hypochondrium and in the umbilical area. The gallbladder may be tender and distended. During the attack of pain the face is moist with cold perspiration, the skin is pale, and the tongue and lips are dry. Even a slight palpation reveals severe tenderness due to irritation of the peritoneum. Approximately in 50% of cases there is slight jaundice of sclerae. The pain grows much worse when the patient is lying on his right side. It may also correlate with eating greasy, fatty, or fried foods. Diarrhea, vomiting, and nausea are common.

Diagnosis. A doctor will normally ask if a patient has a history of cholecystitis because it often recurs. A physical examination will reveal how tender the gallbladder is. The following tests may also be ordered:
Ultrasound: This can highlight any gallstones and may show the condition of the gallbladder.

Blood test: A high white blood cell count may indicate an infection. High levels of bilirubin, alkaline phosphatase, and serum aminotransferase may also help the doctor make a diagnosis.

Computerized tomography (CT) or ultrasound scans: Images of the gallbladder may reveal signs of cholecystitis.
Hepatobiliary scan: this scan creates pictures of the liver, gallbladder, biliary tract and small intestine.

A patient with cholecystitis will be hospitalized, and they will probably not be allowed to consume any solid or liquid foods for some time. They will be given liquids intravenously while fasting. Pain medications and antibiotics may also be given.

Surgery is recommended for acute cholecystitis because there is a high rate of recurrence from inflammation related to gallstones. However, if there is a low risk of complications, surgery can be done as an outpatient procedure.
If there are complications, such as gangrene or perforation of the gallbladder, the patient will need immediate surgery to remove the gallbladder. If the patient has an infection, a tube may be inserted through the skin into the gallbladder to drain the infection.

Removal of the gallbladder, or cholecystectomy, can be performed by open abdominal excision or laparoscopically.

Laparoscopic cholecystectomy involves several small incisions in the skin. A camera is inserted into one incision to help the surgeon see inside the abdomen, and tools for removing the gallbladder and inserted through the other incisions.

The benefit of laparoscopy is that the incisions are small, so patients usually have less pain after the procedure and less scarring as well as fewer long – term complications and less disability following the surgery. Additionally, laparoscopic surgery is associated with a lower rate of surgical site infection.
After surgically removing the gallbladder, the bile will flow directly into the small intestine from the liver. This does not normally affect the

patient's overall health and digestive system. Some patients may have more frequent episodes of diarrhea.

Purulent form of cholecystitis is highly dangerous to life and requires an emergency operation. An even more severe course is observed in gangrenous cholecystitis. Recovery is achieved by surgical treatment, it being followed by prolonged antibiotic therapy and chemotherapy.

Exercise 5. Answer the questions to the text:

1. What is cholecystitis?
2. What are the main forms of cholecystitis?
3. What are the manifestations of cholecystitis?
4. Where is the pain localized in attack of cholecystitis?
5. When does the pain grow worse in acute cholecystitis?
6. What are the risk factors of cholecystitis?
7. What are the complications of cholecystitis?
8. How is cholecystitis diagnosed?
9. How is cholecystitis treated?
10. What are the benefits of laparoscopic cholecystectomy?

Exercise 6

a) Memorize the meaning of the following term-elements:

Chole- [kɒlɪ] – combining form of Greek origin denoting **bile**
Hepato- [hepatɔ] – combing form of Greek origin denoting **liver**

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

1. A malignant tumor of the liver in newborns or children – _____
2. A specialist in liver diseases – _____
3. Any disease of the liver – _____
4. The scientific study of liver diseases – _____
5. Gallbladder – _____
6. A malignant tumor of the liver – _____
7. Inflammation of the liver – _____
8. The surgical cutting (incision) of the gallbladder – _____
9. Surgical removal of the gall-bladder – _____
10. Any disease of the gallbladder – _____
11. Originating in the liver – _____

12. An abnormal enlargement of the liver caused by congestion, inflammation, or a tumor – _____
13. Inflammation of the gallbladder, characterized by fever, jaundice and weakness – _____
14. Radiography of the gallbladder after administration of a contrast medium – _____
(hepatology, hepatitis, hepatoblastoma, hepatoma, hepatologist, hepatopathy, hepatomegaly, hepatogenous, cholecystitis, cholecyst, cholecystectomy, cholecystopathy, cholecystotomy, cholecystography)

Exercise 7. Match the words to their definitions:

1. A condition in which bowel evacuations occur infrequently and cause difficulty or pain.	a) inflammation
2. A yellow-orange compound that is produced by the breakdown of hemoglobin from red blood cells.	b) gall-bladder
3. The process of examining part of the body by careful feeling with the hands or fingertips.	c) constipation
4. Loose, watery stools three or more times a day.	d) palpation
5. The body's response to injury, which may be acute or chronic. It is characterized by five signs: swelling, pain, redness, warmth and dysfunction.	e) jaundice
6. A pear-shaped sac lying underneath the right lobe of the liver, in which bile is stored.	f) diarrhea
7. A yellowing of the skin or whites of the eyes, indicating 8. Excess bilirubin in the blood.	g) bilirubin

Exercise 8. Open the brackets using the proper tense and voice form of the verbs:
Laparoscopic cholecystectomy is a minimally invasive surgical procedure which (to use) for the removal of a diseased gallbladder. Since the early 1990s, this technique largely (to replace) the open technique for cholecystectomies. Laparoscopic cholecystectomy currently (indicate) for the treatment of acute or chronic cholecystitis, symptomatic cholelithiasis, biliary dyskinesia, acalculous cholecystitis, gallstone pancreatitis, and gallbladder masses or polyps.

Carl Langenbuch (to perform) the first successful cholecystectomy at the Lazarus hospital in Berlin on July 15, 1882. Before this, surgical therapy for symptomatic gallstones (to limit) to cholecystostomy, or gallstone removal.
Erich Mühe (to perform) the first laparoscopic cholecystectomy on September 12, 1985 in Böblingen, Germany. Mühe (to inspire) to develop a technique for laparoscopic cholecystectomy by the first laparoscopic appendectomy, performed by gynecologist Kurt Semm in 1980.

By 2014 laparoscopic cholecystectomy (to become) the gold standard for the treatment of symptomatic gallstones.

Exercise 9. Put questions to the underlined words:
1. Hydrochloric acid is greatly diminished or absent in untreated cases of chronic gastritis.
2. The timing of cholecystectomy depends on the severity of your symptoms.
3. The causes of acute cholecystitis can be grouped into 2 main categories: calculous cholecystitis and acalculous cholecystitis.
4. Removing the gallbladder may be recommended to prevent acute cholecystitis from coming back.
5. The blood analysis revealed moderate leukocytosis and an elevated ESR.
6. People with cholecystitis may experience serious complications.
7. Acalculous cholecystitis can be caused by accidental damage to the gallbladder during major surgery, serious injuries or burns, sepsis, severe malnutrition or HIV/AIDS.
8. Set of symptoms varies with the severity of the inflammation.

Exercise 10. Fill in the table *Cholecystitis* to describe the term:

1	Definition	
2	Causes	
3	Symptoms	
4	Risk factors	
5	Examination	
6	Treatment	

***Exercise 11. Read the acute cholecystitis case presentation and fill in the table below with the appropriate information. Explain the terms in bold:**

Mrs. G.B. is a 38 year old female who presents to the emergency department with complaints of severe abdominal pain. G.B reports that she has had similar pain intermittently over the past week, however, tonight her pain has become constant and unbearable. She reports that the pain usually starts on the right side of her abdomen and radiates to her back. The pain makes it hard to take deep breaths and often occurs at night after eating dinner. G.B's pain prevents her from sleeping and usually lasts several hours. She reports **nausea** but no **vomiting** with her pain tonight, and explains that she has taken ibuprofen and antacids but neither have helped her symptoms.

Physical Exam

Upon exam, G.B.'s vitals are found to be as follows:

HR: 106

RR: 16

BP: 148/95

Temp: 38.1°C (100.6° F)

G.B. appears uncomfortable and is sweating. G.B. reports it feels better for her to lie in bed and not move. When G.B. is assessed, the right side of her abdomen below her rib cage is palpated during inspiration. She reports increased pain to the point that she gently pushes the examiner's hands away.

Laboratory Tests

Abnormal Laboratory Values

WBC – 15.4

CRP – 18.3 ***C-reactive protein*

Normal Laboratory Values

Hgb, Hct, Platelets

AST, ALT, ALP, GGT

Amylase, Lipase

serum HCG – not present

https://u.osu.edu/cholecystitiscasestudyautum2019/patient-case-presentation/

Patient	Complaints, character of pain	Vital signs	Inspection/ palpation	Laboratory findings (abnormal)

TASKS FOR SELF-CONTROL

Answer the questions:

1. What are the causes of cholecyctitis onset?
2. What are the main forms of cholecystitis?
3. What are the manifestations of cholecystitis?
4. Where is the pain localized in the attack of cholecystitis?
5. How is cholecystitis diagnosed?
6. How is cholecystitis treated?

Explain the terms: cholecystitis, cholecystectomy

RENAL DISEASES

Exercise 1. Topic vocabulary:

albuminuria, *n*	[ælˈbju:miˈnju:riə]	more than the normal amount of albumin in the urine
ascending, *adj*	[əˈsendiŋ]	rising upward
bacteriuria, *n*	[ˌbæktiriˈju:əriə]	the presence of bacteria in the urine
calculus, -i (pl.), *n*	[ˈkælkjʊləs, -lai]	a stone
concomitant, *adj*	[kənˈkɒmitənt]	occurring during the same time period
haematuria, *n*	[ˌhemәˈtjuəriə]	any condition in which urine contains blood or red blood cells
penetrate, *v*	[ˈpenitreit]	to enter by force; to infiltrate
persistent, *adj*	[pəˈsistənt]	existing or remaining in the same state for an indefinitely long time

Exercise 2. Form the plural of the following nouns. Pronounce the pairs of words correctly:

E.g. calculus – calculi […ai]

glomerulus, alveolus, bronchus, nucleus, bacillus, stimulus, terminus, ramus, fungus, coccus, focus.

Exercise 3. Match the term element to its meaning:

1. Pyel(o)	a) heart
2. Hepato	b) lung
3. Cardio	c) nerve
4. Angio	d) liver
5. Pulm(o)	e) chest
6. Neuro	f) brain
7. Pector	g) kidney pelvis
8. Cerebr(o)	h) vessel

Exercise 4. Explain the following word-combinations:
Renal failure, the non-functional tissue, an ascending infection of the kidney, concomitant diseases, resultant stasis, frequency of urination, urgency of urination.

Exercise 5. Read the text and answer the questions below:

RENAL DISEASES

Kidneys are the organs of the urinary system. They serve as the body's filters that remove waste products from the body and regulate the water balance. If the kidneys' function is seriously damaged, this causes the development of various renal diseases such as nephritis, pyelonephritis, nephrolithiasis, pyonephrosis (purulent inflammation of the kidney), hydronephrosis ("water inside the kidney"), renal failure, kidney cancer.

Nephritis (***nephro*** – combining form denoting ***kidney***) is a group of inflammatory renal diseases. The most common type of nephritis is **glomerulonephritis**. It is the inflammation of the glomeruli, small round filters located in the kidney. Glomerulonephritis usually develops a few weeks after a streptococcal infection of the throat or skin. The symptoms of glomerulonephritis are fatigue, high blood pressure, and swelling of the face, hands, ankles and feet. With proper medical treatment, symptoms usually subside within a month.

Pyelonephritis (***pyel(o)*** – combining form denoting ***the pelvis of the kidney***) is an ascending infection of the kidney, caused by bacteria that penetrate into the urinary tract from outside through the urethra. It may also ensue in the course of such concomitant diseases as cystitis in women, glomerulonephritis, or urinary stone disease (urolithiasis). Pyelonephritis can be acute or chronic.

Acute pyelonephritis often begins suddenly with chills. The patient has a general set of symptoms: malaise, headache, profuse sweating, nausea and vomiting. Then, the fever raises rapidly up to 39–40°C. It is usually accompanied with the dull pain in the loins on the side of the affected kidney. The urine is cloudy and bloody due to the presence of bacteria, protein, and erythrocytes in it.

Chronic pyelonephritis results from the undertreated acute form of the disease. It is often asymptomatic and can be detected only by means of urinalysis or if the patient has persistent hypertension. In chronic pyelonephritis, the normal renal tissue is replaced by the connective non-functional one. The kidney becomes small and scarred that leads to renal failure. Among other complications are pyonephrosis and urosepsis (presence of urine waste products throughout the body).

Nephrolithiasis (***nephro*** – meaning ***kidney***, ***lithi*** – meaning ***stone***), or renal calculi, is another renal disease. Its manifestations are extremely variable. In many cases, stones are carried in the kidneys for years without producing any symptoms. Sometimes, a mild infection develops in the pelvis around a tiny stone. If the stone is large, or several are present, the infection may result in the destruction and ultimate loss of the kidney. The size of a calculus varies from very small gravel to a large stag-horn stone which can fill the renal pelvis. The biggest risk factor for kidney stones is not drinking enough fluids. Kidney stones are more likely to occur when less than 1 liter of urine is produced during a day.

Migration of a stone can cause obstruction with resultant stasis and infection. Persistent or repeated obstruction leads to pyonephrosis or hydronephrosis. When a stone enters and obstructs the ureter, renal colic occurs. There may also appear nausea, vomiting, perspiration, frequency or urgency of urination, etc. Depending on the situation, a patient may need nothing more than to take pain medication and drink a lot of water to pass a kidney stone. In other instances — for example, if stones become lodged in the urinary tract, are associated with a urinary infection, or cause complications — surgery may be needed.

To reveal any renal disease, a full urological investigation must be carried out. It includes urinalysis that detects such signs of urinary tract infection as haematuria, albuminuria, bacteriuria, etc.; a urine test strip that reveals the presence of leukocytosis; blood tests; microbiological culture of the urine and antibiotic sensitivity testing.

If timely revealed and treated, renal diseases can be successfully cured with the return of the normal kidney function.

Exercise 6. Answer the questions:
1. What is the main function of the kidneys?
2. What does the renal damage cause?
3. What is a group of inflammatory renal diseases called?
4. What is glomerulonephritis? What are its manifestations?
5. What are the causes of pyelonephritis?
6. How are the acute and chronic forms of pyelonephritis manifested?
7. What are the complications of pyelonephritis?
8. What is nephrolithiasis? What is the risk factor of the disease?
9. What does the migration of a renal calculus lead to?
10. How can renal diseases be revealed?

Exercise 7. Complete the sentences with the appropriate words / word-combinations:

urgency of urination, perspiration, hematuria, bacteriuria, cloudy, renal colic, swelling, albuminuria,

1. When a renal calculus enters the ureter and obstructs it, _____ _____ appears.
2. Presence of bacteria in urine is called _____ .
3. Abnormal enlargement of face, hands or feet due to excess water in the body is known as _____.
4. The excretion of fluid through the sweat glands of the skin is called _____ .
5. When urine is not transparent or clear, it is _____ .
6. When the urine contains a large amount of proteins, it is called _____ .
7. The constant need to pass urine is also known as _____ _____ _____.
8. Presence of blood cells in urine is a sign of _____ .

Exercise 8. Guess the renal / urinary disease:
1. malignant tumour of a kidney that leads to death;
2. purulent inflammation of a kidney;
3. presence of stones in the kidney;
4. inflammation of small round filters, located in the kidneys;
5. accumulation of fluid in the renal pelvis due to outflow obstruction;

6. ascending renal infection caused by bacteria that penetrate through the urethra;
7. inability of the kidneys to perform their functions;
8. penetration of urine waste products into the blood.

Exercise 9. Insert the preposition where necessary:
1. Following … a strict diet means to avoid spicy and fatty food.
2. The patient experienced dull pain … the side of the affected kidney.
3. The presence of urine waste products … the body leads … urosepsis.
4. Some of genitourinary diseases are accompanied … painful urination.
5. The urinalysis was carried … yesterday, so you'll find out your results soon.
6. The treatment of pyelonephritis consists … removing the underlying cause.
7. He bent forward to pick up the pill and suddenly felt burning pain … the loins.
8. To prevent the disease … recurrence, it is necessary to complete the course of treatment.

Exercise 10. Put questions to the underlined words:
1. Chronic pyelonephritis leads to kidney failure.
2. Two forms of pyelonephritis are distinguished.
3. Pyelonephritis implies an ascending urinary tract infection.
4. Bacteria causing the UTI penetrate into the body through urethra.
5. Cystitis, glomerular nephritis, urorolithiasis may result in pyelonephritis.
6. The signs of urinary tract infections are haematuria, albuminuria, bacteriuria.
7. Appropriate antibiotics relieve the inflammatory process in the kidney.
8. The urine is cloudy and bloody as there are bacteria, protein, and erythrocytes in it.

Exercise 11. Re-write sentences using the appropriate tense form. Translate them:
1. Purulent inflammation of kidney (to know) as pyonephrosis.
2. Persistent hypertension (to indicate) the problems with kidneys.
3. He (to suffer) from obtuse pain in the loins since last month.
4. People with renal pathology (to recommend) to avoid spicy and fatty food.

5. The detection of pyelonephritis (to be) always possible due to urinalyses.
6. During the previous examination the patient (to complain) of painful urination.
7. The patient (to recover) quickly from pyelonephritis, if he (to complete) his treatment.
8. The onset of pyelonephritis (to accompany) with malaise, profuse sweating, nausea and vomiting.

Exercise 12

a) Describe the terms *glomerulonephritis, pyelonephritis, nephrolithiasis* using the plan below:

1.	General characteristics	
2.	Symptoms	
3.	Investigations / Analyses	
4.	Treatment	
5.	Complications	

b) Describe the terms *bacteriuria, haematuria, albuminuria* completing the sentences below.
1) … is a sign of urinary tract infection.
2) It can be observed in such renal diseases as … and….
3) ... is presence of … in the urine.
4) … is detected by urinalysis.

***Exercise 14. Read the case description and fill in the table below with the appropriate information. Explain the terms in bold:**
A 69-year-old woman with 25-year history of renal insufficiency with hypertension was hospitalized for worsening renal function, back pain and fever on September 21, 2017. Her past history included extracorporeal shock wave lithotripsy for left renal stone and percutaneous nephrolithotomy for right ureteral stone. In addition, 5 years earlier she had been admitted to our department for anemia, high level of serum creatinine. At that time, serum creatinine was 160 umol/l, hemoglobin was 80 g/l, 24-h proteinuria 0.65 g, Urine leukocytes were 2–3 per high power field and urine culture was negative. Kidney ultrasonic showed right kidney was smaller than the left. The patient was discharged with the diagnosis of chronic renal insufficiency and hypertensive nephropathy. At

the time of this admission, the blood pressure 129/77 mmHg, temperature 38.5°C, physical examination was unremarkable. Laboratory data revealed ESR 98 mm/h, CRP 51 mg/l, urine osmotic pressure 388 mosm/kg, Hb 74 g/l, serum creatinine 410 μmol/l, Urine leukocytes 2–3/ HP and urine culture was negative. Kidney MRI showed enlargement of renal pelvis and distortion of calyces and scarring of the overlying of two kidneys. On the basis of clinical history and kidney MRI, we diagnosed primary chronic pyelonephritis with active episode. Antibiotics and support treatment were administered. The temperate went back to normal and serum creatinine decreased to 314 μmol/L.

https://www.remedypublications.com/open-access/primary-chronic-pyelonephritis-a-case-report-689.pdf

Patient	Past history	This admission
	Laboratory data: Instrumental studies: Surgical interventions: Diagnosis:	Vital signs: Laboratory data: Instrumental studies: Diagnosis:

TASKS FOR SELF-CONTROL

Answer the questions:

1. What is a group of inflammatory renal diseases called?
2. What are the manifestations of glomerulonephritis?
3. What are the causes of pyelonephritis?
4. What are the manifestations of acute and chronic forms of pyelonephritis?
5. What are the complications of pyelonephritis?
6. What are the risk factors of nephrolithiasis?
7. What does the migration of a renal calculus lead to?
8. How is nephrolithiasis treated?
9. How are renal diseases diagnosed?

Explain the terms: glomerulonephritis, pyelonephritis, nephrolithiasis, hydronephrosis pyonephrosis, bacteriuria, haematuria, albuminuria

DIABETES MELLITUS

Exercise 1. Topic vocabulary:

byproduct , *n*	[ˈbaɪprɒdʌkt]	a product of a chemical reaction that differs from the desired product
gestational, *adj*	[ʤeˈsteɪʃnəl]	pertaining to pregnancy
neuropathy, *n*	[njʊəˈrɒpəθɪ]	any disease or malfunction of the nerves
polydipsia, *n*	[ˌpɒlɪˈdɪpsɪə]	constant, excessive drinking as a result of thirst
polyphagia, *n*	[pɒlɪˈfeɪdʒɪə]	excessive hunger or increased appetite
polyuria, *n*	[ˌpɒlɪˈjʊərɪə]	the excessive passage of urine
retinopathy, *n*	[retɪnˈɒpəθɪ]	any disease of the retina, the light-sensitive membrane at the back of the eye
sibling, *n*	[ˈsɪblɪŋ]	any of two or more offspring of the same parents; a brother or sister

Exercise 2. Complete the table with the missing words (you may need a dictionary):

VERB	NOUN	ADJECTIVE
	failure	
		inherited
	injection	
treat		
develop		
		dependent

Exercise 4. Explain the following word combinations:
Gestational diabetes, juvenile diabetes, treatable forms, inherited diabetes, blurred vision, glucose self-monitoring, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy

Exercise 5. Read the text and answer the questions below:

DIABETES

Diabetes mellitus, often simply diabetes, is a group of metabolic diseases in which a person has high blood sugar, either because the body does not produce enough insulin, or because cells do not respond to the insulin that is produced. At least 171 million people worldwide suffer from diabetes, or 2.8% of the population.

There are three main types of diabetes:
Type 1 diabetes results from the body's failure to produce insulin, and presently requires the person to inject insulin (insulin-dependent diabetes mellitus, IDDM for short, and juvenile diabetes). Type 1 diabetes is partly inherited and then triggered by certain infections.

Type 2 diabetes results from insulin resistance, a condition in which cells fail to use insulin properly, sometimes combined with an absolute insulin deficiency (non-insulin-dependent diabetes mellitus and adult-onset diabetes). Type 2 diabetes is due primarily to lifestyle factors and genetics, particularly excessive body weight and not enough exercise.

Gestational diabetes occurs when pregnant women who have never had diabetes before, have a high blood glucose level during pregnancy. It may precede development of type 2 DM.

The classical symptoms of diabetes are polyuria (frequent urination), polydipsia (increased thirst) and polyphagia (increased hunger). The other symptoms are:
– unexplained weight loss;
– presence of ketones in the urine (ketones are a byproduct of the breakdown of muscle and fat that happens when there is not enough available insulin);
– fatigue;
– irritability;
– blurred vision is a common complaint leading to a diabetes diagnosis;
– Type 1 should always be suspected in cases of rapid vision change, whereas with Type 2 change is generally more gradual;
– slow-healing sores;
– frequent infections, such as gums or skin infections and vaginal infections.

Symptoms may develop rapidly (weeks or months) in type 1 diabetes while type 2 diabetes they usually develop much more slowly and may be subtle or absent. The elevated plasma glucose levels cause marked glycosuria and diuresis resulting in dehydration.

Risk factors for Type 1 diabetes include: a family history (parent or sibling) of Type 1 diabetes; injury to the pancreas (such as by infection, tumor, surgery or accident); presence of autoantibodies (antibodies that mistakenly attack your own body's tissues or organs); physical stress (such as surgery or illness); illnesses caused by viruses.

Risk factors for Type 2 diabetes include: family history (parent or sibling) of Type 2 diabetes; overweight; high blood pressure; low HDL cholesterol (the "good" cholesterol); being physically inactive; age 45 or older; gestational diabetes; a history of heart disease or stroke; being a smoker.

All forms of diabetes have been treatable since insulin became available in 1921, and type 2 diabetes may be controlled with medications. Both type 1 and 2 are chronic conditions that usually cannot be cured. Prevention and treatment involve a healthy diet, physical exercise and maintaining a normal body weight. Treatment regimens differ according to the diabetes type. All patients should be instructed in glucose self-monitoring.

The main complications of diabetes mellitus are diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, foot ulcers. Serious long-term complications include cardiovascular disease, stroke, chronic kidney failure and damage to the eyes.

Exercise 6. Answer the questions:

1. What is diabetes mellitus?
2. How many types of diabetes are there?
3. What is Type 1 diabetes?
4. What is Type 2 diabetes?
5. What is gestational diabetes?
6. When did insulin become available?
7. What are the symptoms of diabetes?
8. What are the risk factors for Type 1 and Type 2 diabetes?
9. How is diabetes controlled?
10. What are the main complications of diabetes?

Exercise 7. Which terms are defined below?

The state or condition of discharging abnormally large quantities of urine, often accompanied by a need to urinate frequently	
Chronic excessive thirst and fluid intake	
An abnormal desire to consume excessive amounts of food	
Increased urination due to the presence of certain substances in the fluid filtered by the kidneys	
Damage to or disease of a kidney	
Excessive loss of body water, with an accompanying disruption of metabolic processes	
The presence of glucose in the urine	

Exercise 8. Make word combinations by joining the corresponding words:

1. Metabolic	a) sugar
2. To inject	b) resistance
3. Gestational	c) condition
4. Diabetes	d) changes
5. Blood	e) disease
6. Insulin	f) insulin
7. Chronic	g) diabetes
8. Classical	h) population
9. Glucose	i) therapy
10. Vision	j) symptoms
11. Prescribed	k) self-monitoring

Exercise 9. Read some facts about diabetes and fill in the gaps with the word combinations given in the table below:

complications	diabetes capital	under the age
sedentary lifestyle	delay	“silent killer disease”
middle-income group	silent epidemic	246 million people in the world
kidney failure	3.2 million people	feeling thirsty

1. Diabetes is a …… and according to WHO there are ……. living with diabetes. This is almost 6% of the world's adult population.
2. India is the…….. of the world. It is estimated that currently there are 40 million people with diabetes in India and by 2025 this number will swell to 70 million. This would mean every fifth diabetic in the world would be an Indian.
3. Diabetes causes 6 deaths every minute and one in 20 deaths in the world is due to the condition. Every year it is estimated that ……in the world die due to diabetes or its related causes.
4. Diabetes is an important…… as there is usually no early symptom of the disease. The commonest early symptom is…… .
5. Almost 90 to 95% of diabetes is of type 2 or maturity onset type; that affects people in their middle age. Type 1 or juvenile diabetes affects 70,000 children……of 15 years every year.
6. The major cause of increase in the incidence of diabetes is a …… . Exercise and diet can either reduce or ……. the incidence of diabetes by over 50%.
7. Diabetes is the number one cause of …… in the world. Besides this every year it is responsible for 5% or 5 million blindness in adults and one million limb amputations. Diabetes is also an important cause of heart disease, stroke and cataract.
8. The current cost of treating diabetes and its …… in the world is estimated as US $ 215–375 billion. The disease is growing fastest in developing countries where there are more people in the lower and …… .

Exercise 10. Fill in the table *Diabetes Mellitus* to describe the term:

	Type 1	**Type 2**
Causes of diabetes		
Signs and symptoms		
Tests		
Treatment		
Complications		

Exercise 11. Fill in prepositions where necessary:
1. A lot of people worldwide suffer …… diabetes.
2. Doctors should instruct their patients … glucose self-monitoring.
3. The cause of diabetes depends ….. the type.
4. Glucose absorption leads … changes in the shape of the lenses of the eyes.
5. Type 2 diabetes may be controlled … medications.
6. He complained … splitting headache.
7. I was ill … bronchitis and had to stay out … school … a week.
8. Diabetes mellitus is classified … three main types.

Exercise 12. Put the questions to the underlined words:
1. There are three main types of diabetes.
2. People with diabetes may experience diabetic ketoacidosis (DKA), a metabolic disturbance characterized by nausea, vomiting and abdominal pain, the smell of acetone on the breath.
3. In severe cases, people suffering from diabetic ketoacidosis have a decreased level of consciousness.
4. DKA (diabetic ketoacidosis) requires emergency treatment in hospital.
5. Several million people worldwide suffer from diabetes.
6. Diabetes doubles the risk of cardiovascular disease.
7. Type 1 diabetes can be further classified as immune-mediated or idiopathic.

***Exercise 13. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold (you may need a dictionary):**
A 65-year-old man had been seeing his general practitioner (GP) for the treatment of **type 2 diabetes** for many years. He was advised on several occasions that the oral therapy was not controlling his **blood glucose** to the recommended levels. He had **ischaemic heart disease** and suffered from **intermittent vascular claudication**. On each occasion he would ask for a few more months to alter his lifestyle to improve the control of his diabetes rather than start **insulin**. On several occasions he was offered a referral to **dietician**'s clinic or to diabetic specialist nurse's clinic, but he did not accept these. His HbA1c (*glycated haemoglobin) was persistently running around 10% (86 mmol/mol). His blood pressure and **cholesterol** remained within the suggested target, although his body mass index was

30. The clinician thought that the problem was that the patient was resistant to starting insulin.

Patient	Medical history	Present complaints	Examinations	GP's recommendations

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is diabetes mellitus?
2. What types of diabetes mellitus are there?
3. What is the difference between Type 1 and Type 2 diabetes?
4. What are the classical symptoms of diabetes?
5. What are the risk factors for diabetes mellitus?
6. What are the main complications of diabetes?

Explain the terms: Type 1 diabetes, Type 2 diabetes, gestational diabetes

GOITRE

Exercise 1. Topic vocabulary:

cretinism, *n*	[ˈkretɪnɪzm]	arrested physical and mental development with dystrophy of bones and soft tissues, due to congenital lack of thyroid gland secretion from hypofunction or absence of the gland
dwarfism, *n*	[dwɔːfizm]	underdevelopment of the body; the state of being a dwarf
iodism, *n*	[ˈaɪədɪz(ə)m]	an abnormal local and systemic condition resulting from overdosage with, prolonged use of, or sensitivity to iodine or iodine compounds
mental retardation	[ˈmɛnt(ə)l ˌriːtɑːˈdeɪʃən]	mild to severe impairment in intellectual ability equivalent to an IQ of 70 to 75 or below
miscarriage, *n*	[ˈmɪsˌkær.ɪdʒ]	the spontaneous loss of a pregnancy before the 20th week
stillbirth, *n*	[ˈstɪlˌbɜːθ]	the death of a baby in the womb after week 20 of the mother's pregnancy

Exercise 2. Form nouns using the suffixes and words given below:
-MENT: enlarge, impair, develop, achieve, treat, require, equip, move, establish, appoint, measure, excite, argue, state.
-ISM: cretin, giant, hyperthyroid, iodine, human, alcohol, fatal, hero, Darwin, modern, criticize;
-NESS: weak, deaf, dull, cold, ill, fresh, red, tired, restless, calm, kind, polite, cool, dry, dark.

Exercise 3. Explain word combinations:
noncancerous enlargement, iodine deficiency, the most common preventable cause, table salt fortified with iodine, autoimmune disease, unintended weight loss, replacement therapy

Exercise 4. Read the text and answer the questions below:

GOITRE

Goitre is a noncancerous enlargement of the thyroid gland in the front of the neck. The enlargement may be diffuse – involving most of the gland, or localized – limited to a particular area, as in a solitary (single) nodule. Many conditions can cause goiter, but the most common is a lack of sufficient iodine in the diet, which is usually a result of the soil in which food is grown being iodine-poor – a condition that occurs in many mountainous regions away from the sea. Iodine is required for the production of thyroid hormones, which regulate the body's metabolism.

Iodine deficiency is the most common preventable cause of brain damage and mental retardation, affecting about 50 million people worldwide. However, these disorders have been reduced simply by using table salt fortified with iodine.

Adults require at least 20 micrograms of iodine daily, but 150 micrograms are recommended. Seafood is an excellent source, while the iodine content of other foods varies depending on animal feed and soil. Iodism (iodine poisoning) is a rare condition that results in weakness, swollen salivary glands, a metallic taste in the mouth, and a runny nose.

Surveying communities for goiter is one of the best ways of detecting iodine deficiency, which, if not treated, can cause stillbirths, miscarriages, cretinism, mental impairments, deafness, and dwarfism.

Some other common risk factors for goiters include:
– female sex, because women are more prone to thyroid disorders;
– age: goiters are more common after age 40;
– medical history: a personal or family history of autoimmune disease increases risk;
– pregnancy and menopause;
– certain medications, e.g. some heart and psychiatric drugs;
– radiation exposure.
Not all goiters cause signs and symptoms. When signs and symptoms do occur they may include:
– a swelling at the base of your neck;
– a tight feeling in the throat;

– coughing;
– hoarseness;
– difficulty swallowing;
– difficulty breathing;
– dizziness when the arms are raised above the head

Goiters that result from other conditions, such as hypothyroidism or hyperthyroidism, may be associated with a number of symptoms, ranging from fatigue and weight gain to unintended weight loss, irritability and trouble sleeping.

An excess, or a deficiency of circulating hormones causes a wide range of medical conditions, for example ***hyperthyroidism*** and ***hypothyroidism***. Where there is an excess of hormone, one form of treatment consists of giving the patient something which inhibits the production of hormone, as in the use of carbimazole to treat hyperthyroidism. When a hormone is deficient, treatment may be performed by replacement therapy, for example injections of insulin in the treatment of Type I diabetes.

Several tests can be used to diagnose and evaluate goiter, including the following: physical exam, hormone test, ultrasound of the thyroid, thyroid scan, CT scan or MRI (magnetic resonance imaging) of the thyroid.

Exercise 5. Answer the questions:
1. What is goitre?
2. What is required for the production of thyroid hormones?
3. What is the most common cause of goitre?
4. What does iodism result in?
5. How much iodine do adults require daily?
6. What is an excellent source of iodine?
7. What are common risk factors for goiter?
8. What are the symptoms of goiter?
9. What is hyperthyroidism?
10. What is hypothyroidism?
11. What is the diagnosis of goiter based on?

Exercise 6. Choose the correct definitions to the following terms:

1. Metabolism	a) poisoning induced by ingestion of iodine or its compounds
2. Iodism	b) a condition in which an overactive thyroid gland is producing an excessive amount of thyroid hormones that circulate in the blood
3. Hyperthyrodism	c) the condition of being a dwarf
4. Dwarfism	d) the swelling of the thyroid gland
5. Cretinism	e) a condition arising from a deficiency of thyroid hormone, present from birth, characterized by dwarfism and mental retardation
6. Goitre	f) the sum total of the chemical processes that occur in living organism, resulting in growth, production of energy, elimination of waste material, etc.

Exercise 7. Fill in the gaps with the words from the box:

front	*hormones*	*older*	*energy*	*contribute*
heart	*slow*	*underactive*	*life-threatening*	*develop*

Hypothyroidism, also called (1)_____ thyroid, is when the thyroid gland doesn't make enough thyroid (2) _____ to meet your body's needs. The thyroid is a small, butterfly-shaped gland in the (3) _____of your neck. Thyroid hormones control the way your body uses (4) _____ , so they affect nearly every organ in your body, even the way your (5) _____ beats. Without enough thyroid hormones, many of your body's functions (6) _____ down.

Women are much more likely than men to (7) _____ hypothyroidism. The disease is also more common among people (8) _____ than age 60.

Hypothyroidism can (9) _____ to high cholesterol. If you have high cholesterol, you should get tested for hypothyroidism. Rarely, severe untreated hypothyroidism may lead to myxedema coma, an extreme form of hypothyroidism in which the body's functions slow to a (10) _____ point.

Exercise 8. Open the brackets and use verbs in the correct tense and voice:

Hyperthyroidism is one of the most common endocrine conditions affecting older domesticated housecats. In the United States, up to 10% of cats over ten years old (to have) hyperthyroidism. The disease (to become) significantly more common since the first reports of feline hyperthyroidism in the 1970s. The most common cause of hyperthyroidism in cats (to be) the presence of benign tumors called adenomas. 98% of cases (to cause) by the presence of an adenoma, but the reason these cats (to develop) such tumors (to continue) to be studied.

Exercise 9. Put questions to the underlined words:

1. Adults require 20 micrograms of iodine daily.
2. Goitre can sometimes occur when your thyroid gland produces too much thyroid hormone (hyperthyroidism).
3. Iodism results in weakness, swollen salivary glands and a runny nose.
4. Iodine is required for the production of thyroid hormones.
5. A lack of sufficient iodine in the diet occurs in many mountainous regions.
6. She has noticed that her hands have a tendency to shake.
7. Goitre had been prevalent in the alpine countries for a long time.
8. Switzerland reduced the condition by introducing iodised salt in 1922.

Exercise 10. Match the symptoms (1–7) with the questions the doctor asks (a–g).

1. Diarrhea	a) Do you prefer hot weather or cold?
2. Eating more	b) Is your weight steady?
3. Heat intolerance	c) What is your appetite like?
4. Overactivity	d) Are your bowels normal?
5. Palpitations	e) Are you able to sit and relax?
6. Weight loss	f) Do your hands shake?
7. Tremor	g) Have you ever felt your heart beating rapidly?

Exercise 11. Fill in the table *Goitre* to describe the term:

1	Definition	
2	Causes	
3	Symptoms	
4	Risk factors	
5	Examination	
6	Treatment	

***Exercise 12. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold (you may need a dictionary):**

A 64-year-old hypertensive woman of African descent presented to the emergency room with a two-day history of worsening **shortness of breath** and **stridor**. She had been aware of a **recurrent goiter** for over 15 years, having had a **partial thyroidectomy** 35 years ago for **benign** multi-nodular disease. Over the past year, she had been experiencing shortness of breath on exertion, generally relieved by rest. She did not have any hyperthyroid or hypothyroid symptoms and there was no history of fever, **dysphagia**, pain or **hoarseness**.

On presentation to the emergency department she had marked stridor, **tachypnea** (32 breaths/minute), **tachycardia** (120 beats/minute) and blood pressure of 160/95 mmHg. Her pulse oximeter **oxygen saturation** (spO_2) was 78% on room air. A large multi-nodular goiter was obvious. All other examinations were normal. She was rushed to the operating theatre for intubation under general anesthesia.

After intubation, she stabilized and was able to breathe comfortably. She was admitted to the intensive care unit and given propanolol 20 mg orally, three times daily. Her laboratory test results were within normal ranges. A computed tomography (CT) scan of the neck and thorax showed gross enlargement of both lobes of the thyroid with multiple nodules of varying sizes. The results of an electrocardiogram (ECG) were normal, while the results of an echocardiogram were consistent with **hypertensive heart disease**.

A **total thyroidectomy** was performed on the fourth day after admission. She returned to the intensive care unit and recovered with no complications. Histology tests confirmed a benign multi-nodular goiter.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924860/

Patient	Present complaints	Past history	Examination data	Diag-nosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is the most common cause of goitre?
2. What can iodine deficiency cause?
3. What is an excellent source of iodine?
4. What is iodism result in?
5. What are common risk factors for goiter?
6. What are the symptoms of goitre?
7. What is hyperthyroidism?
8. What is hypothyroidism?
9. What is the diagnosis of goitre based on?

Explain the terms: goiter, iodine deficiency

AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME)

Exercise 1. Topic vocabulary:

compromised, *adj*	[ˈkɒmprəmaɪzd]	unable to function optimally, especially with regard to immune response
latency, *adj*	[ˈleit(ə)nsi]	the time that passes between being exposed to something that can cause disease and having symptoms
malignant, *adj*	[məˈlignənt]	having the properties of invading and destroying nearby tissue and spreading (metastasizing) to other parts of the body
opportunistic infection	[ɒpətjuːˈnɪstɪk ɪnˈfɛkʃ(ə)n]	an infection by a microorganism that normally does not cause disease but becomes pathogenic when the body's immune system is impaired
strain, *n*	[strein]	a genetic variant or subtype of a microorganism
thrush, *n*	[θrʌʃ]	yeast infection of the mouth and throat, characterized by patches of white, caused by the fungus Candida albicans
tumour, *n*	[ˈtjuːmə]	an abnormal new growth of tissue
window period	[ˈwɪndəʊ ˈpɪərɪəd]	the time between infection with a blood-borne virus and the appearance of specific laboratory evidence of infection in a specimen of blood obtained from the asymptomatic host

Exercise 2. Pronounce correctly:

-ea- [i:]: sick-leave, treatment, weak, speak, heat;

-ea- [e]: head, bread, dead, death, health;

-cian [ʃ(ə)n]: physician, obstetrician, pediatrician, phthisiatrician, musician;

-tion [ʃ(ə)n]: examination, administration, medication, combination, injection;
-sis (sing.) [sis] → -ses (pl.) [siz]: analysis – analyses, diagnosis – diagnoses, crisis – crises, synthesis – syntheses, thesis – theses.

Exercise 3. Complete the table with missing forms:

Verb	Noun	Adjective
infect		
	destruction	
		transmissible
	inflammation	
		administrative
develop		
		inclusive
	cause	
involve		

Exercise 4. Explain the word-combinations and phrases:
A progressive failure of the immune system, life-threatening opportunistic infections, malignant tumours, transfusions of contaminated blood, swollen lymph nodes, a latency stage or window period, to eradicate the virus

Exercise 5. Read the text and answer the questions below:

AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME)

Human immunodeficiency virus (HIV) causes acquired immunodeficiency syndrome (AIDS), a condition in which progressive failure of the immune system contributes to life-threatening opportunistic infections which affect any organ system such as the respiratory tract, digestive tract, endocrine system, etc.

HIV infection is considered a pandemic by the World Health Organization (WHO) infecting about 0,6 % of the world's population.

Two main strains of HIV-1 and HIV-2 cause AIDS. HIV-1 is more common in the Western Hemisphere. Untreated HIV-1 cases eventually lead to AIDS. The patients die from opportunistic infections or malignant

tumours associated with the progressive failure of the immune system. HIV-2 is more prevalent in West Africa and it is transmitted less easily and progresses less quickly to AIDS than HIV-1. In both strains, the virus may persist at low levels for years in a host without causing disease. The only sign of infection is the presence of antibodies against the virus. Once immunodeficiency occurs, if left untreated, death usually follows within 2 to 3 years of the first onset of symptoms.

The AIDS virus is transmitted through bodily fluids such as blood, breast milk, etc. Casual contact with the infected person doesn't result in the transmission of the virus. The most efficient methods of HIV transmission include sexual, sharing needles for IV drugs, and receiving transfusions of contaminated blood. An infected mother may pass the virus to her unborn child. Susceptibility to HIV infection increases if there is a break in the skin or mucous membrane, which allows the virus to enter the bloodstream.

The stages of HIV infection are acute infection (also known as primary infection), latency (window period) and AIDS. During 2–4 weeks post-exposure a person may develop an influenza-like illness, the symptoms of which may include fever, swollen lymph nodes, pharyngitis, and rash and last for several weeks. The latency stage involves few or no symptoms at all and can last from 2 weeks to 20 years. AIDS, the final stage of HIV infection, is defined by various opportunistic infections and cancers that finally lead to death.

Untreated, HIV can progress to AIDS within a decade and, without treatment, life expectancy after diagnosis is about 3 years.
This may be shorter if the person develops a severe opportunistic illness. However, treatment with antiretroviral drugs can prevent AIDS from developing.

If AIDS does develop, it means that the immune system is severely compromised, that is, weakened to the point where it can no longer successfully respond to most diseases and infections.
People living with AIDS are vulnerable to a wide range of illnesses, including:
– pneumonia
– tuberculosis

– oral thrush, a fungal condition in the mouth or throat
– cytomegalovirus (CMV), a type of herpes virus
– cryptococcal meningitis, a fungal condition in the brain
– toxoplasmosis, a brain condition caused by a parasite
– cryptosporidiosis, a condition caused by an intestinal parasite
– cancer

The shortened life expectancy linked with untreated AIDS is not a direct result of the syndrome itself. Rather, it is a result of the diseases and complications that arise from having an immune system weakened by AIDS.
There is currently no available vaccine for HIV or cure for HIV or AIDS. The only known methods of prevention are based on avoiding exposure to the virus or an antiretroviral treatment which can just slow the course of the disease. Antiretroviral treatment reduces both the mortality and morbidity of HIV infection. But, these drugs have some side effects such as diarrhoea, malaise, nausea and fatigue. They don't completely eradicate the virus, but can greatly prolong the lives of patients infected with HIV.

Exercise 6. Answer the questions:
1. What is AIDS?
2. What systems does HIV damage?
3. What is the difference between the two HIV strains?
4. How is HIV transmitted?
5. What are the stages of HIV infection?
6. What symptoms are the HIV stages characterized by?
7. What illnesses are AIDS patients vulnerable to?
8. What treatment for HIV or AIDS exists nowadays?
9. What is the action of antiretroviral drugs?
10. What are the adverse reactions of HIV drugs?

Exercise 7. Match the terms to their definitions:

1. Immune deficiency	a) the period between infection with a virus or other microorganism and the onset of symptoms
2. Vulnerable	b) the protein produced in response to and counteracting a specific antigen
3. Meningitis	c) failure of the immune system to protect the body adequately from infection

4. Tumour	d) it affects patients only or chiefly when the immune system is depressed
5. Antibody	e) a virus which reduces people's resistance to illness
6. Latency (window period)	f) an inflammation (swelling) of the protective membranes covering the brain and spinal cord.
7. HIV	g) weak and without protection
8. Opportunistic infection	h) swelling of a part of the body, generally without inflammation, caused by an abnormal growth of tissue, whether benign or malignant

Exercise 8. Find synonyms for the following words and word combinations in the text:

Insufficiency, spread, neoplasm, damage, perspiration, medicine, high temperature, grippe, potentially fatal disease, liable to diseases, get, eruptions, rate of deaths, rate of diseases, decrease, adverse reaction.

Exercise 9. Fill in the gaps with the words from the box:

AIDS transmitted immune HIV infected opportunistic transfusion protective

AIDS is the worst sexually _____ disease. It is caused by _____, which attacks the immune system. The _____ system plays an important role in fighting off the diseases. HIV is transmitted through direct contact with the _____ person's bodily fluids. HIV is also transmitted by _____ of contaminated blood. HIV reduces the _____ function of the immune system. When the immune system breaks down, the person will suffer many infections called _____ infections. This is the last stage of HIV infection which is called _____.

Exercise 10. Fill in the blanks with the appropriate prepositions from the box:

from, of, in, of, with, by, to, with, to

Sharing and reusing syringes contaminated _____ HIV-infected blood represents a major risk for infection with HIV. Needle sharing is the cause ____ one-third of all new HIV infections ____ North America, China and

Eastern Europe. The risk ___ being infected with HIV from a single prick ___ a needle that has been used on an HIV-infected person is thought to be about 1 in 150. Post-exposure prophylaxis ____ anti-HIV drugs can further reduce the risk. This route can also affect people who give and receive tattoos and piercing.
According ____ the WHO, the overwhelming majority ____ the world population does not have access ____ safe blood and between 5% and 10% of the world's HIV infections come _____ transfusions of infected blood and blood products.

Exercise 11. Open the brackets and use verbs in the correct tense and voice:
1. The physician said that previous sanatorium treatment (to be) helpful.
2. The patient said he never (to experience) such acute pain before.
3. The patient can't be discharged from the hospital because he not (to recover) yet.
4. The doctor (to write) a prescription when a nurse (to open) the door and (to ask) what injection to make.
5. He (to lose) consciousness and (to moan) all the time.
6. The doctor (to make) a diagnosis after he gets the findings of your blood test.
7. The administration (to change), if he doesn't feel better tomorrow.
8. Water-soluble vitamins (to excrete) out of the body within one day.

Exercise 12. Which sentences below contain incorrect verb forms? Correct them.
1. HIV-1 **occurs** more often in the Western Hemisphere, Europe, Asia and most of Africa.
2. The patient **diagnosed** with HIV-1 infection 12 years ago.
3. Before admission to the hospital, the patient **had not been** in medical care for approximately 6 months.
4. The patient **discontinued** antiretroviral and antihypertensive medication.
5. The blood analysis **will make** in half an hour on an empty stomach.
6. The only medication, that he **is taking**, is Dapsone for prophylaxis.
7. The patient **was** just **been brought** into the postoperative ward.
8. The patient **has been suffered** from unexplained fatigue for several weeks.

Exercise 13. Put questions to the underlined phrases:
1. Patients with HIV are administered antiretroviral drugs.
2. Symptoms vary with the severity of the inflammation.
3. We had to take the patient for an operation immediately to prevent the rupture of the appendix.
4. The patient had a slightly elevated body temperature.
5. The effectiveness of the immune system will slowly be reduced by HIV.
6. The viruses have produced substances that weaken the immune system.
7. Scientists are observing AIDS in an increasing number of infants.
8. As symptoms had been present for a long time, the patient was administered antibiotics.

Exercise 14. Say about AIDS and HIV according to the plan:
1. The type of the disease.
2. The cause of the disease.
3. The transmission of the disease.
4. The symptoms and manifestations of the disease.
5. The treatment of the disease.

TASKS FOR SELF-CONTROL

Answer the questions:
1. What does the abbreviation AIDS stand for?
2. What are the two main strains of HIV?
3. How is HIV transmitted?
4. What are the stages of HIV infection?
5. What symptoms are the HIV stages characterized by?
6. What illnesses are AIDS patients vulnerable to?
7. What is the action of antiretroviral drugs?
8. What are the adverse reactions of HIV drugs?

Explain the terms: HIV, AIDS

INFLUENZA

Exercise 1. Topic vocabulary:

advanced, *adj*	[ədˈvɑːnst]	of a disease, in a late or critical stage of development
antigenic shift		a sudden, major change in the antigenicity of a virus resulting from the recombination of the genomes of two different strains
congestion, *n*	[kənˈdʒestʃən]	presence of an abnormal amount of fluid in the vessels or passages of a part or organ
outbreak, *n*	[autˈbreik]	a sudden increase in occurrences of a disease when cases are in excess of normal expectancy
rejection, *n*	[rɪˈdʒɛkʃn]	an immune response in which foreign tissue (as of a skin graft or transplanted organ) is attacked by immune system components of the recipient organism
suppress, *v*	[səˈprɛs]	to inhibit the activity of something

Exercise 2. Read the word combinations and explain them:
Advanced: advanced disease; advanced carcinoma; moderately advanced atherosclerosis; advanced age;
Congestion: nasal congestion; congestion of blood; pulmonary congestion; renal congestion; sinus congestion;
Intervention: surgical intervention; minimal intervention; psychological intervention; refuse medical intervention;
Outbreak: outbreak of disease; influenza outbreak; infection outbreak; produce an outbreak; food poisoning outbreak.

Exercise 3. Fill in the table with the missing parts of speech (you may need a dictionary):

verbs	nouns	adjectives
congest		
	experience	
		inherited
suppress		

	infection	
advance		
		productive
persist		

Exercise 4. Read the text and answer the questions below:

INFLUENZA

Influenza, also called flu, is an acute viral infection of the upper or lower respiratory tract. The causative agent is a virus. Influenza viruses are categorized as types A, B, C, and D. These major types generally produce similar symptoms but are completely unrelated antigenically, so that infection with one type grants no immunity against the others. The A viruses cause great influenza epidemics, and the B viruses cause smaller localized outbreaks. The C viruses cause only mild respiratory illness in humans. The D viruses are not known to infect humans and have been observed only in pigs and cattle.

Influenza pandemics are estimated to occur on average once every 50 years. Epidemics happen much more frequently, and seasonal influenza appears annually in most parts of the world, sometimes in epidemic proportions. Influenza type A virus is the most frequent cause of seasonal influenza. When an influenza A virus undergoes an antigenic shift, a pandemic affecting most of the world can occur within a matter of months. The influenza pandemic of 1918–19, the most destructive influenza outbreak in history and one of the most severe disease pandemics ever encountered, was caused by a subtype of influenza A known as H1N1. During this pandemic, an estimated 25 million people throughout the world died of the so-called Spanish flu, which was first widely reported in Spain but originated in the U.S. state of Kansas.

Influenza outbreaks occur suddenly and infection spreads rapidly by talking, coughing and sneezing. Healthy carriers may spread the disease. The incubation period is from 1–3 days. The onset is sudden with a chilly sensation, followed by fever. The most common symptoms are chills, fever, nasal congestion, sore throat, muscle pains, headache (often severe), cough, weakness/fatigue and general discomfort. The temperature ranges between 37,7 and 40 and persists from 2 to 5 days. The respiratory rate is

moderately increased. The pulse is accelerated. Vomiting and diarrhoea are frequent. The tongue is dry and coated, the pharynx is usually reddened.

Influenza symptoms can be relieved with bed rest, steam inhalations, and pain relievers. Since influenza is a viral infection, antibiotics are useless in treating it. However, antibiotics are frequently used to treat secondary infections. To be effective, the doctor should begin treatment no later than two days after symptoms appear. Antivirals may be useful in treating patients who have weakened immune systems or who are at risk for developing serious complications. However, viral resistance to these agents has been observed, thereby reducing their effectiveness.

For most people, influenza resolves on its own. Influenza complications usually arise from bacterial infections of the lower respiratory tract. Signs of a secondary respiratory infection include high fever, chills, chest pain associated with breathing, and a productive cough with yellowish-green sputum. If these symptoms appear, medical treatment is necessary. Other secondary infections, such as sinus or ear infections, and heart and lung problems, may also require medical intervention.

Influenza can be deadly, especially for the weak, young and old, or chronically ill. People with a weak immune system, such as people with advanced HIV infection or transplant patients (whose immune systems are medically suppressed to prevent transplant organ rejection), suffer from a particularly severe disease. Other high-risk groups include pregnant women, young children and residents of nursing homes. The flu can also worsen chronic health problems. People with emphysema, chronic bronchitis or asthma may experience shortness of breath while they have the flu, and influenza may cause worsening of coronary heart disease or congestive heart failure.

Individual protection against the flu may be an injection of a vaccine containing two or more circulating influenza viruses. Protection from one vaccination seldom lasts more than a year, and yearly vaccination may be recommended, particularly for those individuals who are unusually susceptible to influenza or whose weak condition could lead to serious complications in case of infection. However, routine immunization in healthy people is also recommended.

Exercise 5. Answer the questions:

1. What kind of disease is flu?
2. What types of influenza viruses can affect people?
3. What type of influenza virus is the most dangerous?
4. What kind of disease is the so-called “Spanish flu”?
2. How does the influenza virus spread?
3. What are the most common symptoms of the flu?
4. How can influenza symptoms be relieved?
5. For whom can influenza be deadly?
6. When do patients with the flu require medical intervention?
7. What medical conditions can influenza worsen?
8. What do influenza complications arise from?

Exercise 6. Match the words from the left column to their synonyms from the right one:

1. To infect	a) to lead to
2. To occur	b) aggravation
3. To cause	c) helpful
4. To subside	d) to appear
5. Congestion	e) lethal
6. Complication	f) obstruction
7. Treatment	g) to pass off
8. Fatal	h) to contract with
9. Useful	i) visible
10. Noticeable	j) management

Exercise 7. Match the terms to their definitions:

1. Fatigue	a) expelling air or solid matter from the lungs abruptly and explosively through the partially closed vocal cords
2. Vomiting	b) mucus and other matter brought up from the lungs by coughing
3. Sputum	c) a condition characterized by a lessened capacity for work usually accompanied by a feeling of weariness and tiredness
4. Chill	d) expelling air forcibly from the mouth and nose in an explosive, spasmodic involuntary action resulting chiefly from irritation of the nasal mucous membrane

5. Cough	e) an uncontrollable reflex that expels the contents of the stomach through the mouth
6. Sneezing	f) a sensation of coldness, often accompanied by shivering and pallor of the skin.

Exercise 8. Fill in the gaps with the appropriate preposition:

in, at, on (2), against, for, during, by, with, among

1. The influenza vaccine is an annual vaccine to protect … the highly variable influenza virus.
2. Influenza vaccination is the most effective method … preventing influenza virus infection and its potentially severe complications.
3. Vaccines are used not only … humans.
4. Vaccination is associated … reductions in influenza-related respiratory illnesses, hospitalization and death among persons … high risk, otitis media … children.
5. Although influenza vaccination levels increased substantially … the 1990s, further improvements in vaccine coverage levels are needed.
6. Improved influenza countermeasures require basic research … how viruses enter cells, replicate, mutate, and evolve into new strains.
7. Many groups worldwide are working … a universal flu vaccine that will not need changing each year.
8. Influenza viruses can be inactivated … sunlight, disinfectants and detergents.

Exercise 9. Put questions to the underlined words:

1. The flu can occasionally lead to <u>bacterial complications</u>.
2. Influenza is transmitted <u>through the air</u>.
3. Influenza viruses can be inactivated <u>by sunlight, disinfectants and detergents</u>.
4. Frequent hand washing reduces <u>the risk of infection</u>.
5. <u>Influenza</u> spreads around the world in seasonal epidemics.
6. <u>In the 20th century</u> three influenza pandemics occurred.
7. These pandemics killed <u>millions of people</u>.
8. These pandemics were caused by <u>the appearance of a new strain of the virus in humans</u>.
9. Antiviral drugs <u>such as the neuraminidase inhibitor (Tamiflu)</u> have been used to treat influenza.

Exercise 10. Open the brackets using the verbs in the appropriate form:

1. He (to be) ill with the flu since last week.
2. Antiviral drugs (to use) to treat influenza.
3. Influenza often (to confuse) with the common cold.
4. Antibiotics (to prescribe) for the treatment of bacterial pneumonia.
5. He (to hospitalize) with a severe form of the flu last week.
6. After two days of being ill with influenza he (to start) having trouble breathing.
7. Patients with the flu (to recommend) to have plenty of rest and drink lots of liquids.
8. Influenza in which no complications occur usually (to last) from 3 to 5 days.
9. The headache and general pains (to relieve) by the use of Aspirin.
10. Many patients (to have) respiratory symptoms such as laryngitis or tracheitis.

Exercise 11. Read the case history. Open the brackets in the correct tense and voice.

A 37-year old female (to admit) to the hospital with tachypnea ([tǽˈkipniə], and acute shortness of breath with wheezing. Auscultation (to reveal) decreased breath sounds with inspiratory and expiratory wheezing and the patient (to cough up) small amounts of white sputum.

The patient was a 7-week-old male who (to transfer) to the hospital with a 10-day history of choking (задуха), progressing to his turning red and grasping for breath. Over the prior 2 days, he also (to have) three episodes of vomiting in association with his coughing. His physical examination (to show) both tachycardia and tachypnea. There was no evidence of tracheal abnormalities.

The patient was a 15-year-old male with a history of sickle cell disease. He (to admit) to hospital with a 4-day history of a progressive, productive cough and 2 days of fevers. On admission, his temperature was 41.1^0C, his respiratory rate was 40/min, pulse was 120 beats/min, and his blood pressure was 80/40 mmHg. He also (to have) a mild respiratory distress. A chest radiograph (to demonstrate) a right lower lobe infiltrate.

Exercise 12. Fill in the table *Influenza* to describe the term:

1.	General characteristics	
2.	Types	
3.	Symptoms	
4.	Treatment	
5.	Complications	
6.	Prevention	

***Exercise 13. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold (you may need a dictionary):**

JP is a 29 year-old female presenting to the Emergency Department with dyspnea, myalgia, and rhinorrhea. Her symptoms began approximately 1 day ago and are continuous, steadily getting worse. She is having significant nasal discharge but minimal cough. She has no significant past medical history, and takes no routine medications. She reports receiving the flu vaccine when her child first fell ill, 3 days ago. She was a smoker but quit when she became pregnant 4 years ago. Ten point review of systems was negative except for **fever**, **lethargy**, nasal discharge, **shortness of breath**, and **muscle soreness**.

Vitals
Tmax 101.0°F, 38.3°C
Heart Rate 105 bpm
Respiratory Rate 22 bpm
Blood Pressure 120/76
Oxygen Saturation 89% on room air

Physical Exam
General Well nourished young woman
Resp **Wheezes**, no **crackles**; diminished breath sounds at bases
Card Regular rate and rhythm, no **murmurs**
Abd Soft, **non-tender**, normal bowel sounds
Ext No edema, but tender upon palpation
Skin Warm and diaphoretic
Neuro Normal

Radiology
Chest X-ray showed patchy diffuse **bilateral** infiltrates suggestive of pneumonia.

Micro
Rapid Flu Swab Positive: influenza A
JP was diagnosed with influenza. The patient was admitted to the hospital for respiratory support and started on the antiviral Tamiflu (oseltamivir). She was not started on antibiotics for bacterial pneumonia, as the patient did not demonstrate typical symptoms of bacterial pneumonia (a notable lack of cough). She was discharged after 1.5 days of hospitalization as her ability to oxygenate improved. She completed a 5-day course of oseltamivir at home and returned to usual health within two weeks.

https://www.chegg.com/homework-help/questions-and-answers/influenza-case-study-jp-29-year-old-female-presenting-emergency-department-dyspnea-myalgia-q44958916

Patient	**Symp-toms**	**Vitals& Physical exam**	**Instr. studies**	**Micro-scopic exam**	**Diagno-sis**	**Treat-ment**

TASKS FOR SELF-CONTROL

Answer the questions:
1. What kind of disease is the flu?
2. What type of influenza virus is the most dangerous?
3. What kind of disease is the so-called “Spanish flu”?
4. How does the influenza virus spread?
5. What are the most common symptoms of the flu?
6. How can influenza symptoms be relieved?
7. For whom can influenza be deadly?
8. What do you know about vaccination against influenza?

Explain the term: influenza

TETANUS

Exercise 1. Topic vocabulary:

delirium, *n*	[dɪˈlɪrɪəm]	a serious disturbance in mental abilities that results in confused thinking and reduced awareness of the environment
lockjaw, *n*	[ˈlɒk.dʒɔː]	an early symptom of tetanus characterized by spasms of the jaw muscles and inability to open the jaws
opisthotonus, *n*	[ou ˈpisθətonəs]	a great rigid spasm of the body, with the back fully arched and the heels and the head bent back
protruded (lips), *n*	[prəˈtruːdid]	extend beyond or above a surface
risus sardonicus	[ˈriːsəs sɑːˈdɒnɪkəs]	a spasm of the facial muscles resulting in a permanent contorted grin
seizure, *n*	[ˈsiːʒər]	uncontrolled electrical activity in the brain, which may produce a physical convulsion
stiffness, *n*	[ˈstɪfnəs]	difficulty in moving a joint or stretching a muscle
trismus, *n*	[trizməs]	lockjaw

Exercise 2. Build the words with the help of negative prefixes:

-dis: like, function, connect, agree, locate, place, continue, section, solvent.
-ir: regular, responsible, relevant, resistible, radiation, reversible, reducible.
-im: possible, practical, mobile, moral, balance, maturity, potency, purity.
-un: necessary, reliable, fortunately, consciousness, dress, infected, mixed.
-mal: formation, nutrition, occlusion, position, treatment, presentation, rotation.

Exercise 3. Explain the word combinations:

noncontagious disease; incubation period; a terminal disease; a contaminated object; advanced cases; life-threatening breathing difficulty; a clinical diagnosis; abnormal heart rhythms; permanent disability; immunocompromised individuals

Exercise 4. Read the text and answer the questions below:

TETANUS

Tetanus is an acute infectious noncontagious disease caused by the Bacillus tetani (Clostridium tetani) which enters the bloodstream through a wound or break in the skin and is commonly found in soil, dust and rusted objects such as nails. When they enter a deep wound, spores of the bacilli may produce a powerful toxin, tetanospasmin, which impairs motor neurons, and nerves that control muscles. The tetanus toxin acts on four areas of the nervous system: a) the motor end plates in the skeletal system; b) the spinal cord; c) the brain; and d) the sympathetic system.

The incubation period varies from 5 to 15 days. The shorter the incubation period is, the more serious is the disease. The earliest symptoms are restlessness, irritability, nightmare and delirium. Following a short period, a tonic spasm of the masticating muscles occurs so that the patient is unable to open his mouth, producing the characteristic picture known as lockjaw (trismus). Gradually all muscles of the body become affected except those of the forearm and of the hand. At the height of the disease, there occurs the typical facial expression known as risus sardonicus, where the patient appears to be laughing, due to the drawing up of the angles of the mouth. The brows are contracted, the eyes are partly closed, the teeth are clenched tightly and the lips are slightly protruded. The body is arched in the position known as opisthotonus. Upon the slightest stimulus, the entire body may go into a convulsive seizure, accompanied by severe pain.

Tetanus is a clinical diagnosis and there are no definitive laboratory tests. The diagnosis of tetanus is based on a complete history, physical examination, and the signs and symptoms of muscle spasms, stiffness and pain.

Complications include broken bones (the severity of spasms may cause the spine and other bones to break), breathing problems, high blood pressure or abnormal heart rhythms, disability (prolonged immobility due to the use of drugs can lead to permanent disability) and death. Death may ensue within the first 48 hours or at any time up to one week after onset. If the patient survives the first week, his chances of recovery are greatly improved, the spasms gradually lessening in frequency and severity.

Tetanus is a terminal disease. Once a patient was injured by a contaminated object, he should immediately ask for medical help. The first step in treatment is wound cleaning which is removing dirt, foreign objects and dead tissue from the wound, and immunization with the tetanus vaccine. Immunization usually protects against tetanus infection for 10 years. In advanced cases, the patient should be hospitalized usually in an intensive care unit and treatment is directed toward stopping toxin production, neutralizing its effects. Patients are also administered antibiotics to kill the bacteria. Sedatives are given for muscle spasms, which can lead to life-threatening breathing difficulty.

Immunization is the only effective prevention of tetanus. Tetanus toxoid is an effective, safe, stable and inexpensive vaccine that can be given to all ages, to pregnant women and to immunocompromised individuals.

Exercise 5. Answer the questions:

1. What is tetanus caused by?
2. How does *Bacillus tetani* enter the body?
3. Where can *Bacillus tetani* be found in nature?
4. What is the incubation period of tetanus?
5. What are the earliest symptoms of tetanus?
6. What are the characteristic manifestations of tetanus?
7. How can you describe such a typical facial expression known as Risus Sardonicus?
8. What is the treatment for advanced cases of tetanus?

Exercise 6. Complete the following sentences using the text:

1. The characteristic features of tetanus are … .
2. Severe headache, difficulty in urination, and sweating are … .
3. The patient is unable to open his mouth, producing the … .
4. Gradually all muscles of the body become … of the forearm and of the hand.
5. Risus sardonicus is a characteristic facial expression that looks like…….
6. The condition opisthotonus is described as …...
7. *Bacillus tetani* flourishes in …….
8. The first step to prevent tetanus is ……

Exercise 7. Match the terms to their definitions:

1. Tetanus	a) spasm of the jaw muscles, keeping the jaw tightly closed
2. Toxin	b) an acute infectious disease, affecting the nervous system, caused by the bacterium *Clostridium tetani*
3. Opisthotonus	c) the process whereby a person is made immune or resistant to an infectious disease
4. Spasm	d) a spasm in which the spine and extremities are bent forward, the body resting on the head and the heels
5. Trismus	e) a poison produced by a living organism, especially by a bacterium
6. Vaccination	f) a sustained involuntary muscular contraction, which may occur either as part of a generalized disorder, such as a spastic paralysis, or as a local response to an otherwise unconnected painful condition
7. Immunization	g) the process of administering weakened or dead pathogens to a sick person or animal

Exercise 8. Read the sentences and say whether they are true:

1. Tetanus is an inherited disease characterized by painful spasms of the muscles.
2. Tetanus is caused by the *Bacillus tetani* which gains entrance into the body with contaminated food.
3. Tetanus infection has been associated with burns, animal bites and even chronic sores and infections.
4. Tetanus is a highly contagious disease.
5. Gradually all muscles of the body become affected including those of the forearm and of the hand.
6. The typical facial expression known as risus sardonicus, where the patient appears to be crying, due to the drawing up of the angles of the mouth.
7. The body is arched in the position known as opisthotonus.
8. The treatment of tetanus consists of tetanus immune globulin to neutralize the toxins that the bacteria have created in your body.

Exercise 9. Complete the sentences using the words from the box:

Bacillus tetani, lockjaw, wound, convulsions, risus sardonicus, trismus, neurotoxin, bites

1. Tetanus is associated with rusty nails and other dirty objects, but any …….. can be a source.
2. Less common ways of getting tetanus are animal scratches and ……
3. The first characteristic symptom of tetanus is often a stiffness of the jaw that is called …….
4. ……. prevents the patient from opening his mouth or swallowing.
5. ……. is a grinning expression produced by spasm of the facial muscles; seen in tetanus and certain types of poisoning.
6. ……. grows only in the absence of oxygen, so wounds must be adequately cleaned of dead tissue and foreign substances.
7. …… can be sometimes severe enough to cause broken bones.
8. Tetanus spores grow in the body, producing a highly poisonous ……. in the blood, spreading to the nervous system.

Exercise 10. Match two parts of the sentences:

1. Risus sardonicus is a characteristic, spasm of the facial muscles	a) proper immunization and by post-exposure prophylaxis.
2. When symptoms occur early,	b) the Greek meaning to “stretch”.
3. Tetanus was well known to ancient people, so the word “tetanus” is derived from	c) protect their newborns by passing the antibody through the placenta.
4. Infection can be prevented by	d) the chance of death is increased.
5. The infection is usually transmitted through	e) the wound itself may be minor or healed.
6. Sometimes, the point of *Clostridium tetani* entry cannot be found because	f) of increased muscle activity.
7. The spasms in tetanus may be of utmost severity to cause	g) deep puncture wounds or cuts or scratches that are not cleaned well.
8. A patient with tetanus requires a high daily caloric intake because	h) bone fractures.
9. Mothers who have been adequately immunized against tetanus	i) with the appearance of raised eyebrows and an open “grin”.

Exercise 11. Use the verbs in brackets in the appropriate tense:

1. Universal childhood immunization in the 1930s (to lead) to the decline in tetanus cases.
2. The patient (to suffer) from nightmares for about 10 days.
3. In this patient tetanus (to cause) by as a wound after stepping on a nail.
4. The brows (to contract), the teeth (to clench) tightly and the lips (to protrude) slightly.
5. Now the patient's body (to arch) in the position known as opisthotonus.
6. The entire body of the patient just (to go) into a convulsive seizure, accompanied by severe pain.
7. The patient (to run) a fever as high as 40°C during the attacks for a weak.
8. Death (to ensue) within the first 48 hours or at any time up to one week after onset.

Exercise 12. Put questions to the underlined words:

1. Tetanus is characterized by painful spasms of the muscles.
2. The Bacillus tetani gains entrance into the body through a wound or break in the skin.
3. From 1947, the number of tetanus cases began to decline rapidly.
4. The patient may become restless, irritable and even delirious.
5. Gradually all muscles of the body become affected except those of the forearm and of the hand.
6. At the height of the disease there occurs the typical facial expression known as risus sardonicus.
7. The patient appears to be laughing, due to the drawing up of the angles of the mouth.
8. A child who plays outside can get infected with tetanus even from a small injury.

Exercise 13. Fill in the table *Tetanus* to describe the term:

1.	General characteristics	
2.	Causative agent	
3.	Symptoms	
4.	Diagnosis	
5.	Treatment	
6.	Complications	
7.	Prevention	

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold (you may need a dictionary):**

A 4-year-old Caucasian boy presented with a one-week history of **general malaise**, **mild fever**, **indolence** and **anorexia**. He subsequently developed **dysphagia**, **hypersalivation**, difficulties opening the mouth and eventually **dehydration**. Due to parental concerns about the boy's refusal of fluids, a paediatrician was consulted. At the time of the presentation, he showed signs of **trismus** and **muscle rigidity**. Together with the lack of immunization and a toenail infection, this led to the suspicion of a generalized tetanus infection. After sedation, endotracheal **intubation** and **ventilation**, passive immunization and initiation of antimicrobial treatment, he was immediately transferred to a pediatric intensive care unit (PICU) for further treatment. The frequency and severity of paroxysmal muscle spasms increased progressively during his **PICU** stay, despite high doses of sedatives. Not before two weeks after admission, **extubation** and careful weaning off sedatives were achieved.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2709971/#:~:text=A%204%2Dyear%2Dold%20Caucasian,fluids%2C%20a%20pediatrician%20was%20consulted.

Patient	History (symptoms)	Patient's condition on presentation	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:

1.What type of disease is tetanus?
2. What is tetanus caused by?
3. How does Bacillus tetani enter the body?
4. What is the incubation period of tetanus?

5. What are the earliest symptoms of tetanus?
6. What are the characteristic manifestations of tetanus?
7. How can you describe risus sardonicus?
8. What should be done first after the injury in tetanus?
9. What is the treatment for advanced cases of tetanus?

Explain the terms: tetanus, trismus, opisthotonus

DIPHTHERIA

Exercise 1. Topic vocabulary:

deleterious, *adj*	[ˌdelɪˈtɪəriəs]	causing harm or damage
dissemination, *n*	[dɪˌsemɪˈneɪʃən]	the action or fact of spreading something, especially information, widely
pillar of fauces	[ˈpɪlər əv ˈfɔːsiːz]	either of two curved folds on each side that bound the fauces and enclose the tonsil
predisposed, *v*	[ˈpriːdɪsˈpəʊz]	Susceptible; having a tendency to develop smth.
pseudomembrane, *n*	[ˌsjuːdəʊˈmɛmbreɪn]	a layer which resembles a membrane, especially one forming over a mucosal surface; false membrane

Exercise 2. Pronounce correctly:
diphtheria [dɪpˈθɪərɪə], fibrin [ˈfaɪbrɪn], faucal [ˈfɔːk(ə)l], pharyngeal [fəˈrɪn(d)ʒɪəl], laryngeal [ləˈrɪn(d)ʒɪəl], myocarditis [ˌmaɪəʊkɑːˈdaɪtɪs], neuritis [ˌnjʊəˈraɪtɪs], membranous [ˈmembrənəs]

Exercise 3
a) Make the verbs from the adjectives by the model. Use them in phrases:
Model. *Weak – weak**en***
Fright, worse, thick, bright, dark, fast, short, moist, threat, light, loose

b) Change the words in brackets to make the word combinations correct:
to **(soft)** the skin**,** a **(short)** life span, a life-**(threat)** medical condition, a **(fright)** emotional event, **(weak)** by permanent stress, to **(sad)** a child, to **(loose)** tight clothing

Exercise 4. Complete the table with the missing words (you may use a dictionary):

VERB	NOUN	ADJECTIVE
inherit		
		suspicious
	production	
depend		
divide		
	care	
		isolated

Exercise 5. Explain the following word combinations:
To be more liable to diphtheria, robust people, uneasiness in the throat, stiffness of the back of the neck, the earliest objective manifestation of the disease, a low-grade fever, the outcome of the disease

Exercise 6. Read the text and answer the questions below:

DIPHTHERIA

Diphtheria is an acute contagious disease caused by the specific organism Bacillus diphtheria.

It is characterized by local inflammation with fibrin formation of the mucous membranes, usually of the upper respiratory tract, with the production of a toxin which when absorbed into the bloodstream may produce deleterious effects on various parts of the body, especially the heart and peripheral nerves. The disease exists throughout the world but is more common in temperate zones and during the colder months, autumn and winter. It is commonly spread by direct contact which must be fairly intimate. Dissemination by third objects such as clothes, toys, etc. may also occur and carriage by milk has been reported many times. In some people, infection with diphtheria-causing bacteria causes only a mild illness — or no obvious signs and symptoms at all. Healthy carriers may disseminate the disease to susceptible persons and thus constitute a menace to public health. Children appear to be more liable to diphtheria than adults; although the most robust people may be attacked and those whose health is weakened by any cause are especially predisposed.

The disease may be divided into three main forms according to the anatomical distribution of the membrane: a) faucal or pharyngeal; b) laryngeal; c) nasal.

The illness typically begins a few days (the incubation period is three to ten days) after exposure to the bacteria. Diphtheria symptoms then begin over a few days, a slight feeling of uneasiness in the throat along with some stiffness of the back of the neck, sore throat, painful swallowing, hoarseness, a general malaise, and a low-grade fever (about 38 to 38.9°C). Children may also have a fast heart rate, nausea, vomiting, chills, and a headache. The lymph nodes in the neck may swell (called bull neck). The inflammation may make the throat swell, narrowing the airway and making breathing extremely difficult.

The earliest objective manifestation of the disease is the formation of a thin film of fibrin on the tonsils which increases in thickness to form a characteristic yellowish-white or grayish-white pseudomembrane. The pseudomembrane narrows the airway. The roof of the mouth may be paralyzed. When inhaling, the pseudomembrane may cause people to make a noisy gasping sound. Also, the pseudomembrane may extend into the windpipe or airway or suddenly become detached and block the airway completely. As a result, people may be unable to breathe.

The throat appears to be reddened and swollen. If the pseudomembrane is forcibly removed, it is found to separate from the underlying true mucous membrane with difficulty and leaves a raw, bleeding surface on which in untreated cases a fresh membrane rapidly reforms. The lesion tends to spread over the pillars and onto the soft palate and uvula. Hence any membranous formation on pharyngeal tissues should immediately be regarded as a suspicion of diphtheria.

Myocarditis is the most dreadful of all complications of diphtheria. It is due to the direct action of the toxin on the heart muscle.

Another severe complication is peripheral neuritis. It occurs in the form of paralysis affecting the soft palate and throat. Other forms of paralysis are paralysis of an eye or even respiratory muscles, paralysis of a limb or both legs. These symptoms, however, after continuing for a variable length of time, almost always ultimately disappear.

The outcome of the disease depends mainly on one factor, namely, the early administration of adequate doses of antitoxin. Its employment in any recognized or even suspected case of diphtheria is mandatory and no physician can delay its administration. The second important measure is rest, the patient being kept strictly flat.

Patients suffering from diphtheria should be isolated for at least two weeks after the onset of the disease, and then until three successive cultures from the nose and throat taken not less than 48 hours apart are negative.

A diphtheria infection is treated using two types of medication: antibiotics to kill the diphtheria bacteria; antitoxins to neutralize the effects of the toxin produced by the bacteria.

Most people who have diphtheria require a 14-day course of antibiotics.

One should be vaccinated against diphtheria because previous suffering from it does not prevent one from getting the infection again.

Exercise 7. Answer the questions:
1. What is diphtheria caused by?
2. What is the disease characterized by?
4. Where is diphtheria more common?
5. Who is more liable to diphtheria?
6. What is the incubation period of the disease?
7. What are the main forms of diphtheria?
8. What are the main symptoms of diphtheria?
9. Why is formation of pseudomembranes life-threatening?
9. What are the possible complications of diphtheria?
10. What does the outcome of the disease depend on?

Exercise 8. Match the words to their definitions:

1. Stiffness	a) loss of voluntary movement (motor function)
2. Antitoxin	b) abnormal voice changes
3. Paralysis	c) difficulty in moving a joint or stretching a muscle
4. Hoarseness	d) an antibody that is capable of neutralizing the specific toxin

5. Malaise	e) an insoluble protein that is produced in response to bleeding
6. Fibrin	f) a sense of unease or a lack of well-being

Exercise 9. Give to the words their synonym from the text:

1) exposed, prone, sensitive, …
2) hazard, threat, …
3) obligatory, compulsory, forced, …
4) destructive, injurious, hurtful, …
5) spread, circulation, distribution, …
6) film, coat, …

Exercise 10. Fill in the gaps with the appropriate prepositions and conjunctions:

under by from to (2) of (2) until in although nor

Diphtheria (Corynebacterium diphtheriae), an acute bacterial infection spread ___ personal contact, was the most feared of all childhood diseases. Diphtheria may be documented back __ ancient Egypt and Greece, but severe recurring outbreaks begin only after 1700. One ___ every ten children infected died from this disease. Symptoms ranged ____ severe sore throat ___ suffocation due to a “false membrane” covering the larynx. The disease primarily affected children ____ the age of 5. ____ treatment became widely available in the 1920s, the public viewed this disease as a death sentence.

____ the 1880s Dr. Joseph O’Dwyer, a Cleveland native, developed a method ___ intubating patients (inserting a tube to keep the airway open) to survive the life-threatening phase of diphtheria. _____ O’Dwyer’s intubation instruments were neither secure ____ simple to use, they comprised a life-saving last hope.

Exercise 11. Put questions to the underlined words:

1. The disease may be divided into <u>three</u> main forms according to the anatomical distribution of the membrane.
2. Most people who have diphtheria require <u>a 14-day course of antibiotics</u>.
3. These symptoms, <u>after continuing for a variable length of time</u>, almost always ultimately disappear.

4. The outcome of the disease depends mainly on one factor, namely, the early administration of adequate doses of antitoxin.
5. It is commonly spread by direct contact which must be fairly intimate.
6. Friedrich Loeffler was the first person to cultivate C. diphtheriae in 1884.
7. Myocarditis is the most dreadful of all complications of diphtheria.
8. The lesion tends to spread over the pillars and onto the soft palate and uvula.

Exercise 12. Put the verbs in brackets in the appropriate form:
1. In 1613, Spain (to experience) an epidemic of diphtheria. The year (to know) as The Year of Strangulations in the history of Spain.
2. Before 1826, diphtheria (to know) by different names across the world. In England, it was known as Boulogne sore throat, as it (to spread) from France. In 1826, Pierre Bretonneau (to give) the disease the name diphthérite (from Greek διφθέρα, diphthera "leather") describing the appearance of pseudomembrane in the throat.
3. Since the introduction of effective immunization, starting in the 1920s, diphtheria rates (to drop) dramatically in the United States and other countries that vaccinate widely. Between 2004 and 2008, no cases of diphtheria (to record) in the United States.
4. Laryngeal diphtheria can (to lead) to a characteristic swollen neck and throat, or "bull neck". The swollen throat often (to accompany) by a serious respiratory condition, (to characterize) by a brassy or "barking" cough, stridor, hoarseness, and difficulty breathing; and historically referred to variously as "diphtheritic croup", "true croup", or sometimes simply as "croup".

Exercise 13. Fill in the table *Diphtheria* to describe the term:

1.	General characteristics	
2.	Causative agent	
3.	Transmission	
4.	Symptoms	
5.	Treatment	
6.	Complications	

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the terms in bold (you may need a dictionary):**

A 9-year-old boy was referred to the University Hospital with **a low-grade fever**, cough and **sore throat** for 5 days. On the first day of illness he had been taken to a rural clinic and diagnosed with **pharyngitis**. The patient was prescribed an unknown oral antibiotic and acetaminophen. By the third day of illness his fever had gradually declined and the sore throat had resolved. However, he subsequently became worse and experienced neck swelling, **dyspnoea** and **dysphagia**. He also had a harsh breathing sound.

On the fifth day of illness his parents took him to a local hospital. His vital signs showed a blood pressure of 110/90 mm Hg, heart rate of 153 bpm, temperature of 37.5°C, respiratory rate of 22 breaths/min and room air oxygen saturation of 75%. His tonsils were inflamed and had white patches, and he had **inspiratory stridor** and poor air entry. He was subsequently endotracheally intubated at the local hospital and had abundant amounts of white as well as bloody secretions suctioned from the tube. He was given normal saline and ceftriaxone before referral to our hospital. The laboratory results from the local hospital were significant for a **leucocytosis** of 30 300 cells/mm3 and a high creatinine level of 1.7 mg/dL.

On initial evaluation at our hospital, the patient was **afebrile** (37.5°C), had **tachycardia** (130 bpm), a normal respiratory rate (20 breaths/min) and normal blood pressure (106/74 mm Hg). He was also able to follow commands, move all his extremities equally well and open his eyes spontaneously. His pupils were equal, round and reactive to light with normal accommodation. The examination revealed bilateral neck tissue swelling. His tonsils were enlarged, bleeding and had white patches on them. His lungs were bilaterally clear to **auscultation**…

On the first day of hospitalisation the patient was started on **diphtheria antitoxin** (120 000 units intravenously, after **hypersensitivity** testing), penicillin G (200 000 U/kg/day intravenously every 6 h), cefotaxime (150 mg/kg/day intravenously every 6 h) and milronone (**a medication indicated for cardiac support*). Intravenous methylprednisolone (2 mg/kg/day) was also given to treat the patient's severe **myocarditis**.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4244344/

Patient	Rural clinic	Local hospital	University hospital	Diagnosis& complications
	– diagnosis – treatment	– symptoms on admission – vitals – physical exam – treatment – laboratory data	– symptoms – vitals – physical exam – treatment	

TASKS FOR SELF-CONTROL

Answer the questions:

1. What is diphtheria caused by?
2. What is the disease characterized by?
3. Who is more liable to diphtheria?
4. What is the incubation period of diphtheria?
5. What are the main forms of diphtheria?
6. What are the symptoms of diphtheria?
7. What are the complications of diphtheria?

Explain the term: diphtheria

HEPATITIS

Exercise 1. Topic vocabulary:

cirrhosis, *n*	[sɪˈrəʊsɪs]	a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions
choluria, *n*	[ˌkɒlˊjʊ(ə)rɪə]	presence of bile in urine
debilitating, *adj*	[dɪˈbɪlɪteɪtɪŋ]	(of a disease or condition) making someone very weak and infirm
dormant, *adj*	[ˈdɔːm(ə)nt]	not active or working
hepatomegaly, *n*	[hepətə(ʊ) ˈ megaly]	an abnormally enlarged liver
pangenotypic, *n*	[pənˈdʒenətaɪpɪc]	relating to all genotypes (of an organism)
sternutation, *n*	[ˌstəːnjʊˈteɪʃ(ə)n]	sneezing
suppuration, *n*	[ˈsʌpjʊreɪʃən]	the formation of, conversion into, or process of discharging pus
vicinity, *n*	[vɪˈsɪnəti]	a surrounding, adjacent, or nearby area

Exercise 2. Form the opposites by adding negative prefixes. Use the dictionary if necessary:

_____infectious, _____adequate, _____ possible, _____ balanced, _____capable, _____born _____ protected _____existent _____contaminated, _____symptomatic.

Exercise 3. Complete the table with missing forms:

VERB	NOUN	ADJECTIVE
	loss	
		contaminated
infect		
recover		
	failure	
cure		
		persistent
suspect		
exist		
	transmission	

Exercise 4. Explain the following word-combinations:
strains of the hepatitis virus; modes of transmission; highly contagious; the incubation period; debilitating symptoms; infected body fluids; a carrier capable of infecting others; liver failure; adequate nutritional balance; pangenotypic direct-acting antivirals; liver-related death

Exercise 5. Read the text and answer the questions below:

HEPATITIS

Hepatitis is an inflammation of the liver that is caused by a variety of infectious viruses and noninfectious agents leading to a range of health problems, some of which can be fatal. Hepatitis may be caused by viruses, bacteria, parasites, or diseases of the immune system.

Hepatitis can be an acute (short-term) infection or a chronic (long-term) infection. Some types of hepatitis cause only acute infections. Other types can cause both acute and chronic infections.

There are different types of hepatitis, with different causes:
● Viral hepatitis is the most common type. There are five main strains of the hepatitis virus, referred to as types A, B, C, D and E. While they all cause liver disease, they differ in important ways including modes of transmission, severity of the illness, geographical distribution and prevention methods.
● Alcoholic hepatitis is caused by heavy alcohol use.
● Toxic hepatitis can be caused by certain poisons, chemicals, medicines, or supplements.
● Autoimmune hepatitis is a chronic type in which your body's immune system attacks your liver. The cause is not known, but genetics and your environment may play a role.

The main symptoms of hepatitis include choluria (dark or brown urine, often referred to as the color of Coca-Cola), 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. 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 an inflammation of the liver caused by the hepatitis A virus (HAV). The virus is primarily spread when an uninfected (and unvaccinated) person ingests food or water that is contaminated with the faeces of an infected person. The disease is closely associated with unsafe water or food, inadequate sanitation, poor personal hygiene. Unlike hepatitis B and C, hepatitis A does not cause chronic liver disease but it can cause debilitating symptoms and rarely acute liver failure, which is often fatal. The incubation period of hepatitis A is usually 14–28 days. There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and can take several weeks or months. Hospitalization is unnecessary in the absence of acute liver failure. Therapy is aimed at maintaining comfort and adequate nutritional balance, including the replacement of fluids that are lost from vomiting and diarrhea. Improved sanitation, food safety and immunization are the most effective ways to combat hepatitis A. After a single infection, a person is immunized for the rest of his life.

Hepatitis B is primarily spread when blood, semen, suppuration, or certain other body fluids – even in microscopic amounts – from a person infected with the hepatitis B virus enters the body of someone who is not infected. The hepatitis B virus can also be transmitted by birth to an infected pregnant woman, breast milk, sex with an infected person, and sharing equipment that has been contaminated with blood from an infected person, such as needles, syringes, and even medical equipment, such as glucose monitors. 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. Someone infected with hepatitis B may fully recover and have no symptoms and yet remain a carrier capable of infecting others. In 2021 WHO estimated that 12% to 25% of people with chronic hepatitis B infection will require treatment. WHO recommends the use of oral treatments (tenofovir or entecavir) as the most potent drugs to suppress hepatitis B virus. Most people who start hepatitis B treatment must continue it for life. In people with a possible exposure to hepatitis B, an effective vaccine exists and is recommended. In addition, the transmission of hepatitis B from mother to newborn largely can be prevented by vaccinating the infant and administering hepatitis B immune globulin.

Acute HCV infections are usually asymptomatic and most do not lead to a life-threatening disease. Around 30% (15–45%) of infected persons spontaneously clear the virus within 6 months of infection without any treatment. The remaining 70% (55–85%) of persons will develop chronic HCV infection. Of those with chronic HCV infection, the risk of cirrhosis ranges from 15% to 30% within 20 years. This disease is spread primarily by blood-to-blood contact associated with intravenous drug use, poorly sterilised medical equipment, and transfusions, tattoo procedures, shared personal items (e.g. toothbrushes, manicuring equipment). Hepatitis C is not spread by sharing eating utensils, breastfeeding, hugging, kissing, holding hands, coughing, sneezing or through food or water. The incubation period for hepatitis C ranges from 2 weeks to 6 months. 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. For chronic HCV patients, WHO recommends therapy with pangenotypic direct-acting antivirals (DAAs) for all adults, adolescents and children down to 3 years of age. DAAs can cure most persons with HCV infection, and treatment duration is short (usually 12 to 24 weeks), depending on the absence or presence of cirrhosis. In 2022, WHO included new recommendations for treatment of adolescents and children using the same pangenotypic treatments used for adults. Pan-genotypic DAAs remain expensive in many high- and upper-middle-income countries. However, prices have dropped dramatically in many countries (primarily low-income and lower-middle-income countries) due to the introduction of generic versions of these medicines.

Hepatitis D is an inflammation of the liver caused by the hepatitis D virus (HDV), which requires HBV for its replication. Hepatitis D infection cannot occur in the absence of hepatitis B virus. HDV-HBV co-infection is considered the most severe form of chronic viral hepatitis due to more rapid progression towards hepatocellular carcinoma and liver-related death. Vaccination against hepatitis B is the only method to prevent HDV infection.

Hepatitis E is inflammation of the liver caused by the hepatitis E virus (HEV). It is transmitted mainly through contaminated drinking water and similar to hepatitis A. The infection is usually self-limiting and resolves within 2–6 weeks. Hepatitis E is almost non-existent in developed countries.

Viral hepatitis, such as hepatitis A (HAV), hepatitis B (HBV) and hepatitis C (HCV), is diagnosed by symptoms, a physical exam and blood tests. The results of a blood test can confirm the type of viral hepatitis, the severity of the infection, whether an infection is active or dormant, and whether a person is currently contagious. A blood test can also confirm whether a virus is acute or chronic. Sometimes imaging studies such as a sonogram or CAT scan and a liver biopsy are also used.

Having a chronic HBV and HCV infection can lead to serious complications, such as:

- Scarring of the liver (cirrhosis)
- Liver cancer
- Liver failure
- Other conditions.

People with chronic hepatitis B may develop kidney disease or inflammation of blood vessels.

There are different ways to prevent or lower your risk for hepatitis, depending on the type of hepatitis. For example, not drinking too much alcohol can prevent alcoholic hepatitis. There are vaccines to prevent hepatitis A and B. Autoimmune hepatitis cannot be prevented.

Exercise 6. Answer the questions:

1. What kind of disease is hepatitis?
2. What are the causes of hepatitis?
3. What are the symptoms of hepatitis?
4. What types of hepatitis can be distinguished?
5. How is hepatitis A virus spread?
6. How can/cannot hepatitis B virus be transmitted?
7. How can/cannot hepatitis C virus be transmitted?
8. What is the treatment for hepatitis C?
9. What is HDV-HBV co-infection?
10. How is viral hepatitis diagnosed?
11. What complications may develop in patients with HBV and HCV?
12. Which types of hepatitis can be prevented by vaccination?

Exercise 7. Match the terms to their definitions:

1. Jaundice	a) abnormally loose or watery stools
2. Bilirubin	b) is an enlarged liver, which means it's swollen beyond its usual size
3. Cirrhosis	c) a medical condition with yellowing of the skin or whites of the eyes, arising from excess of the pigment bilirubin and typically caused by obstruction of the bile duct, by liver disease, or by excessive breakdown of red blood cells
4. Vomiting	d) an orange-yellow pigment formed in the liver by the breakdown of hemoglobin and excreted in bile
5. Contaminated	e) is the simultaneous infection of a host by multiple pathogen species
6. Co-infection	f) having been made impure by exposure to or addition of a poisonous or polluting substance
7. Hepatomegaly	g) ejection of matter from the stomach through the mouth
8. Diarrhea	h) a chronic disease of the liver marked by degeneration of cells, inflammation and fibrous thickening of tissue. It is typically a result of alcoholism or hepatitis.

Exercise 8. Fill in the gaps with the appropriate names of disease given in brackets:

(Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D, Hepatitis E, Liver cancer, Cirrhosis)

1. _____is a type of inflammatory liver disease that can lead to scarring of the liver and ultimately to cirrhosis and cannot be prevented by vaccination.
2. _____ is an acute form of liver inflammation that provides a person with immunity to infection after a single infection.
3. _____ is malignant neoplastic disease of the liver.
4. _____ is a type of liver disease that is not prevalent in most developing countries, but common in any country with a hot climate.
5. _____ is a type of inflammation of the liver that can be acute or chronic and it can be prevented by vaccination.
6. _____ is a type of liver disease that attacks persons who already have suffered from hepatitis B.

7. _____ is scarring (fibrosis) of the liver caused by long-term liver damage.

Exercise 9. Fill in the table highlighting the main features of hepatitis A, and C:

	Mode of transmission	Incubation period	Treatment	Prevention
Hepatitis A				
Hepatitis B				
Hepatitis C				

Exercise 10. Fill in the gaps with the appropriate prepositions:

Cirrhosis is sometimes called end-stage liver disease because it happens ___ other stages ____ damage from conditions that affect the liver, such ___ hepatitis. Your liver may keep working even when you have cirrhosis. However, cirrhosis can eventually lead ___ liver failure, and you can get serious complications, which can be life-threatening. Treatment may be able to stop cirrhosis ___ getting worse.

If a GP suspects cirrhosis, they'll check your medical history and do a physical examination to look ___ signs ___ long-term liver disease. If tests show that you have cirrhosis, a GP should refer you to see a doctor who specialises ___ liver problems (hepatologist). If you have complications ___ cirrhosis, or a high chance of getting complications, you may be referred ___ a specialist liver centre.

Exercise 11. Put questions to the underlined words:

1. Hepatitis is characterized by the presence of inflammatory cells in the tissue of the organ.
2. Hepatitis is caused by a number of different agents, including viruses, bacteria, parasites, toxic drugs.
3. Globally, 58 million people have chronic hepatitis C virus infection.
4. The bilirubin test measures the amount of this pigment in the blood.
5. People with strong immune systems may recover spontaneously from hepatitis C without treatment.
6. On physical examination the physician can reveal abnormal enlargement of the liver by palpation.
7. The incubation period for hepatitis A lasts for about two or six weeks.
8. Hepatitis B is spread through infected body fluids like blood, semen.

Exercise 12. Use the verbs in brackets in the correct form:

1. The physician made the diagnosis of hepatitis A after he (to receive) the results of blood tests and urinalysis.
2. He (to spend) nearly a year in hospital being treated for hepatitis.
3. In the past few decades, needle-sharing (to consider) to be the No. 1 risk factor in contracting hepatitis C and HIV.
4. Chronic hepatitis C (to develop) complications like cirrhosis, liver failure, or liver cancer.
5. On physical examination, an abnormal enlargement of the liver (to reveal) two days ago.
6. Different parts of the world (to suffer) from a variety of different diseases such as hepatitis A and B, typhoid, yellow fever and malaria.
7. In 2019, approximately 290 000 people (to die) from hepatitis C, mostly from cirrhosis and hepatocellular carcinoma.
8. The nurse (to give) an injection to a patient with hepatitis B at the moment.

Exercise 13. Use the plan to describe hepatitis:

1. Cause
2. Types
3. Mode of transmission
4. Symptoms
5. Diagnosis
6. Complications
7. Treatment

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold (you may need a dictionary):**

A 22-year-old female presented to the hospital with intermittent fever and chills of two-week duration, **self-resolving** bilateral eye swelling, and **bi-temporal headaches**. There was no travel history, no family history of liver disease, sick contacts, or other associated symptoms on review of systems, including gastrointestinal and genitourinary symptoms. Vitals were notable for high-grade fevers up to 102–103°F. Physical exam was notable for mildly tender posterior **cervical lymphadenopathy**. Labs were notable for **leukopenia**, elevated inflammatory markers, and elevated **transaminases**. Differential diagnoses included but were not limited to infectious, connective tissue disorders, **malignancy**, and endocrine

pathology. Extensive workup including routine cell counts, urine and blood cultures, HIV antigen/antibody, toxoplasma, Epstein-Barr virus, cytomegalovirus, herpes simplex virus, alpha 1 antitrypsin, antinuclear antibody, rheumatoid factor, mitochondrial antibodies, thyroid stimulating hormone, parathyroid hormone, and ceruloplasmin was negative. Hepatitis A, B, and C serologies were negative. However, the patient's transaminases continued to worsen. Radio-imaging included a CT scan of the neck, chest, abdomen, and pelvis, which was essentially negative.

The patient clinically lacked improvement despite **broad-coverage antibiotics** and continued to have high-grade fevers with other constitutional symptoms such as fatigue and malaise. A liver biopsy was performed in the light of worsening transaminitis, which revealed histopathological features of mild hepatitis. Eventually, the patient's hepatitis E immunoglobulin M (IgM) tested positive, which provided a reasonable justification for her symptoms. With time and appropriate supportive management, the patient's transaminases started improving and essentially normalized. The patient was discharged home with **outpatient follow-up**. The patient remains symptom-free with consistently normal liver function tests after one month of resolution of hepatitis E.

https://www.cureus.com/articles/84231-a-case-of-hepatitis-e-in-metropolitan-new-york#!/

Patient	Symptoms/ Complaints on admission	Physical examination	Lab findings	Diagnosis

TASKS FOR SELF-CONTROL

Answer the questions:

1. What kind of disease is hepatitis?
2. What are the symptoms of hepatitis?
3. What types of hepatitis can be distinguished?

4. How is hepatitis A virus spread?
5. How can/cannot hepatitis B virus be transmitted?
6. How can/cannot hepatitis C virus be transmitted?
7. How is viral hepatitis diagnosed?
8. What complications may develop in patients with HBV and HCV?
9. Which types of hepatitis can be prevented by vaccination?

Explain the terms: hepatitis, jaundice, cirrhosis

CHILDHOOD INFECTIOUS DISEASES

Exercise 1. Topic vocabulary:

attenuated, *adj*	[əˈtenjʊeɪtɪd]	weakened or thinned; attenuated strains of disease-causing bacteria and viruses are often used as vaccines.
blister, *n*	[ˈblistə]	a small pocket of body fluid (lymph, serum) within the upper layers of the skin
crust, *n*	[krʌst]	a dried exudate on the skin surface, either serum, blood or pus or a combination
exposure, *n*	[ɪkˈspəʊʒə]	the condition of being unprotected
germ, *n*	[dʒəːm]	a microorganism causing disease
hacking (cough), *adj*	[ˈhækɪŋ]	short, dry, frequent (cough)
malnourished, *adj*	[ˌmælˈnʌr.ɪʃt]	suffering from malnutrition
papule, *n*	[ˈpæpjuːl]	a solid or cystic raised spot on the skin that is less than 1 centimeter (cm) wide
sequela, *n*	[sɪˈkwiːlə]	a result or condition that follows from a disease or illness
serotype, *n*	[ˈsirəˌtaɪp]	a distinct variation within a species of bacteria or virus or among the immune cells of different individuals

Exercise 2. Pronounce correctly. Explain the words:
whooping cough [ˈhuːpɪŋ ˌkɒf], pertussis [pəˈtʌsɪs], orchitis [ɔːˈkaɪtɪs], conjunctivitis [kənˌdʒʌŋ(k)tɪˈvaɪtɪs], sensorineural [ˌsens(ə)rɪˈnjʊər(ə)l], sequelae, Pl. [sɪˈkwiːliː], paramyxovirus [parəˈmiksəˌvaɪrəs], miscarriage [mɪsˈkærɪdʒ], diarrhoea [ˌdaɪəˈrɪə], arthritis [ɑːˈθraɪtɪs], ibuprofen [ˌaɪbjuːˈprəʊf(ə)n]

Exercise 3. Read and explain the following word-combinations:
a highly contagious disease, malnourished young children, the only known host for mumps virus, spread by airborne droplets, non-specific symptoms,

bilateral swelling of the parotid glands, self-limiting disease, sensorineural deafness, lifelong disabilities, a hacking cough, fetal death, congenital malformations, low-grade fever, a live attenuated strain

Exercise 4. Read the text and answer the questions below:

CHILDHOOD INFECTIOUS DISEASES

Chickenpox (varicella) is a highly contagious disease caused by the varicella-zoster virus (VZV). It can cause an itchy, blister-like rash. The rash first appears on the chest, back, and face, and then spreads over the entire body, causing between 250 and 500 itchy blisters. Chickenpox usually gets better by itself after 1 to 2 weeks without needing to see a GP. The disease can be serious, especially in babies, adolescents, adults, pregnant women, and people with bodies that have a lowered ability to fight germs and sickness (weakened immune system). The best way to prevent chickenpox is to get the chickenpox vaccine. Chickenpox illness usually lasts about 4 to 7 days. Once the chickenpox rash appears, it goes through three phases:

- Raised bumps called papules, which break out over a few days.
- Small itchy fluid-filled blisters called vesicles, which form in about one day and then break and leak.
- Crusts and scabs, which cover the broken blisters and take a few more days to heal.

The rash may first show up on the chest, back, and face, and then spread over the entire body, including inside the mouth, eyelids, or genital area. It usually takes about one week for all of the blisters to become scabs.

Measles (rubeola) is a very contagious disease caused by a virus in the paramyxovirus family, and is normally passed through direct contact and the air when an infected person coughs or sneezes. The virus infects the respiratory tract, then spreads throughout the body, causing severe disease, complications and even death. The first sign of measles is usually a high fever, beginning about 10 to 14 days after exposure to the virus and lasting four to seven days. A runny nose, cough, red and watery eyes, and small white spots inside the cheeks can develop in the initial stage. Then a rash of tiny, red spots breaks out. It starts at the head and spreads to the rest of the body. Serious complications are more common in children under five

years, or adults over 30 years of age. The most serious complications include blindness, encephalitis (an infection that causes brain swelling), severe diarrhoea and related dehydration, ear infections, or severe respiratory infections such as pneumonia. Severe measles is more likely among malnourished young children, especially those with insufficient vitamin A or weakened immune systems from HIV/AIDS or other diseases. Measles can be prevented with MMR vaccine. The vaccine protects against three diseases: measles, mumps, and rubella. Children get two doses of MMR vaccine, starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Teens and adults should also be up to date on their MMR vaccination. The MMR vaccine is very safe and effective.

Mumps is an acute contagious disease of children and young adults, caused by a paramyxovirus of which there is only a single serotype. Humans are the only known host for mumps virus, which is spread via direct contact or by airborne droplets from the upper respiratory tract of infected individuals. Mumps if frequently reported in children aged 5–9 years of age, although both adolescents and adults may be affected. After an incubation period of some 2 to 4 weeks mumps begins with non-specific symptoms such as myalgia, headache, malaise and low-grade fever. Within days, these symptoms are followed by unilateral or bilateral swelling of the parotid salivary glands, with other salivary glands affected in 10% of cases. These painful swellings in the side of the face under the ears give a person with mumps a distinctive “hamster face” appearance.

Normally mumps is a mild, self-limiting disease and disappears without sequelae. However, complications may occur such as encephalitis or sensorineural deafness. Orchitis (painful inflammation of the testes) occurs in 20% of young adult males who develop mumps.

There’s currently no cure for mumps, but the infection should pass within 1 or 2 weeks. Treatment is used to relieve symptoms and includes:
– getting plenty of bed rest and fluids
– using painkillers, such as ibuprofen and paracetamol – aspirin should not be given to children under 16
– applying a warm or cool compress to the swollen glands to help relieve pain.

Safe and effective vaccines against mumps have been available since the 1960s. The vaccine is most often incorporated into national immunization programmes in a combined measles-mumps-rubella (MMR) vaccine.

Whooping cough (pertussis) is a highly contagious respiratory infection caused by the bacterium *Bordetella pertussis*. Pertussis spreads easily from person to person mainly through droplets produced by coughing or sneezing. The disease is most dangerous in infants, and is a significant cause of disease and death in this age group.

Pertussis in its early stages appears to be nothing more than the common cold. The first symptoms generally appear 7 to 10 days after infection. They include a mild fever, runny nose and cough, which in typical cases gradually develops into a hacking cough followed by whooping (hence the common name of whooping cough). This extreme coughing can cause the patient to throw up and be very tired. Recovery from pertussis can happen slowly. Coughing fits generally become more common and bad as the illness continues, and can occur more often at night. Pneumonia is a relatively common complication, and seizures and brain disease occur rarely. People with pertussis are most contagious up to about 3 weeks after the cough begins, and many children who contract the infection have coughing spells that last 4 to 8 weeks.

Supportive care following hospital admission is especially important for very young infants or older children with severe disease. Antibiotic therapy is the treatment of choice for pertussis. However, in order to be effective, treatment must begin early in the course of disease, preferably within two weeks of onset.

Rubella is is an acute, contagious viral infection. It is also called *German measles*, but it is caused by a different virus than measles. While rubella virus infection usually causes a mild fever and rash in children and adults, infection during pregnancy, especially during the first trimester, can result in miscarriage, fetal death, stillbirth, or infants with congenital malformations, known as congenital rubella syndrome (CRS). Children with CRS can suffer hearing impairments, eye and heart defects and other lifelong disabilities, including autism, diabetes mellitus and thyroid dysfunction. The rubella virus is transmitted by airborne droplets when infected people sneeze or cough. Humans are the only known host.

In children, the disease is usually mild, with symptoms including a rash, low fever (<39°C), nausea and mild conjunctivitis. The rash, which occurs in 50–80% of cases, usually starts on the face and neck before progressing down the body, and lasts 1–3 days. Swollen lymph glands behind the ears and in the neck are the most characteristic clinical feature. Infected adults, more commonly women, may develop arthritis and painful joints that usually last from 3–10 days. Symptoms usually appear 2 to 3 weeks after exposure. The most infectious period is usually 1–5 days after the appearance of the rash.

The rubella vaccine is a live attenuated strain, and a single dose gives more than 95% long-lasting immunity. Rubella vaccines are available either in monovalent formulation (a vaccine directed at only one pathogen) or more commonly in combinations with other vaccines such as with vaccines against measles (MR), measles and mumps (MMR), or measles, mumps and varicella (MMRV).

Exercise 5. Answer the questions:

1. What are the most known diseases of childhood?
2. Which symptoms is chicken-pox characterised by?
3. What are the signs and symptoms of measles?
4. What are the symptoms of mumps?
5. What is pertussis characterized by?
6. What is rubella manifested by?
7. Who is rubella particularly dangerous for?
8. What does the abbreviation CRS stand for?
9. How can childhood infections be treated?
10. What are the preventive measures against childhood diseases?

Exercise 6. Match the first name of the disease with the second one:

morbilli/rubeola	mumps
rubella	polio
varicella	measles
infectious parotitis	croup
pertussis	chickenpox
acute laryngotracheitis	German measles
scarlatina	scarlet fever
poliomyelitis	whooping cough

Exercise 7. Read the definitions and define the name of disease below:
(poliomyelitis, varicella, infectious parotitis, rubella, rubeola, pertussis, flu)

1. A common infectious viral disease of children, with mild fever, swollen lymph nodes and a rash. It can cause stillbirth or malformation of the unborn baby if it is caught by a mother while she is pregnant.
2. An infection disease of children caused by a herpes virus, and characterised by fever and red spots which turn to itchy blisters.
3. An infectious disease of children, with fever and swellings in the salivary glands, caused by a paramyxovirus.
4. The infectious disease the symptoms of which include inflammation of the nasal passages, sneezing, coughing and fever.
5. An infectious disease affecting the bronchial tubes. The patient suffers from a severe cough and makes a loud noise when inhaling after a coughing fit.
6. An infectious disease that can affect nerves and can lead to partial or full paralysis.
7. An infectious disease of children where the body is covered with a red rash. It can weaken the body's resistance to other diseases, for example bronchitis or ear infections. If caught by an adult it can be very serious.

Exercise 8. What do the abbreviations below stand for?

GP, VZV, HIV, AIDS, MR, MMR, MMRV, CRS

Exercise 9. Match the word with the similar meaning:

onset	vomiting
throwing up	show up
blister	edematous
sequela	prevention
appear	tiny
small	vesicle
prophylaxis	complication
swollen	beginning

Exercise 10. Insert the missing prepositions:

1. Whooping cough can cause serious illness ___ people of all ages but is most dangerous ___ babies.
2. It is contracted ___ inhaling infected airborne droplets.

3. The symptoms ___ this disease are sneezing and nasal congestion, tearing, loss appetite, and cough.
4. Stay off nursery, school, or work ___ at least 4 days from when the rash first appears.
5. It is spread ___ breathing of infected respiratory droplets or ___ unprotected direct contact with the rash.
6. Mumps is a childhood disease, but it can occur ___ adults.
7. Mumps is caused ___ a virus and spread ___ inhalation of infected droplets.
8. In persons who have had chickenpox, the virus can cause shingles later ___ life.

Exercise 11. Complete the sentences using the appropriate words/phrases:
1. The most common diseases of childhood are highly _____infectious.
2. The virus of measles is transmitted by _____ contact with infected droplets.
3. Whooping cough is characterised by _____ cough.
4. Chickenpox is spread by unprotected direct contact with _____.
5. The clinical name of _____is epidemic parotitis.
6. _____ during the first trimester of pregnancy can cause fetal death.
7. Children are immunized against _____ by MMR vaccine.
8. People with pertussis can spread the bacteria from the start of the first symptoms and for at least 2 weeks after _____ begins.

Exercise 12. Complete the conversations between the doctor and patients by writing in the name of childhood disease.
1. – What's the problem?
It's my son. He's got a rash and swelling in his armpits.
Does he have a fever?
Yes.
Hmm. He may have…..

2. – How are you feeling?
I've got this terrible cough.
Hmm.
And after I cough I make a noise when I try to breathe.
It sounds like……

3. – What's the problem?
It's my daughter. She's got a fever and this swelling.
Where is the swelling?
In her throat.
It could be….

4. – So, what can I do for you?
It's the twins. They are covered in this dreadful red spots.
Are they experiencing any itching?
Yes, they are.
It may be….

Exercise 13. Put questions to the underlined words:
1. The MMR vaccine is offered to all children in the UK.
2. The virus is transmitted by inhalation of infecting droplets.
3. Measles is most contagious before the rash appears.
4. Rubella infection can cause fetal death during the first trimester of pregnancy.
5. Mumps is caused by paramyxovirus and spread by inhalation of infected droplets.
6. A second dose of the vaccine is usually given to children between the ages of four and five.
7. The bacteria produce a specific type of toxin that causes a rash.
8. Children are immunized against measles, rubella and mumps by MMR vaccine at 12 months.

Exercise 14. Use the verbs in brackets in the correct form:
1. All children (to vaccinate) against measles next week.
2. The illness (to diagnose) as mumps.
3. He (to develop) a rash after the insect (to bite) him.
4. Child with chicken pox (to isolate) immediately last night.
5. Before AIDS, many health care experts (to believe) that large-scale infectious diseases were a thing of the past.
6. A boy (to admit) to the hospital with a severe form of scarlet fever yesterday.
7. MMR vaccine (to develop) adverse events following immunization rarely.
8. Whooping cough (to occur) mainly in young children.

Exercise 15. Put the sentences into the correct order to explain the term "childhood infectious disease":

__ Most children with uncomplicated forms of infectious diseases recover with rest and supportive treatment.

__ All infectious diseases can be passed easily from person to person.

__ Infectious diseases are a group of diseases which are caused by organisms such as bacteria, viruses, and parasites.

__The best known diseases of childhood are chickenpox, measles, rubella, mumps, whooping cough, scarlet fever and poliomyelitis.

__ A sore throat, a running nose, cough, high temperature, rash are the most characteristic local symptoms of childhood infectious disease.

***Exercise 16. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold (you may need the dictionary):**

An 11-year-old male patient presented anorexia, weight loss and persistent cough with **nocturnal paroxysms** for the previous 4 weeks. He also reported occasional wheezing and chest tightness. He denied fever, chills, myalgia, sore throat, or **rhinorrhea**. The patient presented to his primary care physician 1 week prior with the same complaint and was treated with amoxicillin, ebastine and **bronchodilator therapy**. The patient's symptoms did not improve with this regimen. The cough became more frequent, sometimes **emetizing** and with an end **inspiratory whoop**. He was vaccinated according to the National Vaccine Program.

Facing the situation, the child was oriented to our unit in order to exclude tuberculosis. Our health unit is responsible for the diagnosis and management of tuberculosis in our region. On physical examination, the patient had an oral temperature of 37°C and the **oxygen saturation** was 96% on room air. He was a well-developed, **well-nourished** young boy with frequent, violent paroxysms of cough. The mucous membranes were moist and the pharynx was slightly injected without exudates. No mass or **adenopathy** was presented on examination of the neck. The lungs presented diffuse **crackles** and **expiratory wheezes**. The rest of the physical examination was unremarkable.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2644295/

Patient	Symptoms/ complaints	Physical examin-ation	Treatment by primary care physician	Presumptive diagnosis

TASKS FOR SELF-CONTROL

Answer the questions:

1. What are the signs and symptoms of measles?
2. What are the mumps symptoms?
3. What is pertussis characterized by?
4. What are the characteristic symptoms of chickenpox?
5. What is rubella manifested by?
6. Who is rubella dangerous for? Why?
7. What are the preventive measures against childhood diseases?

Explain the medical terms: measles, chicken pox, mumps, whooping cough, rubella.

OPEN WOUNDS

Exercise 1. Topic vocabulary:

blunt, *adj*	[ˊblʌnt]	having an edge or point that is not sharp
debridement, *n*	[dɪˈbriːd.mənt]	the removal of dead (necrotic) or infected skin tissue to help a wound heal. It is also done to remove foreign material from tissue
intact, *adj*	[ɪnˈtækt]	untouched especially by anything that harms
dressing, *n*	[ˈdresɪŋ]	material (such as ointment or gauze) applied to cover a lesion or wound
linear, *adj*	[ˊlɪnɪə]	arranged in or extending along a straight or nearly straight line
stellate, *adj*	[ˊstelɪt]	arranged in a radiating pattern like that of a star
superficial, *adj*	[suːpəˊfɪʃəl]	existing or occurring at or on the surface
rough , *adj*	[ˊrʌf]	having an uneven or irregular surface
scar, *n*	[ˊskɑːrɪŋ]	a mark left on the skin or within body tissue where a wound, burn, or sore has not healed completely
bullet, *n*	[ˊbulɪt]	a metal projectile for firing from a revolver or other small firearm

Exercise 2. Read and explain the following word-combinations:
a blunt force trauma, minor open wounds, bruising of wound edges, a medical emergency, a sterile dressing, saturated with blood, irregular wounds, a shallow wound, a deep laceration, to speed healing and lessen scarring, superficial wounds, a tetanus shot, surgical debridement, skin grafts, through-and-through wounds, to flatten the scar

Exercise 3. Complete the table with the missing forms:

Nouns	Verbs
	to injure
Tear	
	to infect
Cause	
Collection	
	to puncture
	to incise
Penetration	
Circulation	
	to disrupt
Application	
Support	
	to relieve
	to measure
Spread	
	to damage

Exercise 4. Read the text and answer the questions below:

OPEN WOUNDS

In medicine, a wound is a type of injury in which skin is torn, cut or punctured (an open wound), or where a blunt force trauma causes a contusion (a closed wound). In pathology, it specifically refers to a sharp injury which damages the dermis of the skin.

An open wound is an injury involving an external or internal break in body tissue, usually involving the skin. Most open wounds are minor and can be treated at home.

Types of open wounds classified depending on their cause:

Incision. Incisions or incised wounds are caused by a clean, sharp-edged object such as a knife, a razor or a glass splinter. They tend to bleed heavily as multiple vessels may be cut directly across. Connecting structures such as ligaments and tendons may also be involved.

Incised wounds typically exhibit the following characteristics:
- Margins are clean cut
- No bruising of wound edges occurs
- Wound is usually linear
- Length of wound is greater than its depth
- As the vessels are cut, bleeding is profuse even in small incised wounds.

A severed artery is a medical emergency because the muscular action of this blood vessel will pump the entire blood supply out of the wound in just a few minutes. First aid treatment for severe bleeding includes:
- Remove clothing around the site for easier access.
- Apply pressure directly to the wound with your hands to stem the blood flow.
- Cover the wound with a sterile dressing, if possible, and continue to apply direct pressure (bandage firmly).
- Try to raise the injured area above the level of the person's heart.
- Do not remove existing dressings if they become saturated with blood, but instead, add fresh dressings over the top.
- Seek urgent medical attention. You may need to call an ambulance if you cannot stop the bleeding, or are feeling faint, sweaty, or dizzy.

Laceration. Lacerations are irregular tear-like wounds caused by some blunt trauma. A laceration is a wound that occurs when skin, tissue, and/or muscle is torn or cut open. Lacerations may be deep or shallow, long or short, and wide or narrow. Lacerations may be linear or stellate. In the case of deep lacerations, bleeding can be rapid and extensive.

The first step to treat this kind of wound is to stop bleeding, clean and scrub the injury of any loose materials and tissue, and then apply some sort of closing technique, whether through stitching or the application of a pressure dressing. The edges of the wound should be realigned to speed healing and lessen scarring. Minor lacerations (shallow, small, not bleeding, and clean) may not require medical attention. Antibiotic ointment and a bandage may be all that is needed. However, most lacerations do require repair.

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

surface. They tend not to be very deep but can often contain many foreign bodies such as dirt (i.e. after a fall on loose ground). Cleansing of the wound and removal of any foreign material is important within the first 24 hours. Treatment is usually non-surgical and consists of the application of a moist dressing to protect the new tissue that forms to heal the abrasion.

Puncture. A puncture is a small hole caused by a long, pointy object, such as a nail or needle. Sometimes, a bullet can cause a puncture wound. Punctures may not bleed much, but these wounds can be deep enough to damage internal organs. May appear small from the outside but may damage deep tissues. Particularly dangerous on the chest, abdomen or head where major organs are at risk. If a puncture wound is minor you should stop the bleeding, clean the wound, apply an antibiotic and cover the wound. If you have even a small puncture wound, visit your doctor to get a tetanus shot and prevent infection.

Avulsion. An avulsion is a forcible tearing off of skin or another part of the body, such as an ear or a finger. Avulsions usually occur during violent accidents, such as body-crushing accidents, explosions, and gunshots. An amputation, such as getting a limb caught in a piece of heavy machinery, is also considered an avulsion. Avulsion may bleed heavily and rapidly depending on the size and location.

Proper treatment is crucial to facilitate avulsion wound healing. One type of surgical intervention performed with avulsions is reattaching severed blood vessels. This approach aims to improve blood flow and reattach nerves to injured areas. Surgical debridement is another treatment utilized for avulsion wounds. Cleaning and irrigating wounds is needed to reduce the risk of infection and remove tissue that is too damaged to heal.

Some other wound care treatments are vacuum-assisted negative pressure, skin grafts (common with burn wounds), hyperbaric chamber (to increase the concentration of O_2 in the wound), utilizing the appropriate dressings, growth factors.

Gunshot. Gunshot wounds are caused by a bullet driving into or through the body. There may be two wounds, one at the site of entry and one at the site of exit, generally referred to as a “through-and-through”.

The four stages of wound healing

Hemostasis is the process when the wound is closed by clotting. Beginning immediately, the contracture of smooth muscles and tissue compresses small vessels. Platelets also begin to aggregate, activating the clotting cascade to produce initial fibrin clots.

Inflammation both controls bleeding and prevents infection. At this stage, neutrophils begin phagocytosis of dead tissue. During the inflammatory phase, damaged cells, pathogens, and bacteria are removed from the wound area.

Proliferation is the phase when the wound is rebuilt with new tissue made up of collagen and extracellular matrix. In addition, a new network of blood vessels must be constructed so that the granulation tissue can be healthy and receive sufficient oxygen and nutrients.

Maturation, also called the remodeling stage of wound healing, is when collagen is remodeled from type III to type I and the wound fully closes. At this stage, the scar should flatten, and the underlying erythema will resolve.

Exercise 5. Answer the following questions:

1. What does wound mean in medicine?
2. What does the wound refer to in pathology?
3. What types of open wounds are there?
4. What are incisions characterised by?
5. Which steps does first aid treatment for severe bleeding include?
6. What is the treatment for lacerations?
7. What are the features of abrasions?
8. Why may puncture wounds be dangerous?
9. What treatment approaches can be used in the management of avulsions?
10. What is a “through-and-through” wound?
11. What are the stages of wound healing?

Exercise 6. Find pairs of words with opposite meanings

deep, external, faint, shallow, insufficient, irregular, severe, long, dirty, intact, minor, short, wide, partial, narrow, major, full, regular, conscious, internal, mild, sterile, enough, injured

Exercise 7. Match the terms to their definitions:

1. Debridement	a) a piece of living tissue that is transplanted surgically
2. Medical emergency	b) the loss or removal of a body part such as a finger, toe, hand, foot, arm or leg
3. Erythema	c) the body's natural reaction against injury and infection
4. Amputation	d) surgical removal of foreign matter and dead tissue from a wound
5. Hemostasis	e) a mark left on the skin or within body tissue where a wound, burn, or sore has not healed completely and fibrous connective tissue has developed
6. Inflammation	f) an injury on the surface of your skin caused by rubbing it against something rough
7. Graft	g) superficial reddening of the skin, usually in patches, as a result of injury or irritation causing dilatation of the blood capillaries
8. Scar	h) the mechanism that leads to cessation of bleeding from a blood vessel
9. Graze	i) any medical condition for which immediate medical attention is necessary to prevent the death or serious impairment of the health of an individual

Exercise 8. Define the type of wound according to its description:

1. It occurs when the skin rubs or scrapes against a rough or hard surface. Road rash is an example of this type of wound. There is usually not much bleeding, but the wound needs to be scrubbed and cleaned well to avoid infection.
2. A sharp object, such as a knife, shard of glass, or razor blade, causes it. The wound bleeds a lot and quickly. If it is deep, tendons, ligaments, and muscles might be damaged.
3. It is an irregular or jagged break or tearing of the skin. These wounds are often caused from accidents with tools and machinery, and bleed rapidly and extensively.
4. It is a small hole caused by a long, pointy object, such as a nail, needle, or ice pick. Sometimes a bullet can also cause such a wound. It may not

bleed much, but it can be deep enough to damage internal organs. If you have such a wound – even a small one – visit your doctor to get a tetanus booster shot and prevent infection.
5. It is a form of physical trauma sustained from the discharge of arms used in armed conflicts, civilian sporting and criminal activity. The immediate damaging effect of the wound is typically severe bleeding, thus, it can be fatal or cause long-term consequences.

Exercise 9. Fill in the gaps with the words in the box:

plaster bruises numb limping bleeding toothache scratch sting blister

1. Michael has broken his leg so the doctor put it in a _____ for two months.
2. It was so cold I couldn't feel my fingers. They were completely _____.
3. Don't be afraid, this type of antiseptic doesn't _____ even if you put it on a fresh cut.
4. You must not _____the mosquito bite, it'll only make it worse.
5. David fell off the cherry tree two days ago, now he is covered in_____.
6. Peter has cut his hand. He is very worried because it is _____.
7. Are you_____? Yes, I twisted my ankle last Saturday.
8. He had a terrible _____all last night. We are going to see the dentist this afternoon.
9. My new shoes have given me a _____on my heel where they are rubbing.

Exercise 10. Choose the correct option:
A ***new / newly*** report in England states that thousands of patients a year wake up during an operation. The report is from two ***leaping / leading*** organisations for anaesthetists – people who put us to ***sleepy / sleep*** before surgery. It said: "At least 150, and possibly several thousand, patients a year are ***conscious / consciously*** while they are ***under / undergoing*** operations." Doctors say it is very ***rare / rarely*** for someone to wake up during major surgery. One doctor says it ***happening / happens*** in one in every 19,000 operations. Patients who do wake up on the operating ***table / desk*** reported having feelings of fear and ***panic / panics***. A patient cannot

alert the doctors if he/she wakes up because the drugs relax their ***muscles / biceps*** so they cannot move or communicate.
Researchers looked at details from around three ***million / millions*** operations in public hospitals in the UK and Ireland. They ***used / useful*** the data to find areas that could be ***improved / improvement*** during an operation. They made a list of 64 recommendations to try and ***redo / reduce*** accidents happening in operating ***theatres / studios***. The most ***basic / basically*** recommendation was for doctors to use an anaesthesia checklist ***after / before*** each operation. This could reduce mistakes made ***by / for*** doctors and make sure the patient has the correct levels of the ***correct / correction*** drugs. They also recommend using a monitor so doctors know if the patient wakes up and cannot move. A professor said: "I hope this report will ***sure / ensure*** anaesthetists pay even greater attention to preventing episodes of awareness."

Exercise 11. Put questions to the underlined words:
1. Open wounds can be classified <u>according to the object that caused the wound.</u>
2. <u>Incisions or incised wounds</u> are caused by a clean, sharp-edged object.
3. The first step to treat this kind of wound is <u>to stop bleeding</u>.
4. The edges of the wound should be realigned <u>to speed healing and lessen scarring.</u>
5. <u>The topmost</u> layer of the skin was scraped off.
6. Abrasions are often caused by <u>a sliding fall onto a rough surface.</u>
7. <u>When bad tissue is removed</u>, the wound can restart the healing process.
8. Treatment consists of <u>the application of a moist dressing to protect the new tissue.</u>

Exercise 12. Use the verbs in brackets in the correct form:
1. This type of wound usually (to refer) to as through-and-through wounds.
2. Closed wounds (to have) fewer categories than open ones.
3. A 75-year-old Caucasian female (to admit) to the emergency department after falling down the stairs.
4. An 8-year-old male patient (to present) with an avulsion injury of the left leg after having been struck by a school bus.
5. A moist dressing (to apply) on his wound to protect the new tissue.
6. The doctors (to apply) six stitches on his wound.
7. Three days after the accident the reconstruction of the scalp region (to make) with general anesthesia.
8. After intubation, the patient (to monitor) for three days now.

Exercise 13. Fill in the table highlighting the main information on open wounds:

Type of wound	Object causing the wound	Features of the wound (edges, bleeding, etc.)	Treatment
Incision			
Laceration			
Abrasion			
Avulsion			
Puncture			

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold:**

The patient is a 39-year-old female trader who was brought to the accident and emergency one hour following a motorcycle accident. She was an unprotected passenger, along with three of her children, on a motorcycle that was hit by another motorcycle and fell underneath a heavy-duty truck, with the loss of life of one of her children seated on the front of the motorcycle. There was no loss of consciousness or bleeding from any **craniofacial orifices**. However, she suffered an injury to the right hand. The patient was conscious and alert, oriented in time, place, and person. Examination of the right hand revealed a partial soft tissue, irregularly shaped dorsal avulsion on the radial, involving **the thumb** and index finger, measuring approximately 14cm x 10cm. The partially avulsed tissue was distally based, hanging by a thin base on the radial aspect of the index finger. The hand felt warm to the touch, with slight swelling. When compared to the opposite hand, no muscle atrophy was seen. The range of motion, though limited by pain throughout the fingers and wrist for **flexion**, **extension**, and radio-ulnar deviation, was **intact**. The radial nerve, medial nerve, and ulnar nerve were all intact. Vascular pulses were intact for a **radial pulse** and **ulnar pulse**, with a good **capillary refill**. There were no signs of fracture of the hand bones. Examination of other systems was normal.

X-ray of the hand did not reveal any fracture of the hand bones. She was given 500ml intravenous normal saline fluid and had **hemostasis** secured with a pressure dressing. Tetanus prophylaxis, analgesia, and empirical

antibiotics commenced according to local protocol. After examination of the avulsed tissue, which contained the skin and subcutaneous layer, with some part of the fascia over the hand muscles, consent was obtained to close off the wound with the distally based avulsed flap by **reattachment**.

https://www.cureus.com/articles/119240-management-of-hand-avulsion-injury-a-case-report-of-a-39-year-old-with-partial-soft-tissue-avulsion#!/

Patient/level of consciousness	Type of wound	Wound location, size	Examination	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What types of open wounds are there?
2. What are incisions characterised by?
3. Which steps does first aid treatment for severe bleeding include?
4. What is the treatment for lacerations?
5. What are the features of abrasions?
6. Why may puncture wounds be dangerous?
7. What treatment approaches can be used in the management of avulsions?
8. What are the stages of wound healing?

Explain the medical terms:
open wound, incision, laceration, avulsion, abrasion, puncture, gunshot wound

CLOSED WOUNDS

Exercise 1. Topic vocabulary:

blunt, *adj.*	[blʌnt]	not having a sharp edge or point
bruise, *n*	[bruːz]	an injury appearing as an area of discolored skin on the body, caused by a blow or impact rupturing underlying blood vessels
compressed, *adj.*	[kəmˈprest]	flattened by pressure; squeezed or pressed together
compartment, *n*	[kəmˈpɑːtm(ə)nt]	a grouping of muscles, nerves, and blood vessels in the arms and legs
contusion, *n*	[kənˈtjuːʒ(ə)n]	any damage to the body that does not break the skin but ruptures the blood vessels beneath, resulting in discoloration.
destruction, *n*	[dɪˈstrʌkʃ(ə)n]	the action or process of causing so much damage to something that it no longer exists or cannot be repaired
discolour, *v*	[dɪsˈkʌlə]	to change colour especially for the worse
drain, *v*		to remove fluid as it collects
fracture, *n*	[ˈfræktʃə]	the cracking or breaking of a hard object or material
ventilator, *n*	[ˈventɪleɪtə]	a device for maintaining artificial respiration

Exercise 2. Make up the words with the opposite meaning to the given ones. Use suitable prefixes and suffixes:
Painful, direct, internal, conscious, mobile, harmless, coloration, nutrition, overnourish, inside, decrease, specific, familiar, mature, function, regular, underweight, flexible

Exercise 3. Explain the word-combinations:
a direct blunt trauma, intact skin, reddish to bluish discoloration, a subcutaneous contusion, to drain a hematoma, flexible but thick tissue, a pulmonary contusion, an artificial ventilator, to speed up recovery, to cause numbness, vital signs, spongy rubbery lump-like lesion, ongoing bleeding, clotted blood, scalp hematoma, over-the-counter pain relievers, a minor bruise, immobilization of the affected limb

Exercise 4. Read the text and answer the questions below:

CLOSED WOUNDS

In closed wounds, the skin is intact and the underlying tissue is not directly exposed to the outside world. Closed wounds are usually caused by direct blunt trauma. Even with the skin intact, the damage can reach down to the underlying muscle, internal organs and bones. Major types of closed wounds are **contusion**, **haematoma**, and **crush injury**.

CONTUSION. These are a common type of closed wounds, where a direct blunt trauma can damage the small blood vessels and capillaries, muscles and underlying tissue, as well the internal organs and, in some cases, bone. Contusions present as a painful bruise with reddish to bluish discoloration that spreads over the injured area of skin.

Some types of contusion include:

Subcutaneous contusion. A subcutaneous contusion is a bruise just beneath the skin. It is the type of bruise that most people are familiar with.

Muscle contusion. The muscles are full of blood vessels that supply them with blood and oxygen. A bruise to a muscle is deeper than a subcutaneous contusion, and it can be very painful. Muscle contusions often heal without treatment. Sometimes, however, a large volume of blood will collect in the muscle. This can cause a painful swelling called a hematoma. Doctors may drain a hematoma to help the muscle heal more quickly.

Bone contusion. A bone contusion can feel similar to a break or fracture, and it may make it difficult to move the area of the injury. For example, a rib contusion can make breathing difficult and painful.

Any area of the bone can bruise. Bone contusions can cause a number of complications.

Cartilage contusion. Cartilage is flexible but thick tissue that is harder than muscle but softer than bone. The outside of the ears and the tip of the nose both contain cartilage. Most cartilage injuries are not serious and will heal without treatment.

Organ contusion. Internal organs such as the kidneys, lungs, and heart can develop bruises after a forceful blow or fall. Organ contusions damage the blood vessels and other soft tissue in organs. These injuries are dangerous, and they can be life-threatening. People with organ contusions may require hospitalization. For example, a person with a pulmonary contusion, or a bruise on the lungs, may need to use an artificial ventilator.

Treatment

Most contusions of bones, muscles, skin, and cartilage will not need medical treatment. Instead, using the ***RICE method*** at home can help with pain and swelling, as well as speed up recovery:

R**: **Rest the injured area. Avoid playing sports, exercising, or stretching unless a doctor has suggested otherwise. Sometimes, they may suggest immobilizing the injured area with a splint or wrap. Consider taking time off of work or school if the injury is very painful.

I: Ice can help with swelling and pain. Try applying an ice pack to the area for 20 minutes at a time, with a 20-minute break between each ice pack session.

C: Compress the area to reduce swelling and pain. To do this, gently wrap it in a bandage or wrap. The wrap should not be painful, cause numbness, or leave deep marks in the skin.

E: Elevate the area above the heart. This can help with swelling and pain.

Organ contusions may require more intensive treatment, including hospitalization. A doctor may need to perform surgery to repair an injury

or stop the bleeding. Continuous monitoring of vital signs may also be helpful, especially following a kidney or lung contusion.

HEMATOMA. These include any injury that damages the small blood vessels and capillaries resulting in blood collecting and pooling in a limited space. Hematomas typically present as a painful, spongy rubbery lump-like lesion. Hematoma can be small or large, deep inside the body or just under the skin; depending on the severity and site of the trauma. The symptoms of a hematoma are a steadily growing mass beneath the contusion and discoloration, as well as severe pain. A hematoma is similar to a hemorrhage, but a hemorrhage refers to ongoing bleeding while the blood in a hematoma has typically already clotted.

Types

The type of hematoma depends on where it appears in the body: ear hematoma, scalp hematoma, septal hematoma, subcutaneous hematoma, hepatic hematoma, spinal epidural hematoma, etc. The location may also help determine how potentially dangerous it is.

Treatment

In some cases, a hematoma will not require treatment. The body will usually reabsorb the blood from the hematoma over time. To manage a hematoma under the skin, nail, or other soft tissue, a person should rest the injured area and apply an ice pack wrapped in a towel to reduce any pain or swelling. Doctors may recommend some over-the-counter or prescription pain relievers if the injury is painful. They will usually advise a person to avoid certain pain relievers, such as aspirin, which thin the blood and may make the hematoma worse. Sometimes, a hematoma may require surgical drainage. Surgery may be more likely if the blood is putting pressure on the spinal cord, brain, or other organs. In other cases, doctors may want to drain a hematoma that is at risk of infection.

CRUSH INJURY. These are usually caused by an external high-pressure force that squeezes part of the body between two surfaces. The degree of injury and pain can range from a minor bruise to a complete destruction of the crushed area of the body, depending on the site, size, duration and power of the trauma. Crush wounds can sometimes be caused by heavy falling objects, such as in a car accident or a collapsing building.

Closed wounds can be complicated by severe bleeding, large bruises, nerve damage, bone fractures and internal organ damage. However, the most serious complication of closed wounds is known as the ***compartment syndrome***. Compartment syndrome is a painful condition that occurs when pressure within the muscles builds to dangerous levels. This pressure can decrease blood flow, which prevents nourishment and oxygen from reaching nerve and muscle cells. Compartment syndrome can be either acute (having severe symptoms for a short period of time) or chronic (long-lasting). Acute compartment syndrome is a medical emergency. Without treatment, it can lead to permanent muscle damage, loss of function, and may necessitate amputation.

In closed wounds, the main goal of treatment is to control the pain, and keep the bleeding and inflammation to a minimum. This is done by using ice packs, compression, elevation and immobilization of the affected limb or area.

Exercise 5. Answer the questions:

1. What are the common types of closed wounds?
2. What are contusions caused by?
3. How are contusions classified?
4. What does *RICE method* imply?
5. What is the difference between hematoma and hemorrhage?
6. What are the symptoms of hematoma?
7. What does the treatment for hematoma include?
8. What is a crush injury?
9. What are the complications of closed wounds?
10. What is *compartment syndrome?*
11. What is the main goal of closed wounds management?

Exercise 6. Match the words to their definitions.

1. Wound	a) an injury appearing as an area of discoloured skin on the body, caused by a blow or impact rupturing underlying blood vessels
2. Trauma	b) a minor wound in which the surface of the skin or a mucous membrane is worn away by rubbing or scrapping

3. Hematoma	c) a painful condition that occurs when pressure within the muscles builds to dangerous levels
4. Bruise	d) a solid swelling of clotted blood within the tissues.
5. Abrasion	e) loss of blood from damaged blood vessels
6. Contusion	f) an injury to living tissue caused by a cut, blow, or other impact, typically one in which the skin is cut or broken
7. Compartment syndrome	g) a swollen area within body tissue, containing an accumulation of pus
8. Hemorrhage	h) the process of infecting or the state of being infected
9. Infection	i) a physical wound or injury, such as a fracture or blow
10. Abscess	j) a region of injured tissue or skin in which blood capillaries are ruptured

Exercise 7. Find the appropriate sentence endings:

1. Incisions or incised wounds are caused by…
2. Contusions are more commonly known as …
3. Lacerations are irregular tear-like wounds caused by …
4. Abrasions (grazes) are superficial wounds in which the topmost layer of the skin …
5. Hematoma is also called a blood tumor caused by…
6. Puncture wounds are caused by an object puncturing the skin such as …
7. Penetration wounds are caused by an object such as knife…
8. Crush injury is caused by a great or extreme amount of…
9. Gunshot wounds are caused by a bullet or similar projectile driving …

a) …is scraped off.
b) …into or through the body.
c) …entering and coming out from the skin.
d) …a clean, sharp-edged object such as a knife, a razor or a glass splinter.
e) … a nail or needle.
f) … force applied over a long period of time.
g) ….damage to a blood vessel that in turn causes blood to collect under the skin.

h) … bruises, caused by a blunt force trauma that damage tissue under the skin.
i) … some blunt trauma.

Exercise 8. Read the text below. Use the word given in brackets to form a word that fits in the gap. Explain the words in bold:
In April 2016, a 38-year-old man with no medical history presented to the emergency department complaining of _____ (severity) pain of his left upper extremity. Eight hours prior to presentation, he sustained a fall in his backyard and noticed _____ (swollen) over his left forearm with **tolerable pain**. X-ray and enhanced CT performed at the nearest hospital showed no _____ (evident) of fracture and/or internal haemorrhage of his forearm. He was subsequently referred to our institution for _____ (suspect) ACS when his _____ (painful) and swelling progressed. On first examination in our institution, his left forearm was markedly _____ (swelling), with extension to the left shoulder. He _____ (complaint) of severe pain as well as marked **divergent squint** and **diplopia**.

Exercise 9. Put questions to the underlined words:
1. Many minor wounds result in damaged skin cells that lose their function.
2. Closed wounds can range from simple to life threatening.
3. Acute wounds heal uneventfully in the predicted amount of time.
4. Another way to classify wounds is to determine if the wound is clean or contaminated.
5. Contaminated wounds have some foreign materials or debris inside.
6. Internal wounds result from impaired immune and nervous system functions or decreased supply of blood, oxygen or nutrients to that area.
7. The right-sided subdural hematoma was planned to be treated conservatively.
8. Some anti-inflammatory medicine and pain killers might be prescribed to reduce discomfort in deep wounds.

Exercise 10. Complete the sentences with the proper modal verb (can, may, should):
1. When possible, the wound _____ be washed with soap.

2. Some wounds _____ need flushing with medical syringes, while others _____ need surgical debridement to remove foreign materials or dead tissue.
3. Treatment _____ also include proper wound care and dressing, and the application of local antibiotics where needed.
4. These basic steps in wound treatment _____help prevent wound infection and protect it from the environment.
5. Some anti-inflammatory medicine and pain killers_____ also be prescribed to reduce discomfort and improve quality of life.
6. People living in a hazardous environment or having dangerous jobs _____ also be at higher risk for wounds.

Exercise 11. Use the verbs in brackets in the appropriate form:
1. Unexplained bruises that (occur) easily or for no apparent reason may indicate a bleeding disorder, especially if the bruising (to accompany) by frequent nosebleeds or bleeding gums.
2. Acetaminophen may (to take) for pain as instructed on the bottle.
3. A 10-month-old boy (to bring) to paediatric accident and emergency by his mother with a 1-day history of unexplained purple discolouration affecting his right ear.
4. Currently, the patient (to monitor) without any recurrence.
5. An incisional biopsy (to perform) and histological examination revealed a neoplasia.
6. The patient thinks that she (to have) bruises such as this once before as a child and (to hospitalize) for it.
7. She states that there (to be) no injury and these bruises “came out of nowhere.”
8. The patient stated that he (to experience) headaches for 3 days.

Exercise 12. Find the incorrect sentences. Correct them:
Factors that can slow the wound healing process include:
1. Dead skin (necrosis). Dead skin and foreign materials interferes with the healing process.
2. Infection. An open wound must develop a bacterial infection.
3. Haemorrhage. Persistent bleeding will keep the wound margins apart.
4. Mechanical damage. For example, a person which is immobile is at risk of bedsores because of constant pressure and friction.
5. Diet. Poor food choices may deprive the body of the nutrients that needs to heal the wound, such as vitamin C, zinc and protein.

6. Medical conditions. Diabetes, anaemia and some vascular diseases may restrict blood flow to the area.
7. Age. Wounds tend taking longer to heal in elderly people.
8. Medicines. Certain drugs or treatments used in the management of some medical conditions may interfere with the body's healing process.
9. Smoking. Cigarette smoking impairs healing and decreases the risk of complications.
10. Varicose veins. Restricted blood flow and swelling can lead to skin break down and persistent ulceration.
11. Dryness. The various cells involving in healing, such as skin cells and immune cells, need a moist environment.

Exercise 13. Using the information of exercises 4 and 12, give the recommendations to the patients with mild/moderate contusions/bruises:

Should be recommended	Shouldn't be recommended
Applying an ice pack to the area. ……..	Playing sports, exercising, or stretching. ……..

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold (you may need dictionary):**
A 31-year-old male with a clear medical background was brought to the emergency department complaining of headaches for 3 weeks, with the presence of **oculomotor disorders**. The headache was severe, aggravated by laying down and slightly relieved by sitting and analgesia. The patient has no history of trauma. There is no history of **projectile vomiting**, convulsions, decreased mental abilities, weakness, or loss of consciousness. There is no history of any symptoms suggesting **bleeding disorders**, including easy bruising, heavy bleeding from small cuts, unexplained nosebleeds, or any heavy bleeding from any other sites of his body. There is no history of fever or loss of appetite.

The systemic review was unremarkable. The patient is not diabetic, hypertensive, or asthmatic. The patient is not on any current medications. There is no history of a similar condition or previous hospitalization. There is no family history of a similar condition or any blood-related disorders.

The patient is a smoker (less than 10 cigarettes per day) but quit one year ago. He is not an alcoholic, or in use of illicit drugs.

On presentation, the patient looked unwell. Not pale, **jaundiced**, or **cyanosed**. Vitally stable. **Glasgow coma scale** was 15/15. pupils were equally reactive bilaterally. The examination confirmed **diplopia on his left eye**. On the neurological assessment, the power is grade 5 in all limbs, and all muscle groups. The tone is normal in all limbs and all muscle groups. The reflexes were normal, and there was no sensory loss. Examination of cranial nerves was normal. Other systemic examinations revealed no abnormality.

Regarding the investigations of this patient, **Complete blood count** values were within normal ranges. Platelets function tests were normal. The magnetic resonance imaging MRI shows left fronto-tempro-parieto-occipital **crescent shape** subdural lesion.

After subdural hematoma is diagnosed and confirmed, the decision is to be made whether the patient is for conservative treatment or surgical intervention. The indications for surgical intervention are the following: the patient is experiencing symptoms, or/and Midline shift more than 5 mm, or/and thickness more than 1 cm on imaging. Therefore patient was planned for surgical intervention (**burr hole evacuation**) for the left-sided subdural hematoma; as it satisfies the criteria for surgical intervention. The patient was operated on the 30th of March 2021. The operation was performed by two neurosurgeons; A specialist and a senior resident in the presence of a senior anaesthesia resident and a **scrub nurse**. The operation took 90 minutes. The patient received general anaesthesia and the operation went smoothly, with no intra-operative complications.

https://www.sciencedirect.com/science/article/pii/S2049080121008578

Patient	Present complaints/ symptoms	Past history	Examina-tion	Diag-nosis	Treat-ment

TASKS FOR SELF-CONTROL

Answer the following questions:
1. What are contusions caused by?
2. How are contusions classified?
3. What does *RICE method* imply?
4. What are the symptoms of hematoma?
5. What does the treatment for hematoma include?
6. What is a crush injury?
7. What are the complications of closed wounds?
8. What is *compartment syndrome?*

Explain the medical terms: closed wounds, contusion, hematoma, crush wound, compartment syndrome

APPENDICITIS

Exercise 1. Topic vocabulary:

appendectomy, *n*	[ˌap(ə)nˈdɛktəmi]	surgical removal of the appendix
burst, *v*	[bɜ:st]	break open or apart suddenly and violently
constipation, *n*	[kɔnstiˈpeiʃ(ə)n]	difficulty to pass stools
feces, *n*	[ˈfi:səz]	body waste discharged from the intestine
laparotomy, *n*	[ˌlapəˈrɒtəmi]	a surgical incision (cut) into the abdominal cavity
retention, *n*	[rɪˈtenʃn]	the action of absorbing and continuing to hold a substance
sepsis, *n*	[ˈsepsɪs]	the body's overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure, and death.

Exercise 2. Pronounce correctly:
aerobe [ˈeərəʊb], anaerobe [ˈænərəʊb], Escherichia coli [ɛʃəˈrɪkɪə ˈkəʊlaɪ], Peptostreptococcus [peptəˌstreptəˈkɑ:kəs], Bacteroides [ˌbæktəˈrɔɪdiz], Pseudomonas [ˌs(j)u:də(ʊ)ˈməʊnəs], Crohnˈs disease [ˈkrəʊnz dɪˌzi:z]

Exercise 3. Form the nouns from the given verbs and adjectives:
Model: *translate – transla**tion**, establish – establish**ment***
-MENT: enlarge, impair, develop, achieve, treat, require, involve, measure.
-TION: complicate, obstruct, constipate, inflame, operate, examine, observe, prevent.
-NESS: weak, deaf, ill, red, tired, restless, tender.

Exercise 4. Form the new nouns with the meaning "inflammation". and explain them:
Model: *appendix – appendicitis*
Retina, sinus, esophagus, parodont, meninges, pulp, bronchus, myocardium, gingiva, thyroid, conjunctiva.

Exercise 5. Read the text and answer the questions below:

APPENDICITIS

Appendicitis is an inflammation of the appendix, the thin short blind-ended tube 7–10 cm long attached to the end of the caecum, the first part of the large intestine on the right side of the abdomen. Appendicitis is caused by the obstruction of the appendix. The appendix may become obstructed by a lump of feces and fecal debris or tumors, leading to inflammation and infection.

Pathophysiology. Once obstructed, the appendix fills with mucus and becomes distended, and as lymphatic and vascular disorders progress, the wall of the appendix becomes ischemic and necrotic. Bacterial overgrowth then occurs in the obstructed appendix, with aerobic organisms predominating in early appendicitis and mixed aerobes and anaerobes later in the course. Common organisms include *Escherichia coli, Peptostreptococcus, Bacteroides*, and *Pseudomonas*. Once significant inflammation and necrosis occur, the appendix is at risk of perforation, leading to a localized abscess and sometimes peritonitis.

Although it can strike at any age, appendicitis is rare in children younger than 2. It's most likely to affect people between the ages of 10 and 30.

Other risk factors for appendicitis include:
- Sex. Appendicitis is more common in males than females.
- Family history. People who have a family history of appendicitis are at heightened risk of developing it.

Appendicitis may be acute or chronic. **Acute appendicitis** is a sudden inflammation of the appendix. It begins with tenderness near the navel or suddenly with a sharp pain in the epigastrium. The pain does not radiate but it is accompanied by constipation or diarrhoea, nausea, vomiting, bloating and retention of gases. The pain becomes worse on movement, deep breathing in and coughing. The temperature is subfebrile. A high fever may indicate an abscessed appendix.

If it is not treated promptly, the inflamed appendix may burst, spilling fecal material into the abdominal cavity. A ruptured appendix can lead to painful and potentially life threatening infections, including peritonitis,

abscesses, sepsis. The usual result is a life-threatening infection of the abdominal cavity's lining (the peritoneum) that is ***peritonitis*** – a serious inflammation with rather high rate of mortality unless it is treated quickly with strong antibiotics surgery to remove the appendix. Symptoms of peritonitis may include fast heartbeat, high fever, shortness of breath or rapid breathing, severe and continuous abdominal pain.

In rare cases, bacteria from a ruptured abscess may travel through your bloodstream to other parts of your body. This extremely serious condition is known as ***sepsis***. Symptoms of sepsis include high or low temperature, confusion, severe sleepiness, shortness of breath. Sepsis is a medical emergency that causes death in 1 in 3 people.

Diagnosing appendicitis can be complicated. The symptoms are often unclear or similar to those of other illnesses, including gallbladder problems, bladder or urinary tract infection, Crohn's disease, gastritis, kidney stones, intestinal infection, and ovary problems. Diagnosis of acute appendicitis is based on symptoms and physical examination. Blood and urine samples should be taken for analysis. An ultrasound or an abdominal X-ray may be necessary.

Appendicitis is almost always treated as an emergency. The treatment of acute appendicitis is surgical. Surgery to remove the appendix, which is called an appendectomy, is the standard treatment for almost all cases of appendicitis.

A laparotomy is the traditional type of surgery used for treating appendicitis. This procedure consists of the removal of the appendix through a single incision in the lower right area of the abdomen. An appendectomy is performed under general anesthesia. This procedure shouldn't last longer than an hour if complications do not occur. A laparoscopy consists of making three incisions in the abdomen. A laparoscope is inserted into one incision but the other two are used for the removal of the appendix. Full recovery after surgery takes about six weeks, but can be prolonged in case of complications, such as the rupture of the appendix.

Chronic appendicitis is a rare condition that involves long-term inflammation of the appendix. The symptoms of chronic appendicitis last

longer than those of acute appendicitis. Diagnosing chronic appendicitis can be difficult because the symptoms are similar to those occurring with other conditions, including gastrointestinal disorders such as constipation or diarrhea. So, often, patients with chronic appendicitis are undiagnosed until an acute appendicitis occurs.

Exercise 6. Answer the following questions:

1. What is appendix?
2. What is the cause of appendicitis?
3. What are the pathophysiology stages of the appendicitis course?
4. Who is more likely to develop appendicitis?
5. What are the manifestations of acute appendicitis?
6. What are possible complications of the ruptured appendix?
7. What are the symptoms of complicated appendicitis?
8. Why is it difficult to make a diagnosis of appendicitis?
9. How can acute appendicitis be diagnosed?
10. What is the standard treatment for acute appendicitis?
11. What is the difference between laparotomy and laparoscopy?

Exercise 7. Say whether the sentences are true or false:

1. Appendicitis can be of an acute and chronic form.
2. Laparoscopy consists of removing the appendix through one incision in the lower left part of the abdominal cavity.
3. Acute appendicitis begins with pains in the substernal area.
4. The pain is accompanied by fever, sweating, and sputum discharge.
5. Acute appendicitis is treated with antibiotics.
6. The rupture of the appendix can lead to infection of the peritoneum.
7. It is difficult to diagnose chronic appendicitis because symptoms are vague.
8. A high fever in acute appendicitis may indicate inflammation of the abdominal cavity's lining.

Exercise 8. Match the following terms to their definition:

1. Gastritis	a) a condition in which there is difficulty in emptying the bowels, usually associated with hardened faeces
2. Constipation	b) a tube-shaped sac attached to an opening in the lower end of the large intestine

3. Diarrhea	c) a serious condition resulting from the presence of harmful microorganisms in the blood or other tissues, potentially leading to the malfunctioning of various organs, shock, and death
4. Appendix	d) the serous membrane lining the cavity of the abdomen and covering the abdominal organs
5. Peritoneum	e) a condition in which feces are discharged from the bowels frequently and in a liquid form
6. Sepsis	f) is an inflammation of thin tissue that lines the inner wall of the abdomen and covers most of the abdominal organs.
7. Peritonitis	g) an inflammation of the stomach lining (mucosa)

Exercise 9. Put the words from the box instead of their synonyms in the sentences:

tenderness, obstruction, rupture, mortality, constipation, vomiting, nausea, recovery

1. The *blockage* of the appendix lumen caused unbearable pains and fever.
2. Cardiovascular diseases are one of the leading factors of *death* in the world nowadays.
3. The disease is accompanied by severe *soreness* in the abdominal cavity.
4. One of the most frequent complications of acute appendicitis may be the *burst* of the appendix leading to peritonitis.
5. *Retention of feces* is one of the symptoms of acute appendicitis.
6. The patient with indigestion complained of *retching* and diarrhea.
7. *Sickness* can be a side effect of many medications including cancer chemotherapy, or morning sickness in early pregnancy.
8. Full *convalescence* of acute appendicitis can occur after four-six weeks of treatment.

Exercise 10. Put questions to the underlined words:

1. Acute appendicitis is due to the obstruction of the appendix with fecal debris.
2. The rupture of appendicitis may cause peritonitis.
3. A 5-year-old boy was admitted to the Hospital Pediatric department on the 16th of July.
4. Anorexia is commonly noted early in the morning.
5. The patient with ruptured appendix is to be operated immediately.

6. On admission to the hospital, the patient complained of a severe pain in the epigastrium.
7. Cases of appendicitis have been reported after immunization with mRNA-based COVID-19 vaccines.

Exercise 11. Use the verbs in brackets in the appropriate form:
1. The surgeon (to perform) this operation from 10 till 11 o'clock.
2. Two hours ago, a patient with acute pains (to bring) to the reception ward.
3. Eye drops may (to use) for the prevention of ocular infection.
4. The patients (to examine) by the doctor in charge now.
5. Three days ago, the patient (to find) generally ill, dizzy (due to a sedative) and mildly restless.
6. The patient cannot be discharged from the hospital because he not (to recover) yet.
7. When we came, the solution (to boil) in the water-heater system.
8. After the injection, given an hour ago, the patient (to feel) much better.

Exercise 12. Fill in the gaps with proper prepositions:
Peritonitis is defined____ an inflammation of the serosal membrane that lines the abdominal cavity and the organs contained therein. The peritoneum reacts ____ various pathologic stimuli ____ a fairly uniform inflammatory response. Depending ____ the underlying pathology, the resultant peritonitis may be infectious or sterile (ie, chemical or mechanical). The abdomen is the second most common source ____ sepsis and secondary peritonitis. Intra-abdominal sepsis is an inflammation of the peritoneum caused _____ pathogenic microorganisms and their products. The inflammatory process may be localized (abscess) or diffuse ____ nature.
Peritonitis is most often caused ____ the introduction of an infection ____ the otherwise sterile peritoneal environment through organ perforation, but it may also result _____ other irritants, such as foreign bodies, bile from a perforated gall bladder or a lacerated liver, or gastric acid ____ a perforated ulcer.

Exercise 13. Speak about appendicitis according to the plan:
1. General information (type of the disease, anatomical structure affected, causes)
2. Symptoms and manifestations

3. Diagnosis
4. Treatment
5. Complications

***Exercise 14. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold (you may need the dictionary):**

JN is a 24-year-old female who presented to the accident & emergency department (A&E) with a four-hour history of right lower quadrant (RLQ) abdominal pain. The pain originated in the umbilical region, radiating diffusely across the lower abdomen and subsequently localised to the RLQ. The pain was of sudden onset, sharp and colicky with progressing intensity. **Over-the-counte**r, oral co-codamol 500mg (a combination analgesic of codeine phosphate and acetaminophen) was taken before presenting to **A&E**, which did not alleviate the pain. The pain was exacerbated by lifting the right leg and relieved by leaning forwards. Severity was rated eight on a scale of one to 10, with one being no pain and 10 being the most pain possible. This episode had not been preceded by previous abdominal pain, and she denied nausea or vomiting. She opened her bowels post-onset of the pain with no changes to the consistency of the stools and absence of blood or mucus. She denied urinary or infective symptoms. Past medical and surgical history was **nil of note**. Drug history included the oral contraceptive pill with no known drug allergies. There was no relevant family history. The patient did not smoke, reported alcohol consumption occasionally, and denied recreational drug use.

Examination. Under observation, JN was **apyrexial** with stable vital signs. The abdominal examination revealed a soft abdomen, tenderness on percussion, rebound tenderness in the RIF, and a **positive psoas sign**. She was not peritonitic and had a negative **Rosving's sign** and absent **hernias**.

Investigations. Based on the clinical presentation of JN, the initial impression pointed towards a provisional diagnosis of acute appendicitis, with ovarian cyst as a differential. Subsequent investigations revealed a negative urine dip and negative pregnancy test, which deemed a gynaecological cause unlikely. Blood results were all within normal ranges. Abdominal ultrasonography confirmed a diagnosis of appendicitis by the presence of free fluid within the RIF and within the 6mm appendix which was incompressible. These findings were in keeping with

appendicitis. A key point to note is that the location of the appendix was a variant of the anatomical norm. It was visualised at the level of the right liver, indicating a subhepatically located appendix. This finding revised the diagnosis to **subhepatic appendicitis**.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6886639/

Patient	Complaints/ pain description	Past history	Examina-tion	Investigation/ differential diagnosis

TASKS FOR SELF-CONTROL

Answer the questions:
1. What are the causes of appendicitis?
2. What are the manifestations of acute appendicitis?
3. What are possible complications of the ruptured appendix?
4. Why is it difficult to make a diagnosis of appendicitis?
5. How can acute appendicitis be diagnosed?
6. What is the standard treatment for acute appendicitis?
7. What is chronic appendicitis characterised by?

Explain the medical terms: appendicitis, peritonitis, appendectomy.

SHOCK

Exercise 1. Topic vocabulary:

agitation, *n*	[ˌædʒiˈteiʃn]	a state of anxiety or nervous excitement
anxiety, *n*	[əŋˈzaiətɪ]	a feeling of worry, nervousness, or unease
clammy, *adj*	[ˈklæmɪ]	unpleasantly damp and sticky or slimy to touch
confusion, *n*	[kənˈfju:ʒn]	inability to think clearly or quickly as usual
dehydration, *n*	[ˌdi:haiˈdreiʃən]	losing more fluids than you take in
hypoperfusion, *n*	[ˌhaɪpə(ʊ)pəˈfju:ʒən]	the inadequate delivery of vital oxygen and nutrients to body tissues, which left unchecked will result in organ system failure and death
irreversible, *adj*	[ˌiriˈvɜ:səbəl]	not able to be undone or altered
resuscitation, *n*	[rɪˌsʌsɪˈteɪʃən]	the act or an instance of reviving someone from apparent death or from unconsciousness
saline, *n*	[ˈseɪlaɪn]	a solution of salt (sodium chloride) in water
seizure, *n*	[ˈsi:ʒə]	uncontrolled electrical activity in the brain, which may produce a physical convulsion
shallow, *adj*	[ˈʃæləu]	of little depth

Exercise 2. Pronoynce correctly:
Cardiogenic [ˌkɑ:dɪə(ʊ)ˈdʒɛnɪk], hypovolemic [haɪpə(ʊ)vəʊ'li:mɪk], neurogenic [njʊərəˈdʒenɪk], anxiety [əŋˈzaiətɪ], cyanosis [ˌsaɪəˈnəʊsɪs], epinephrine [ˌepɪˈnefrɪn], ischaemia [ɪˈski:mɪə], myocarditis [maɪəʊkɑ:rˈdaɪtɪs]

Exercise 3. Form the words with prefix *hyper-:*
Model: *sensitivity – hypersensitivity*

activity, function, tension, ventilation, vitaminosis, secretion, keratosis, glycaemia, thyroidism, thermia (-thernia)/

Exercise 4. Explain the following word-combinations:
medical emergency, cardiac arrest, peripheral cyanosis, glassy eyes, low urine output, acute circulatory failure, renal hypoperfusion, cardiac ischaemia, normal vital signs, intra-abdominal infections, absolute immobilization, IV fluids, ECG, first-line treatment

Exercise 5. Read the text and answer the questions below:

SHOCK

Shock is a life-threatening medical condition as a result of insufficient blood flow throughout the body. Shock often accompanies severe injury or illness. Medical shock is a medical emergency, and it can lead to other conditions such as lack of oxygen in the body's tissues (hypoxia), heart attack (cardiac arrest) or organ damage. It requires immediate treatment as symptoms can worsen rapidly.

Medical shock is different from emotional or psychological one. Psychological shock is caused by a traumatic event and is also known as acute stress disorder.

The main symptom of shock is low blood pressure. Among other symptoms we may observe rapid, shallow breathing and rapid weak pulse; cold, clammy skin; dizziness and confusion; glassy eyes; anxiety or agitation; seizures; low or no urine output; bluish lips and fingernails; sweating; chest pain.

Clinical features of acute circulatory failure are usually those of tissue ***hypoperfusion***. This is most easily detected in the skin as central pallor, peripheral cyanosis, and sluggish capillary return. Renal hypoperfusion is indicated by a diminished urine output. Cardiac ischaemia may be manifest on electrocardiographic monitoring. Arterial blood gas analysis may show a metabolic (lactic) acidosis.
The traditional vital signs are less reliable indicators of shock. The interplay between the sympathetic and parasympathetic autonomic nervous systems can produce pulse rates and blood pressures that are normal, high, or low. Shock cannot be excluded solely on the basis of normal vital signs.

There are five types of shock: ***septic, anaphylactic, cardiogenic, hypovolemic*** and ***neurogenic***.

Septic shock results from bacteria multiplying in the blood and releasing toxins. It can be caused by intra-abdominal infections (such as a rupture of appendix), pneumonia, or meningitis. Its treatment includes antibiotics and fluids.

Anaphylactic shock occurs as a result of severe hypersensitivity or allergic reaction to insect stings, medicines or foods (nuts, berries, seafood). At the early stage, it can be treated with IV injection of adrenaline (epinephrine).

Cardiogenic shock happens when the heart is damaged and unable to supply sufficient blood to the body any more. It can be the end result of a heart attack or congestive heart failure as well as myocarditis, pericarditis, or direct trauma with ensuing cardiovascular effects. Cardiogenic shock has a poor prognosis: only one third of patients survive, as it is often difficult to treat and overcome.

Hypovolemic shock is caused by severe blood and fluid loss because of traumatic injury. It is treated with fluids (saline) in minor cases, and blood transfusions in severe cases. Hypovolemic shock responds well to medical treatment if initiated early.

Neurogenic shock is caused by spinal cord injury as a result of a traumatic accident or injury. This type of shock is the most difficult to treat as spinal cord damage is often irreversible. That's why it has a very poor prognosis. Nevertheless, its treatment includes surgery, absolute immobilization and anti-inflammatory drugs.

Depending on the type or the cause of the shock, treatments differ. In general, fluid resuscitation (giving a large amount of fluid to raise blood pressure quickly) with an IV is the first-line treatment for all types of shock. The doctor will also administer medications such as epinephrine, norepinephrine, or dopamine to the fluids to try to raise a patient's blood pressure to ensure blood flow to the vital organs. Tests (for example, X-rays, blood tests, ECG) will determine the underlying cause of the shock and uncover the severity of the patient's illness.

Shock is a medical emergency. If you suspect a person is in shock, call 911 or your local emergency number immediately. Then take the following steps right away:

● Lay the person down and elevate the legs and feet slightly, unless you think this may cause pain or further injury.

● Keep the person still and don't move the person unless necessary.

● Begin CPR (cardio-pulmonary resuscitation) if the person shows no signs of life, such as not breathing, coughing or moving.

● Loosen tight clothing and, if needed, cover the person with a blanket to prevent chilling.

● Don't let the person eat or drink anything.

● If the person vomits or is bleeding from the mouth, and no spinal injury is suspected, turn the person onto a side to prevent choking.

Prompt treatment can save his life because the sooner shock is treated, the less is the damage to vital organs.

Exercise 6. Answer the questions:

1. What kind of medical condition is shock?
2. What conditions can shock lead to?
3. What are the symptoms of shock?
4. How many types of shock are there?
5. What is the cause of septic shock?
6. How is hypovolemic shock treated?
7. What types of shock do not respond to treatment? Why?
8. What is a common treatment for shock?
9. What does the first aid for shock involve?

Exercise 7. Match nouns with corresponding adjectives to make word-combinations:

1. Life-threatening	a) blood flow
2. Clammy	b) eyes
3. Insufficient	c) arrest
4. Shallow	d) condition
5. Glassy	e) emergency
6. Cardiac	f) breathing
7. Medical	g) damage
8. Irreversible	h) skin

Exercise 8. Match the terms to their definitions:

1. CPR	a) a severe, potentially life-threatening allergic reaction
2. Hypovolemia	b) decreased effective circulation causing inadequate delivery of oxygen to tissues
3. Hypoperfusion	c) exaggerated or inappropriate response of the immune system
4. Norepinephrine	d) the body's extreme response to an infection; a life-threatening medical emergency
5. Hypersensitivity	e) a condition in which there is too much acid in the body fluids
6. Acidosis	f) a decrease in the volume of circulating blood in the body (as from traumatic injury or severe dehydration)
7. Anaphylaxis	g) an emergency life-saving procedure that is done when someone's breathing or heartbeat has stopped; it combines rescue breathing and chest compressions
8. Sepsis	h) a chemical made by some nerve cells and in the adrenal gland. It can act as both a neurotransmitter and a hormone

Exercise 9. What do we call it? Choose the appropriate adjective / adverb from the box:

deficiency, traumatic, anti-inflammatory, life-threatening, severe, immediately, prompt, irreversible

1. Medicines that prevent inflammation are called … .
2. When something is done without delay, it's done … .
3. A disease or injury that can cause a person to die is called … .
4. When there isn't enough of something in the body, we observe … .
5. An injury that affects some part of the body or any organ is called … .
6. Medical aid delivered very quickly without any delay is called … .
7. A very serious disease or reaction of the body to something is also known as … .
8. Process that continues to develop and can't be stopped or changed to how it was before is … .

Exercise 10. Distribute the possible causes between the types of shock. Some causes can be the same for some types of shock:
spinal cord trauma, heart failure, rupture of appendix, hypersensitivity, fluid loss, intra-abdominal infections, bites of insects, meningitis, traumatic event, heart attack, pneumonia, allergy to medicines / food

Cardiogenic shock	Neurogenic shock	Hypovolemic shock	Septic Shock	Anaphylactic shock

Exercise 11. What would you do in case of shock? Say whether the following statements true or false.
1. Move a person who is suspected to have neurogenic shock.
2. Wait for the symptoms of shock worsen, and only then call in an ambulance.
3. Immediately call in an ambulance.
4. Leave a person alone with his trouble.
5. Have a person lie down on the back with the feet elevated above the head to increase blood flow to vital organs.
6. Raise a person's feet above the head to increase blood flow to vital organs even if raising legs causes pain.
7. Check a person's breathing every two minutes.
8. Don't give a person anything to drink so as to avoid loss of consciousness.

Exercise 12. Insert preposition where necessary:
1. Any health troubles start with damage … cells.
2. He got spinal cord injury … a result of a car crash.
3. Shock is a state of acute circulatory failure leading … decreased organ perfusion.
4. Toxins, released … the blood by bacteria, cause septic shock.
5. Only a small number of people survive … cardiogenic shock.
6. In summer a lot of people suffer allergic reactions … insect stings.
7. The injury after the accident was accompanied … the state of shock.

8. Medical shock differs … the emotional one which follows some frightening event.

Exercise 13. Put questions to the underlined words:
1. The initial state of shock is manifested by hypoxia.
2. Thready pulse can be due to the decrease of blood flow.
3. The classification system for shock was created in 1972.
4. If not timely treated, shock will proceed to the progressive stage.
5. That critically ill patient developed septic shock after surgical intervention.
6. The severity of shock is graded on a 1–4 scale depending on the physical signs.
7. Low blood perfusion results in cellular damage and inadequate tissue function.
8. Hypovolemic, anaphylactic and neurogenic shock respond well to medical therapy.

Exercise 14. Re-write sentences opening the brackets and using proper form of the verb.
1. Glassy eyes (to be) the sign of stupor and shock.
2. Adrenaline always (to use) to arrest anaphylactic shock.
3. He said that his neurosis (to worsen) after the emotional shock.
4. She (to suffer) from allergy to mosquitoes' bites since childhood.
5. Two months ago he had meningitis which (to lead) to septic shock.
6. His case was minor, so the doctor (to administer) him IV infusion of saline.
7. At the moment the students (to observe) how the surgeon (to operate) on the patient's heart.
8. Absolute immobilization (to recommend) if an injured person seems to have a spinal cord injury.

Exercise 15. Fill in the table and describe the term *shock*:

Medical shock	
Signs and symptoms	
Types of shock	
Treatment	
Complications	

***Exercise 16. Read the case presentation and fill in the table below with appropriate information. Explain the terms in bold (you may need a dictionary):**

The patient was a twenty-five-year-old male individual, who suddenly started feeling faint and malaise on February 18th, 2009. He was taken to the medical emergency service of the local hospital by family members approximately one hour after symptom onset. The patient was previously healthy and asymptomatic. There was no history of hypertension, diabetes, **dyslipidemia**, heart disease or use of illegal drugs.

At physical examination the patient had lowered level of consciousness, 60/50 mmHg blood pressure, heart rate (HR) of 150 beats per minute (bpm), no palpable pulses in the upper limbs and symmetrical pulses in the lower limbs.

Several tests were performed on the day of hospital admission. The electrocardiogram (ECG) showed **sinus tachycardia**, with a HR of 150 bpm, PR interval of 120 ms, QRS duration of 80 ms (Figure 1). Chest radiography showed **cardiomegaly, mediastinal enlargement** and clear pulmonary fields (Figure 2). The transthoracic echocardiography showed **dissection of the ascending aorta** with cardiac tamponade (compression of the right atrium).

Laboratory assessment showed hemoglobin of 14.2 g/dL, hematocrit 42.9%, leukocytes 12,400/mm^3 (78% neutrophils, 2% eosinophils, 14% lymphocytes and 6% monocytes), platelets 202.000/mm^3, urea 30.5 mg/dL, creatinine 1.2 mg/dL, potassium 3.8 mEq / L, sodium 146 mEq/L, glucose 132 mg/dL, alkaline phosphatase 46 IU/L, gamma-glutamyl transpeptidase 37 IU/L, aspartate aminotransferase 21 IU/L and alanine aminotransferase 34 IU/L.

Due to the patient's clinical instability, **tracheal intubation** for ventilatory support was required, as well as **volemic expansion** with 0.9% saline solution and a **vasoactive drug** (norepinephrine) to elevate blood pressure.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3987335/

Patient	Symptoms/ complaints	Vital signs	Data of instrumental studies	Data of lab tests	Treat-ment

TASKS FOR SELF-CONTROL

Answer the questions:

1.What kind of medical condition is shock?
2. What conditions can shock lead to?
3. What are the symptoms of shock?
4. What types of shock are there?
5. What is the cause of septic shock?
6. How is hypovolemic shock treated?
7. What is a common treatment for shock?
8. What does the first aid for shock involve?

Explain the medical terms: shock, septic shock, anaphylactic shock, hypovolemic shock, cardiogenic shock, neurogenic shock.

BENIGN TUMORS

Exercise 1. Topic vocabulary:

benign, *adj*	[biˈnain]	not harmful in effect; non-cancerous
malignant, *adj*	[məˈlɪgnənt]	a term used to describe cancer
metastasize, *v*	[miˈtæstəˌsaiz]	(of a cancer) spread to other sites in the body by metastasis
mole, *n*	[ˈməʊl]	a pigmented spot on the skin
nevus, *n*	[ˈni:vəs]	a benign growth on the skin that is formed by a cluster of melanocytes
polyp, *n*	[ˈpɔlip]	a projecting growth of tissue from a surface in the body, usually a mucous membrane
wart, *n*	[wɔ:t]	a small, hard, benign growth on the skin, caused by a virus

Exercise 2. Pronounce correctly:
Cancerous [ˈkæns(ə)rəs], nevi (*Pl. for nevus*) [ˈni:vai], lipoma [lɪˈpəʊmə], myoma [maɪˈoʊmə], lymphangioma [lɪmˌfændʒiˈoʊmə], neuroma [njuəˈrəumə], osteoma [ˌɒstɪˈəʊmə], fibroid [ˈfaɪbrɔɪd], chondroma [kɒnˈdrəʊmə]

Exercise 3. Memorize the meaning of the following term-elements:
Benign tumors are often referred to the terms that contain a prefix related to the cell type in which the tumor originated and a suffix such as **-oma** (but not **-carcinoma, -sarcoma,** or **-blastoma** which are generally cancers). Common prefixes include:

Adeno- (gland)
Chondro- (cartilage)
Erythro- (red blood cell)
Hemangio- (blood vessels)
Hepato- (liver)
Lipo- (fat)
Lympho- (white blood cell)
Melano- (pigment cell)
Myelo- (bone marrow)
Myo- (muscle)
Osteo- (bone)
Uro- (bladder)
Retino- (eye)
Neuro- (brain)

Exercise 4. Read the text:

BENIGN TUMORS

Tumor (also called **neoplasm**) is an abnormal mass of cells in the body. It is caused by cells dividing more than normal or not dying when they should. Tumors can be classified as benign or malignant.

A **benign tumor** is a mass of cells that lacks the ability to invade neighboring tissue or metastasize. Benign tumors are noncancerous and once it is removed, it does not usually recur.

Also, benign tumors generally have a slower growth rate than malignant tumors and the tumor cells are usually more differentiated (cells have normal features). Benign tumors are typically surrounded by an outer surface or remain with the epithelium. Common examples of benign tumors include moles, nevi, warts, birthmarks.

Unlike cancerous tumors, they do not spread (metastasize) to other parts of the body. Benign tumors display slow growth and are encapsulated but 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.

The exact cause of a benign tumor is often unknown. But the growth of a benign tumor might be linked to: environmental toxins, such as exposure to radiation; genetics; diet; stress; local trauma or injury; inflammation or infection. Anyone can develop a benign tumor, including children, though adults are more likely to develop them with increasing age.

Benign tumors are classified by where they grow. Lipomas, for example, grow from fat cells, while myomas grow from muscle. Different types of benign tumors are included below:

- ***Adenomas*** form in the thin layer of tissue that covers glands, organs, and other internal structures. Examples include polyps that form in the colon or growths on the liver.

- ***Lipomas*** grow from fat cells and are the most common type of benign tumor. They are often found on the back, arms, or neck. They are usually soft and round, and can be moved slightly under the skin.
- ***Myomas*** grow from smooth muscle or in the walls of blood vessels. They can also grow in smooth muscle, like the kind found inside organs such as the uterus or stomach.
- ***Lymphangiomas*** develop in the lymphatic system. It can cause fluid-filled cysts on the skin and mucous membranes, which line the mouth, nose and inner eyelids.
- ***Neuromas*** develop within nerves. They can grow anywhere in the body.
- ***Osteoma***. This noncancerous tumor forms from bone as the new abnormal bone growth on other bones. Most osteomas grow on the skull. Osteoid osteomas develop in long bones, such as those in your legs. They are most common in children and young adults.
- ***Skin tumors***. There are many types of benign skin tumors such as ***nevi***, also known as moles. These are noncancerous growths on the skin and they are very common.
- ***Fibroids, or fibromas***, can grow in the fibrous tissue found in any organ. They are most common in the uterus, where they are known as uterine fibroids.

In many cases, benign tumors will be monitored carefully. Noncancerous moles or colon polyps, for example, can turn into cancer at a later time.

Malignant transformation is the term given to the process whereby either normal, metaplastic, or benign neoplastic tissue, becomes a cancer. Some types of internal benign tumors may cause other problems. Uterine fibroids can cause pelvic pain and abnormal bleeding, and some internal tumors may restrict a blood vessel or cause pain by pressing on a nerve. Doctors use a variety of techniques to diagnose benign tumors. The key in diagnosis is determining if a tumor is benign or malignant. Only laboratory tests can determine this with certainty.

Many internal benign tumors are found and located by imaging tests, including: CT scans, MRI scans, mammograms, ultrasounds, X-rays.

Not all benign tumors need treatment. If your tumor is small and is not causing any symptoms, your doctor may recommend taking a watch-and-wait approach. Some tumors will never need treatment. Other tumors that affect organs, nerves, or blood vessels are commonly removed with surgery

to prevent further problems. Tumor surgery is often done using endoscopic techniques, meaning the instruments are contained in tube-like devices. This technique requires smaller surgical incisions and less healing time.

Exercise 5. Answer the following questions:

1. What is tumour?
2. What tumors are called benign?
3. What are risk factors for having a benign tumour?
4. How are benign tumors classified?
5. What are the most common examples of benign tumors?
6. What effect may the growth of benign tumors produce?
7. Why should benign tumors be monitored?
8. What methods are used in benign tumors diagnosis?
9. What are the effective approaches in treating benign tumors?
10. What techniques are used in tumor surgery?

Exercise 6. Find the continuations to complete the following sentences:

1. Melanoma…
2. Osteoma…
3. Adenoma…
4. Chondroma…
5. Lipoma…
6. Teratoma…
7. Myoma …
8. Fibroma …

a) …is a benign tumor of cartilage-forming cells.
b) …is a benign tumor of gland-forming cells.
c) …contains many cell types such as skin, nerve, brain and thyroid.
d) … is a tumor of pigmented skin cells.
e) … is a benign tumor derived from fibrous connective tissue.
f) … is a benign tumor of muscle.
g) … is a common benign tumor composed of fatty tissue.
h) … is a benign tumor composed of bone or bonelike tissue.

Exercise 7. Match the following terms to their definitions:

1. Birthmark	a) raised bumps on your skin caused by the human papillomavirus (HPV)
2. Wart	b) a swelling or morbid enlargement that results from an overabundance of cell growth and division

3. Tumor	c) abnormal tissue growths that most often look like small, flat bumps or tiny mushroom-like stalks
4. Mole	d) are noncancerous growths of the uterus that often appear during childbearing years
5. Fibroid	e) a common type of skin growth, it appear as small, dark brown spots and are caused by clusters of pigmented cells
6. Polyp	f) common type of discoloration that appear on your skin at birth or during the first few weeks of life

Exercise 8. Match the following procedures used in treatment of tumors to their definitions:

1. Chemotherapy 2. Radiation therapy 3. Surgery 4. Laser therapy 5. Screening	a) a cancer treatment that uses high-energy X-ray or beta or gamma rays produced by radioactive isotopes to destroy cancer cells; b) the branch of medicine concerned with treating disease, injuries by means of manual or operative procedures by incision into the body; c) treatment of disease, especially cancer, by means of chemical agents; d) a test to separate those who probably have a specified disease e) treatment with a thin beam of any electromagnetic radiation, such as infrared or microwave radiation

Exercise 9. Fill in the gaps with the words in the box:

chemical agents, tumor, digestion, incision, lipocytes, birthmark, malignant, screening, damage

1. … is a test to separate those who probably have a specified disease.
2. Chemotherapy is a treatment of disease, especially cancer, by means of … .
3. … is a blemish or new growth on skin formed before birth, usually brown or dark red.
4. Surgery is a branch of medicine concerned with treating disease, injuries by means of manual or operative procedures by … into the body.
5. The growth of benign tumors may cause nerve … .
6. … is any abnormal swelling in or on a part of the body.

7. A lipoma is a common benign tumor of ... .
8. Many types of benign tumors have the potential to become … .
9. A benign tumor in the abdomen can impair … .

Exercise 10. Complete the case history with the prepositions from the box below:

of; in; in; for; to; to; with

Following 3 weeks… unexplained morning headaches, M.K., a 42-year old man, went …his local doctor. He had no vomiting or nausea, no seizures, simply headaches. His local doctor found M.K. to have a normal neurological exam, but ordered a plain CT head scan. This showed a 4 cm diameter lesion or mass located … the right hemisphere, … the frontal lobe, and there appeared to be mild swelling or "shift" associated with it. To better define the lesion, M.K.'s doctor ordered a brain MRI, with and without contrast. This study showed the lesion in better detail. The lesion only very faintly took up the contrast agent, was round overall … some irregular margins, and appeared to be a solid mass. The radiologist suspected this was a primary brain tumor, most likely a glioma such as an astrocytoma. M.K. was given a prescription … oral steroid to assist in reducing the brain swelling, and expeditiously referred … a neurosurgeon.

Exercise 11. Put the questions to the underlined words:
1. Benign tumors are typically surrounded by an outer surface.
2. Adenomas of the rectum may be treated with sclerotherapy.
3. Surgery is usually the most effective approach to treat most benign tumors.
4. Some types of benign tumors may produce negative health effects.
5. Many types of benign tumors have the potential to become cancerous (malignant).
6. Benign tumors generally have a slower growth rate.
7. Most benign tumors do not respond to chemotherapy or radiation therapy.
8. A benign tumor near a blood vessel can restrict the flow of blood.

Exercise 12. Open the brackets using correct tense and voice:
1. A benign tumor (to characterize) by a slow growth.
2. Surgery (to know) to be the most effective approach in treating many benign tumors.

3. The growth of benign tumors may (to cause) nerve damage.
4. Some benign tumors (to consider) as precancerous conditions.
5. Teratoma (to contain) many cell types such as skin, nerve, brain and thyroid.
6. We should undergo systematic screening in order to detect small irregularities or tumors as early as possible even if there (to be) no clear symptoms present.
7. Benign tumors are typically (to surround) by an outer surface.
8. 80 patients diagnosed with tumors or tumor-like lesions of the hand (to admit) to and (to treat) in XXX Hospital between 2014 and 2020.

***Exercise 13. Read the case presentation and fill in the table below with the appropriate information. Explain the words in bold (you may need the dictionary):**

A 15-year-old girl presented with a lump in her right chest with gradually progressing discomfort of a 6-month duration. The discomfort was constant with **intermittent exacerbation**. She had no history of trauma or prior chest surgery, and her past medical history was unremarkable. Her physical examination revealed a **palpable** mildly tender mass on the sixth rib on the **anterolateral wall** of the right chest. Her routine laboratory test results, including complete blood count, **erythrocyte sedimentation rate**, renal function test and liver function tests, were all within normal range. Chest radiograph performed showed destruction of the right sixth rib. CT chest revealed a $36 \times 30 \times 80$ mm well-defined large **unilocular cystic lesion** of the sixth rib involving the anterolateral part and abutting the costochondral junction. She underwent surgery after all diagnostic investigation was completed.

A right anterolateral **thoracotomy** was done and the right sixth rib with cyst segment was exposed. It was extending from near to the costochondral junction to the posterior third of the rib. The underlying visceral pleura and lung were free. The entire cyst was resected along with the adjacent parietal pleura and normal rib segment. The chest was closed primarily without any reconstruction. The cut section of the specimen revealed a cystic space covered with thin bony shell and filled with serous fluid. Histopathology confirmed the simple bone cyst. Her post-operative course was uneventful and discharged on the 4th post-operative day without any complaints. After 4 years of follow-up, she is doing well without any **recurrence**.

https://academic.oup.com/jscr/article/2021/11/rjab518/6445947

Patient	Comp-laints	Physical exam	Lab tests/instrumental investigations	Diag-nosis	Treat-ment

TASKS FOR SELF-CONTROL

Answer the following questions:

1. What tumors are termed as benign?
2. What are risk factors for having a benign tumour?
3. How are benign tumors classified?
4. What are the most common examples of benign tumors?
5. What effect may the growth of benign tumors produce?
6. Why should benign tumors be monitored?
7. What methods are used in benign tumors diagnosis?
8. What are the effective approaches in treating benign tumors?
9. What techniques are used in tumor surgery?

Explain the term: benign tumor

MALIGNANT TUMOURS

Exercise 1. Topic vocabulary:

malignant, *adj*	[məˈlɪgnənt]	tending to be severe and become progressively worse
resemble, *v*	[rɪˈzemb(ə)l]	have a similar appearance
cure, *v*	[kjuə]	relieve of the symptoms of a disease or condition
neoplasm, *n*	[ˈniəuplæsm]	an abnormal mass of tissue that forms when cells grow and divide
invade, *v*	[ɪnˈveɪd]	spread into
medical imaging	[ˈmedɪk(ə)l ɪˈmɪdʒɪŋ]	the technique and process of imaging the interior of a body for clinical analysis and medical intervention
chemotherapy, *n*	[ˌkiːmə(ʊ)ˈθerəpɪ]	treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing
adjacent, *adj*	[əˈdʒeɪs(ə)nt]	next to or adjoining

Exercise 2. Read the word combinations with the new words:
Hereditary: a hereditary disease; hereditary collagen dysplasia; hereditary defect; hereditary melanoma
Irregularity: treatment for menstrual irregularities; teeth irregularities
Malignant: malignant edema; malignant adenoma; malignant bone cyst; malignancy of male reproductive system
Chemotherapy: chemotherapy drugs; oral chemotherapy; intravenous (IV) chemotherapy; topical chemotherapy

Exercise 3. Read the text and answer the questions below:

MALIGNANT TUMORS

Cancer is known medically as a malignant neoplasm producing unregulated cell growth. In cancer cells divide and grow uncontrollably, forming malignant tumors, and invade adjacent parts of the body. The

cancer may also spread to more distant parts of the body through the lymphatic system or blood stream.

The major groups of malignant tumors are carcinomas, sarcomas, and mixed-tissue tumors. A carcinoma is a malignant tumor derived from epithelial tissue (glandular, skin, linings of internal organs). A sarcoma is a malignant tumor derived from connective tissue (blood, bone, muscle, fat, or cartilage). Mixed-tissue tumors are derived from tissue, which is capable of differentiating into epithelial as well as connective tissue. Malignant neoplasms lack the normal growth control that is exhibited by most other adult tissues, and in many ways they resemble embryonic tissue. Rapid growth is one characteristic of embryonic tissue, but as the tissue begins to reach its adult size and function, it slows or stops growing completely. This cessation of growth is controlled at the individual cell level, cancer results when a cell or group of cells for some reasons breaks away from that control. This breaking loose involves the genetic machinery and can be induced by viruses, environmental toxins, and other causes. The illness associated with cancer usually occurs as the tumor invades and destroys the healthy surrounding tissue, eliminating its function. Malignant tumor can spread by local growth and expansion or by metastasis, which results from tumor cell's separating from the main mass and being carried by the lymphatic or circulatory system to a new site where a second tumor is created.

The following symptoms must be considered as possible warning signals of cancer: changes in the size, color, or shape of a wart or a mole; a sore that does not heal; persistent cough, hoarseness, or sore throat; a lump or thickening in the breast or elsewhere; unusual bleeding or discharge; chronic indigestion or difficulty in swallowing; any change in bowel or bladder habits. The earlier cancer is diagnosed, the better is the chance of being cured.

Cancer can be detected in a number of ways, including the presence of certain signs and symptoms, screening tests, or medical imaging. Once a possible cancer is detected it is diagnosed by 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 4. Answer the questions:

1. What types of tumors do you know?
2. What is the difference between benign and malignant tumors?
3. What groups of malignant tumors do you know?
4. What is carcinoma? What is sarcoma?
5. What does the malignant tumor lack?
6. How can malignant tumors spread?
7. What symptoms are observed in cancer?
8. What are the most common screening methods for various cancers?

Exercise 5. Match the terms to their definitions:

1. Carcinoma	a) term meaning essentially harmless; not progressive or recurrent
2. Benign	b) cancerous tumor derived from epithelial tissues in the body
3. Malignancy	c) new and abnormal growth
4. Neoplasm	d) cancerous tumor derived from connective tissue in the body
5. Sarcoma	e) this term refers to the presence of cancerous cells that have the ability to spread to other sites in the body
6. Metastasis	f) the development of secondary malignant growths at a distance from a primary site of cancer

Exercise 6. Using suffixes make adjectives to the following nouns:

Model: Cancer – cancerous

1. cancer	15. gland
2. medicine	16. environment
3. malignancy	17. genetics
4. cell	18. immunity
5. distance	19. heredity
6. lymph	20. obesity
7. blood	21. microscopy
8. difference	22. possibility
9. presence	23. testicle
10. absence	24. currency
11. lung	25. mouth
12. bone	26. liver
13. cartilage	27. connection
14. muscle	28. support

Exercise 7. Choose the proper continuation on the right:

1. Carcinomas	a) occur when lymphocytes (white blood cells) become out of control, divide in an abnormal way or do not die when they should
2. Sarcomas	b) are any malignant tumors derived from epithelial tissue
3. Lymphomas	c) malignancy of blood cells. In this type of cancer abnormal blood cells are produced in the bone marrow. However, the abnormal cells do not function in the same way as normal white blood cells. The cells continue to grow and divide, eventually crowding out the normal blood cells
4. Leukemia	d) are usually malignant tumors arising from connective tissue
5. Adenomas	e) are benign epithelial tumors in which the cells form recognizable glandular structures or in which the cells are derived from glandular epithelium

Exercise 8. Complete the following sentences:

1. The most common early symptom of a benign tumor is ___.
2. Some persons with a malignant tumor may have the same symptoms as persons with ___.
3. The most serious symptoms of a malignant tumor are ___.
4. Surgical removal offers the only chance to cure in patients with ___.
5. Full recovery is possible if the cancer is caught ___.
6. The aim of cancer treatment is____.
7. Malignant tumor can spread by local growth and expansion or by _____.
8. Cancer is usually treated with _____.

Exercise 9. Complete the following sentences choosing suitable words from the box:

hepatoblastoma; neuroma; myoma; lipoma; osteoclastoma; retinoblastoma; neuroblastoma; chondroblastoma; melanoma; glioma

1. … any tumor composed of nerve tissue.
2. … a malignant tumor of the liver.

3. … a benign tumor composed of muscle tissue
4. … a tumor derived from chondroblasts having the appearance of a mass of well-differentiated cartilage.
5. … a common benign tumor composed of well-differentiated fatty tissue.
6. … a malignant tumor composed of melanocytes, occurring esp. in the skin, often as a result of excessive exposure to sunlight.
7. …is a tumor of bone caused by the proliferation of osteoclast cells.
8. … a rare malignant tumor of the retina occurring in infants.
9. … a malignant tumor that derives from neuroblasts, occurring mainly in the adrenal gland.
10. … a tumor of the brain and spinal cord, composed of neuroglia cells and fibers.

Exercise 10. Put questions to the underlined words:
1. The chances of surviving the disease depend greatly on the type and location of the cancer.
2. In 2007, cancer caused about 13% of all human deaths worldwide (7.9 million).
3. The physician John Hill described tobacco snuff as the cause of nose cancer in 1761.
4. Skin cancer will be able to be prevented by staying in the shade, protecting you with a hat and shirt when in the sun.
5. Cancer is usually treated with chemotherapy, radiation therapy and surgery.
6. Retinoblastoma is a rare malignant tumor of the retina occurring in infants.
7. Sarcomas are characterized by cells that are located in bone, cartilage, fat, connective tissue, muscle.
8. Cancer can be detected by the presence of certain signs and symptoms, screening tests, or medical imaging.

Exercise 11. Say whether the following statements are true or false. Comment on your answer.
1. The aim of cancer treatment is not to remove all or as much of the tumor as possible.
2. Leukemias are cancers that begin in the bone marrow and often accumulate in the bloodstream.
3. Cancers that are closely linked to certain behaviors are difficult to prevent.

4. There are over 200 different known cancers that afflict human; the most of them may be classified into several broad groups.
5. Sarcomas are malignant tumors arising from the connective tissue.
6. Many other diseases, besides cancer, can produce the same symptoms.
7. It is important to have the symptoms checked as soon as possible, especially if they linger.
8. People with precancerous conditions are checked rarely, so they can be treated quickly if cell changes become more severe.

Exercise 12. Paraphrase the following sentences in Passive:
1. Cells that cover internal and external parts of the body such as lung, breast, and colon cancer characterize sarcomas.
2. Over 200 different known cancers can afflict human.
3. We can diagnose and treat cancer.
4. Chemotherapy, radiation therapy and surgery usually treat cancer.
5. A number of ways can detect cancer.
6. Neuroglia cells and fibers compose neuroma of the brain and spinal cord.
7. Screening interventions identify a disease.
8. Medicinal treatment controls hemorrhage from the tumor.

Exercise 13. Use the verbs in brackets in the correct form:
1. Radiation therapy (to give – negative) favorable results in cancer of the stomach and intestines.
2. Patients with malignant tumors especially (to predispose) to different complications and secondary diseases.
3. The most reliable method of tumor treatment (to be) its surgical removal.
4. Such operation may (to prevent) penetration of cancerous cells into the wound.
5. In modern oncology a tumor (to define) as a pathological growth without systematic integration in the body.
6. The causes and genesis of tumors (to be) the subject of many theoretical discussion for a long time.
7. The chromosomal theory of cancer (to oppose) by the supporters of the cytoplasmic hypothesis.
8. Pathogenic microorganisms, especially parasites and viruses (to constitute) a second group of causes of cancer.

***Exercise 14. Read the case presentation and fill in the table below with appropriate information:**

Successful Case of Advanced Lung Cancer Stage 4

50/M Mr SK was diagnosed with advanced cancer lung (stage4) (adenocarcinoma – never smoker) and started on chemotherapy at hospital. After 6 weekly doses he worsened and came for the second opinion where he met Dr Manish Singhal.

He was rendered second opinion however the treating oncologist declined to follow.

He spent more time doing another biopsy as his 1st biopsy was inadequate to do complete mutation testing. His EGFR mutations testing which is very important to conduct in lung cancer especially in never smokers had failed due to technical reasons. However, his condition kept worsening.

He finally decided to take treatment with Dr Singhal.

When he came he was breathless and required oxygen support and had to be optimized.

CT Chest showed lymphangitis carcinomatosis with large lung mass /tumor on right side and pleural effusion.

X-ray chest showed fluid in the lung, a large opaque lung mass and multiple numerous small lung nodules.

He was started on Bevacizumab + pemetrexed + carboplatin (triple drug combination) after optimizing his general condition. This protocol is tested in Point break study and Avaperl international studies.

Within 10 days his Xray was better and on day 21st just before his second cycle he was oxygen independent, walking and climbing stairs comfortably. His X-ray showed miraculous improvement – effusion disappeared, lung mass almost dissolved away and lung fields were clear off miliary nodules.

https://cancerconsultindia.com/LungCancerStage4

Patient	Present complaints	Past history	Examination data	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What types of tumors do you know?
2. What is the difference between benign and malignant tumors?
3. What groups of malignant tumors do you know?
4. What is a carcinoma? What is a sarcoma?
5. What does the malignant tumor lack?
6. How can malignant tumors spread?
7. What symptoms are observed in cancer?
8. What are the most common screening methods for various cancers?

Explain the term: malignant tumor

NEUROSES

Exercise 1. Topic vocabulary:

apprehension, *n*	[ˌæprɪˈhenʃn]	fearful or uneasy anticipation of the future
distress, *n*	[dɪˈstres]	anxiety or mental suffering
hypochondria, *n*	[haɪpəˈkɔndrɪə]	a condition in which a person often believes that he is ill without actually being ill
incapacitate, *v*	[ˌɪnkəˈpæsɪteɪt]	deprive of strength or ability; disable.
psychosis, *n*	[saɪˈkoʊ sɪs]	an acute or chronic mental state marked by loss of contact with reality, disorganized speech and behavior, and often hallucinations or delusions
pyromania, *n*	[ˌpaɪrəʊˈmeɪniə]	a persistent compulsion to start fires
somatoform disorder	[sɔˈmatəfɔːm dɪsˈɔːdəz]	psychiatric disorders in which patients present with a myriad of clinically significant but unexplained physical symptoms

Exercise 2. Explain the following word combinations:
A mild mental illness; an umbrella term; to disrupt the brain activity; feelings of apprehension; strong unreasonable fear; to be focused on an imagined illness; to lose all self-control; consuming fear; loss of touch with reality; intrusive thoughts; substantial feeling

Exercise 3. Write the given words in Singular (remember the words of the Latin and Greek origin) and use them in sentences:
Neuroses, activities, bacteria, crises, children, atria, alveoli, lives, analyses, ganglia, fungi, diagnoses, laboratories, cocci, curricula, bacilli, mice, phenomena, vertebrae, criteria, metastases.

Exercise 4. Read the text and answer the questions below:

NEUROSES

Neuroses are relatively mild mental illnesses that are not caused by organic diseases. They involve symptoms of distress but not radical loss of touch with reality. Though the term neuroses is no longer used formally within the medical community, it is still a common umbrella term used for mental illnesses such as anxiety, pyromania, obsessive-compulsive disorder, hysteria, and phobias.

The work capacity of the nerve cells in the cerebral cortex is limited, so over-excitation, over-inhibition, or simultaneous overstimulation of both processes and their mobility may disrupt brain activity resulting in neurosis.

Neuroses include anxiety, depression, or other feelings of unhappiness or distress that are out of proportion to the circumstances of a person's life. They may impair a person's functioning in any area of his life, relationships, or external affairs, but they are not severe enough to incapacitate the person. Neurotic patients generally do not suffer from the loss of the sense of reality compared to people with psychoses.

One of the common types of neuroses is anxiety. A person suffering from anxiety may experience feelings of apprehension, worry, and fear. Physical symptoms are also common with this form of neurosis, including nausea, palpitations, chest pains, and shortness of breath. The person may also experience elevated blood pressure and heart rate, sweating pale skin, dilated pupils, and trembling.

Phobia is a type of anxiety disorder, characterized by strong unreasonable fears of specific objects, people, situations, or activities. Some common objects of phobias are open or closed spaces, fire, high places, dirt, and bacteria.

Pyromania is another type of neuroses. A person suffering from pyromania is fixated on fire. A pyromaniac is not the same as an arsonist, as a person suffering from pyromania gains a sense of happiness from fires, whereas an arsonist may set fire for revenge or for personal gain. In general, there are no other symptoms associated with this type of neurosis.

Another neurosis is obsessive-compulsive disorder. Individuals with obsessive-compulsive disorder generally suffer from intrusive, repetitive, and disturbing thoughts. In an attempt to get rid themselves of these thoughts, they engage in certain rituals or tasks. Compulsive behaviour includes rituals such as repetitive hand washing or door locking. This leads to a cycle of thoughts and behaviors over which the person feels he or she has little or no control.

Somatoform disorders which include the so-called hysterical, or conversion neuroses, manifest themselves in physical symptoms such as blindness, paralysis, or deafness that are not caused by organic disease. Hysteria is one of the common forms of neuroses. A person suffering from hysteria experiences substantial feelings of fear or other emotions that he or she cannot seem to handle. Often the fear is focused on an imagined illness or other problem of a specific body part. The person may lose self-control as a result of the consuming fear.

Psychoneurotic disorders are formed in children more easily than in adults. Treatment of neuroses can include psychotherapy, psychoactive drugs, and relaxation exercises, such as deep breathing. Other methods include cognitive behavioral therapy, which adjusts the faulty psychological mechanisms that respond to the environment to react as they should.

Exercise 5. Answer the questions to the text:
1. When may the brain activity be disrupted?
2. What are the most common symptoms of neuroses?
4. What physical symptoms are common in anxiety?
5. What are phobias characterized by?
6. What phobias do you know?
7. What do individuals with obsessive-compulsive disorder generally suffer from?
8. What group of neuroses does hysteria belong to?
9. What are the common kinds of treatment for neuroses?

Exercise 6. Find the wrong usage of words and change them by the proper ones:
1. Sweating, enlarged blood pressure, and trembling may not be caused by organic diseases.
2. The changes in the bones resulted from calcium insufficiency.

3. The normal palpitation of the adult is 72–80 beats per min.
4. Psychoneurotic disorders are relatively easy mental illnesses that are not caused by organic diseases.
5. He had to visit his dentist to extract an ill tooth.
6. Blindness, paralysis, and deafness are the often symptoms in hysteria.
7. Elevated heart rate, sweating, pale skin, increased pupils may be the manifestations of neuroses.
8. The neurotic people can't hand their emotions and feelings.

Exercise 7. Find a grammar mistake in each sentence and correct it:
1. Children may to form serious neurotic disorders.
2. Neurosis is characterized by feelings of unhappiness or distress.
3. What kinds of fear people with phobias experience?
4. A person's functioning in virtually any area of his life may be impair by psychoneurotic disorders.
5. Does elevated blood pressure may be symptom of anxiety?
6. People with psychoses suffers from the loss of the sense of reality.
7. The patients who suffers from conversion neuroses may be focused on an imagined illness.
8. What do a pyromaniac gains a sense of happiness from?

Exercise 8. Put questions to the underlined words:
1. A person suffering from pyromania is fixated on fire.
2. The term *neurosis* was coined by the Scottish doctor William Cullen.
3. A person with an inborn strong type of nervous activity may become unbalanced or in active due to faulty upbringing.
4. William Cullen coined the term *neurosis* in 1769.
5. Neuroses impair a person's functioning not enough to incapacitate the person.
6. The patient has been suffering from elevated blood pressure and heart rate, sweating, and trembling for three month.
7. Revealing the causes of neuroses will facilitate their rapid cure.
8. Over-excitation and over-inhibition of the cortex cells may influence the brain activity unfortunately.
9. Neurosis in children is most frequently observed at the age of 2 to 4, 7 to 8, and the period of puberty development.
10. When the causes of somatoform disorders are determined the neurotic symptoms will be controlled.

Exercise 9. Use the verbs in brackets in the correct form:

1. The non-biological basis of neurosis (to maintain) with Sigmund Freud at the beginning of the psychoanalytic movement.
2. Carl Jung (to see) collective neuroses in politics: “Our world is, so to speak, dissociated like a neurotic”.
3. Neurotic tendencies (to manifest) themselves as depression, acute or chronic anxiety, obsessive-compulsive tendencies, specific phobias.
4. The origin of the term hysteria commonly (to attribute (приписывать) to Hippocrates.
5. Hippocrates (to think) that the cause of hysteria was irregular movement of blood from the internal genitalia to the brain.
6. During the mid–19th century the term neurosis (to use) as a key to characterize disorders that (to be) neurological in origin.
7. Neurotic people (to tend) to have more negative feelings such as depression, anxiety, insecurity.
8. The prescribed anti-depressants (to take) by the end of the next month.

Exercise 10

a) Read about fears and phobias in famous people and tell about other similar facts you’ve heard:

George Washington, the first president of the United States of America, had a very serious fear of premature burial. This was clearly expressed on his deathbed, in 1799, where he made his attendants promise that his body would be left out for two days, in case he was still alive.

Woody Allen has taken fear to an extreme. The 74-year-old actor and screenwriter is afraid of practically everything. Although he has normal phobias that cause him to fear heights, enclosed spaces and insects, he also has more abnormal fears. Among his weirder terrors are fears of bright colours, animals, elevators and peanut butter sticking to the roof of his mouth!

Alfred Hitchcock, a famous Hollywood director and producer, had an extreme fear of eggs. He said that they are revolting (вызывают отвращение) to him! He stated that he never tasted an egg in his whole life, and he refused to even be around them.

Madonna's always been a fearless femme fatale in our eyes. But even kickboxing, leather corset-wearing megastars are afraid of thunderstorms: Madonna is apparently a sufferer of brontophobia, the fear of thunder.

b) Make up sentences using the words in the right order:
1) Jennifer Aniston, all, a fear, Michael Jackson, and, Whoopi Goldberg, have, of flying.
2) The, excessive, 34th, of, had, an, president, fear of hospitals, the United States, Richard Nixon.
3) the, Orlando Bloom, a, phobia, strange, actor, has, British, pigs, fear, of, the.
4) feared, Sigmund Freud, who, the, neurologist, founded, the, school, psychoanalyst, ferns (папоротники), of, psychiatry.

Exercise 11. Define the type of phobia (social phobia, simple phobia, agoraphobia, panic disorders):
1. The fear of something with an unexplained reason comes under this category of phobias. Phobias for bees, odor, illness, and storms are some of the example of this phobia. Such phobias are more common in children but they can occur in all ages. Statistics says that between 5–12 percent of the population have phobic disorders in any 6 months. These phobias often do not interfere with the daily life of a phobic person. When these phobias get intense, they require proper treatment.

2. This is a bit serious kind of phobia. The person who has this phobia is afraid of being judged by others around him. Such person avoids gatherings and social get-togethers because of these kinds of apprehensions. In these phobias, a person becomes over conscious about his/her image in the society. He will feel very much embarrassed if he is not able to control the fear in front of anyone. He feels degraded and humiliated. These phobias begin between the ages of 15–20 years and if they are not treated they continue all through the lives.

3. People falling in this category have devastating episodes of fear attacks. The symptoms of the attacks are breathlessness, nausea, increased heart rate, dizziness, change in body temperature and blood pressure. A person who has such a disorder, fears of death, being insane, and of losing control.

4. This can be called an extension to panic disorders. People who suffer panic attacks can develop it. People suffering from this phobia will rarely leave their place if they do not have a company.

Exercise 12. Read the case presentation and fill in the table below with appropriate information:
This case study deals with an eight-year-old girl who developed persistent abdominal pain and vomiting for which no physiological cause could be discovered. After two months of unsuccessful treatment for her illness, the girl was referred for a psychiatric consultation.

During the psychiatric interview, the psychogenic nature of the girl's illness became readily apparent, as did the nature of the conflict which had produced it.

The tendency is strong for psychogenic illness, such as this, to become chronic without psychiatric treatment. Many physicians are reluctant to apply clinically basic psychiatric techniques to the treatment of physical illness. A suggestion is made that closer collaboration between psychiatry and other medical specialties could be of great value in preventive medicine.

https://journals.sagepub.com/doi/10.1177/000992287501400912?icid=int.sj-abstract.similar-articles.3&

Patient	Present complaints	Past history	Examination data	Diag-nosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What are the most common types of neuroses?
2. What are the common symptoms of neuroses?

3. What is the principal difference between the neurotic patients and those with psychoses?
4. What physical symptoms are common in anxiety?
5. What does “phobia” mean? Give examples.
6. What do patients with obsessive-compulsive disorder suffer from?
7. What group of neuroses does hysteria belong to?
8. What are the common kinds of treatment for neuroses?

Explain the medical terms: neurosis, psychosis, phobia, hysteria, anxiety, obsessive-compulsive disorder

STROKE

Exercise 1. Topic vocabulary:

altered, *adj*	[ˈɒltərd]	changed or modified
aphasia, *n*	[əˈfeɪzɪə]	a disorder of language affecting the generation and content of speech and its understanding
anti-platelet drugs	[ænˈtɪplətlɪt drʌgz]	medicines intended to prevent and/or reverse platelet aggregation in arterial thrombosis, myocardial infarction and ischemic stroke
atrial fibrillation, *n*	[ˈeɪtriəl fɪbrɪˈleɪʃən]	a type of arrhythmia in which your heart beats irregularly and often fast
cerebrovascular accident, *n*	[ˈæksɪdənt]	stroke or brain attack
consciousness, *n*	[ˈkɒnʃəsnɪs]	awareness
disturbance, *n*	[dɪˈstɜːbəns]	a divergence from that which is considered normal
clot busters	[ˌklɒtˈ bʌstəz]	also called thrombolytics, dissolve the blood clot that is blocking the artery and help to restore blood flow
modifiable, *adj*	[ˈməʊdɪfaɪəbl]	changeable
transient ischemic attack, *n*	[ˈtrænziənt ɪˈskiːmɪk əˈtæk]	“mini stroke” caused by a temporary disruption in the blood supply to part of the brain

Exercise 2. Read the word combinations and sentences with the new words:

Accident: cerebrovascular accident; car accident. She died in an accident. Try to avoid having an accident.

Damage: neurological damage; cartilage damage from a sports injury. Taking regular doses of the drugs can have long-term side effects such as hearing loss and liver and kidney damage.

Factor: risk factors; lifestyle factors; environmental factors; factor of time; factor of safety.

Hemorrhage: subarachnoid hemorrhage; hemorrhagic stroke; hemorrhagic shock; internal hemorrhage.

Consciousness: loss of consciousness; nature of human consciousness.

Exercise 3. Complete the table with the missing words (you may use a dictionary):

VERB	NOUN	ADJECTIVE
	loss	
to disturb		
		intended
to formulate		
		affected
	speech	

Exercise 4. Read the text and answer the questions below:

STROKE

Stroke, or cerebrovascular accident (CVA), is rapid loss of brain function due to disturbance in the blood supply to the brain. This can be due to ischemia (lack of blood flow) caused by blockage of blood vessels (thrombosis, arterial embolism), or a hemorrhage. As a result, the affected area of the brain cannot function, which might result in an inability to move one or more limbs on one side of the body (paralysis), inability to understand or formulate speech (aphasia), an inability to see one side of the visual field, or altered taste, smell, hearing.

Stroke is a medical emergency and can cause permanent neurological damage and death. Risk factors for stroke include old age, high blood pressure, previous stroke or transient ischemic attack (TIA), diabetes, high cholesterol, tobacco smoking and atrial fibrillation. High blood pressure is the most important modifiable risk factor of stroke. It is the second leading cause of death worldwide.

An ischemic stroke is occasionally treated in a hospital with thrombolysis (also known as a "clot buster"), and some hemorrhagic strokes benefit from neurosurgery. Prevention of recurrence may involve the administration of anti-platelet drugs, control and reduction of high blood pressure, and the use of statins. Selected patients may benefit from carotid endarterectomy and the use of anticoagulants.

Strokes can be classified into two major categories: ischemic and hemorrhagic. Ischemic strokes are those that are caused by interruption of the blood supply, while hemorrhagic strokes are the ones which result from rupture of a blood vessel or an abnormal vascular structure. About 87% of strokes are caused by ischemia, and the remainder by hemorrhage. Some hemorrhages develop inside areas of ischemia ("hemorrhagic transformation"). It is unknown how many hemorrhages actually start as ischemic stroke.

Stroke symptoms typically start suddenly, over seconds to minutes, and in most cases do not progress further. The symptoms depend on the area of the brain affected. The more extensive the area of brain affected, the more functions that are likely to be lost.

Loss of consciousness, headache, and vomiting usually occurs more often in hemorrhagic stroke than in thrombosis because of the increased intracranial pressure from the leaking blood compressing the brain.

If symptoms are maximal at onset, the cause is more likely to be a subarachnoid hemorrhage or an embolic stroke.

Exercise 5. Answer the questions:

1. What is the cause of stroke?
2. What does the abbreviation CVA mean?
3. What is ischemia?
4. What are the manifestations of CVA?
5. How can the blood supply to the brain be disturbed?
6. What are the risk factors for stroke?
7. What medication can be administered in stroke?
8. What kind of surgery may some CVA patients undergo?
9. What is "hemorrhagic transformation"?
10. How do stroke symptoms start?
11. How does hemorrhagic stroke differ from that of the ischemic one?

Exercise 6. Match the words to their definitions:

1. Ischemic stroke	a) an abnormal and very dangerous condition in which blood collects beneath the arachnoid mater, a membrane that covers the brain. The accumulation of blood in the subarachnoid space can lead to stroke, seizures, and other complications
2. Thrombosis	b) it is caused by interruption of the blood supply
3. Hemorrhagic stroke	c) a stroke, producing similar symptoms, but usually lasting only a few minutes and causing no permanent damage
4. Statins	d) it results from rupture of a blood vessel or an abnormal vascular structure
5. Subarachnoid hemorrhage	e) a serious condition caused when a blood clot blocks the flow of blood in a blood vessel
6. TIA (transient ischemic attack)	f) any of a group of drugs (as lovastatin and simvastatin) that inhibit the synthesis of cholesterol and promote the production of LDL-binding receptors in the liver resulting in a usually marked decrease in the level of LDL and a modest increase in the level of HDL circulating in blood plasma
7. Aspirin	g) a loss or impairment of voluntary movement in a body part, caused by injury or disease of the nerves, brain, or spinal cord
8. Paralysis	h) a white, crystalline substance derivative of salicylic acid, used as an anti-inflammatory agent and to relieve the pain of headache, rheumatism, gout, neuralgia, etc.; acetylsalicylic acid

Exercise 7. Put symptoms into appropriate column:
Pain in chest, inability to smile, nausea and vomiting, a sensation of tightness in the chest, weakness or numbness on one side of your body, arm drift, sweating, aphasia and aphonia, numbness of the face, confusion, headache, episodes of angina, shortness of breath, jaw pain, heartburn, face drooping.

Myocardial infarction	***Stroke***

Exercise 8. Match the synonyms:

1. paralysis	a) attack
2. exertion	b) quickly
3. rapidly	c) stop
4. aphasia	d) inability to formulate speech
5. reduction	e) shortening
6. stroke	f) bleeding
7. interruption	g) physical efforts
8. hemorrhage	h) numbness

Exercise 9. Choose the correct form of each verb:

WHAT IS WONDERFUL ABOUT THE BRAIN?

Inside your head there is a remarkable organ, the brain. You use it to understand and remember things that (1) around you. The brain is soft and spongy. It (2) of billions of tiny parts called cells. Three coats or membranes (3) the brain. The brain sometimes (4) the busiest communication center in the world. The brain (5) your body functions and keeps all parts of your body working together. Thousands of messages from all parts of the body (6) to and from the brain. Messages (7) to the brain by sensory nerves. Special places, or centers, on the brain receive sensory messages from all parts of the body. When messages (8) by centers, the brain (9) them. All day long your muscles and your brain (10). By the end of the day they (11). Then your brain and your muscles (12) to relax. Before long, you go to sleep. As you sleep, the big muscles in your body relax.

(1) are happened; are happening.
(2) is made up; made up.
(3) is covered; cover.
(4) is called; calls.
(5) is controlled; controls.
(6) send; are being sent.
(7) are carried; was carried.
(8) are received; will receive.
(9) is interpreted; interprets.
(10) are worked; are working.
(11) have be tired; are tired.
(12) are started; start.

Exercise 10. Read and remember several different types of diagnostic tests that doctors can use in order to determine which type of stroke has occurred:

1. Physical examination: a doctor will ask about the patient's symptoms and medical history. They may check blood pressure, listen to the carotid arteries in the neck and examine the blood vessels at the back of the eyes, all to check for indications of clotting.
2. Blood tests: a doctor may perform blood tests in order to find out how quickly the patient's blood clots, the levels of particular substances (including clotting factors) in the blood, and whether or not the patient has an infection.
3. CT scan: a series of X-rays that can show hemorrhages, strokes, tumors and other conditions within the brain.
4. MRI scan: radio waves and magnets create an image of the brain to detect damaged brain tissue.
5. Carotid ultrasound: an ultrasound scan to check the blood flow of the carotid arteries and to see if there is any plaque present.
6. Cerebral angiogram: dyes are injected into the brain's blood vessels to make them visible under X-ray, in order to give a detailed view of the brain and neck arteries.
7. Echocardiogram: a detailed image of the heart is created to check for any sources of clots that could have traveled to the brain to cause a stroke.

Exercise 11. Fill in the table *Stroke* to describe the term:

1	Definition	
2	Causes	
3	Symptoms	
4	Examinations	
5	Treatment	

Exercise 12. Put questions to the underlined words:

1. Symptoms of a small stroke may be confused with <u>those of other conditions that cause similar symptoms.</u>
2. The anterior circulation of the brain is supplied by the <u>carotid</u> arteries.
3. The patient's condition improved <u>gradually</u> within 2 weeks of treatment.
4. <u>When blood flow stops</u>, brain cells do not receive the oxygen and glucose they require to function.

5. Two weeks after antibiotic treatment was discontinued, the patient experienced a frontal headache.
6. He had developed hypertension over the last 10 years.
7. Because there was occasional low-grade fever, intravenous penicillin was given for 2 weeks.
8. During the attack of stroke you may have facial weakness and won't be able to smile.

Exercise 13. Use the verbs in brackets in the correct form:
1. She (to lose) consciousness and (to transfer) to our hospital on the same day.
2. Quick action by a doctor sometimes (to reduce) the damage or (to prevent) more damages.
3. In both patients, brain abscess (to develop) at the stroke lesion site after they (to have) an infectious complication.
4. Most strokes (to happen) suddenly and (to damage) the brain within minutes.
5. If the stroke already (to happen) blood clotting drugs are not effective.
6. After the patient (to develop) the left hemi paresis, he (to admit) to our hospital.
7. Because of the progressive multifocal cerebral manifestations in the patient, we (to decide) to perform a brain biopsy of the right parietal lobe ten days after admission.
8. As soon as a doctor (to gather) all information he (to make) a diagnosis of a suspected ischemic stroke.

***Exercise 14. Read the case presentation and fill in the table below with appropriate information:**

Ischemic Stroke

Patient M is an active woman, 70 years of age, who lost consciousness and collapsed at home. Her daughter, who was visiting her at the time, did not witness the collapse but found her mother on the floor, awake, confused, and slightly short of breath. The daughter estimated that she called EMS within 5 minutes after the collapse, and EMS responded within 10 minutes. EMS evaluated Patient M, drew blood for a glucose level, and determined that she may have had a stroke. On presentation in the emergency department, Patient M is immediately triaged. Additional information provided by the daughter indicates that Patient M has been treated for hypertension for 10 years but notes that she is often not compliant with her

antihypertensive medicine, a diuretic. The patient has never smoked, drinks occasionally, and is of normal weight.

On physical examination, Patient M's blood pressure is 150/95 mm Hg. She has pain in her left arm and a slight headache. There are slight carotid bruits on the right. She is assessed with use of the NIHSS and found to have left hemiparesis and left visual/spatial neglect. The results of laboratory tests, including a complete blood count, prothrombin time, serum electrolyte levels, cardiac biomarkers, and renal function studies, are all within normal limits. CT of the brain indicates a thrombus in a branch of the right internal carotid artery, with approximately 50% occlusion due to atherosclerosis. There is an area of infarction in the right anterior hemisphere. There is no evidence of a subarachnoid hemorrhage. The diagnosis is made 2 hours after Patient M's arrival in the emergency department. She is treated with intravenous rt-PA at a dose of 0.9 mg/kg, and aspirin antiplatelet therapy is started at an initial dose of 325 mg, 24 hours after thrombolytic therapy, and a maintenance dose of 75 mg per day.

https://www.netce.com/casestudies.php?courseid=1977

Patient	Present complaints	Past history	Examination data	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:

1. What is the cause of stroke?
2. What does the abbreviation CVA mean?
3. What is ischemia?
4. What are the manifestations of CVA?
5. How can the blood supply to the brain be disturbed?
6. What are the risk factors for stroke?
7. What medication can be administered in stroke?
8. What kind of surgery may some CVA patients undergo?
9. How do stroke symptoms start?
10. How does hemorrhagic stroke differ from that of the ischemic one?

Explain the medical terms: ischemic stroke, hemorrhagic stroke, thrombosis, paralysis.

EPILEPSY

Exercise 1. Topic vocabulary:

grand mal	[ˈgrænd ˈmæl]	generalized convulsion accompanied by loss of consciousness
hallucination, *n*	[həluːsi ˈneiʃn]	a sensory experience that appears real but is created by your mind
incontinence, *n*	[ɪnˈkɒntɪnəns]	inability to control excretions
paroxysm, *n*	[ˈpærəksɪzm]	a violent attack
posture, *n*	[ˈpɔstʃə]	the position in which you hold your body while standing, sitting or lying down
recollection, *n*	[ˌrekəˈlekʃ(ə)n]	the action of remembering something
unconscious, *adj*	[ʌnˈkɔnʃəs]	lacking of the ability to notice or respond to stimuli in the environment

Exercise 2. Match the medical terms to their definitions:

1. Epilepsy	a) a perception in the absence of stimuli
2. Unconsciousness	b) a sudden involuntary contraction of a muscle or a hollow organ
3. Cyanosis	c) a transient symptom of abnormal excessive or synchronous activity in the brain
4. Seizure	d) complete lack of responsiveness to people or other environmental stimuli
5. Spasm	e) a common and diverse set of chronic neurological seizures
6. Hallucination	f) the appearance of blue or purple coloration of the skin due to the lack of oxygen

Exercise 3. Complete the words in the following sentences by adding a prefix. Choose from the following: un-, in-, im-, ir-, dis-.

1. An epileptic seizure is ___controlled, chaotic electrical activity in the brain. It alters consciousness and may bring on ___ voluntary movements.

Epilepsy may be the result of chemical ___balance but more often the cause is ___known.
2. In a grand mal epileptic seizure, the victim falls to the ground___conscious and makes twitching movements which may last for several minutes. In a petit mal seizure, the victim may be__aware of things around him for up to thirty seconds but seldom loses consciousness.
3. In temporal lobe epilepsy, a seizure may result in the victim having ___rational feelings of anger or fear.
4. Following a stroke, many patients are left with some sort of ____ability.
5. Brain cells starved of blood are _____able to communicate with the parts of the body they are responsible for.

Exercise 4. Read the text and answer the questions below:

EPILEPSY

Epilepsy is a disorder of brain function characterized by recurrent seizures that give a sudden onset. Epilepsy may be the result of disturbed chemical balance but more often the cause is unknown. Seizure (epilepsy) is actually a whole group of brain disorders. The seizure can be either partial or complete, depending on the amount of brain involved and whether or not consciousness is impaired. Normally there is a balance between excitation and inhibition in the brain. When this balance is disrupted by increased excitation or decreased inhibition, a seizure may result. There are some types of seizure. Seizures may be generalized or partial.

Generalized epilepsy may take the form of tonic-clonic or absence seizures. The lack of any respiratory movement may result in cyanosis. A grand mal seizure starts with a loss of consciousness and falling down, followed by a 15- to 20-second period with muscle rigidity and then a 1- to 2-minute period of rhythmic convulsions. The seizure ends with a few minutes of deep, relaxed sleep before consciousness returns. Grand mal seizures are due to abnormal electric activity throughout the brain.

The tonic phase is replaced by convulsive movements when the tongue may be bitten and urinary incontinence may occur. Absence seizures consist of brief spells of unconsciousness lasting for a few seconds, during which posture and balance are maintained. The electroencephalogram characteristically shows bisynchronous spike and wave discharges during

the seizures. Attacks are sometimes provoked by overbreathing or intermittent photic stimulation.

In partial seizures, the nature of the seizure depends upon the location of the damage in the brain. Symptoms may include hallucinations of smell, taste, sight, and hearing, and paroxysmal disorders of memory. Throughout an attack the patient is in a state of clouded awareness and afterwards may have no recollection of the event. A number of these symptoms are due to scarring and atrophy affecting the temporal lobe.

Research has shown that seizure can be produced in normal brain by various chemical and electrical stimulants. Sometimes seizures run in families. Other identified causes for seizures include scar tissue from brain disease or injury; brain infection, tumor, abscess, or hemorrhage; metabolic disturbances from kidney or liver disease. Nevertheless, the cause frequently is unknown when the disorder starts before age 25. Seizures that start after age 25 may be caused by slowly growing brain tumors. Medication controls or greatly reduces seizures for more than 75 percent of affected persons. The different forms of epilepsy can be controlled by the use of antiepileptic drugs (anticonvulsants). Surgical resection of focal lesions in the brain is appropriate in a strictly limited number of cases. The person must avoid lack of sleep or excess alcohol. Regular and adequate rest is important. The person has to wear a bracelet stating who should be contacted if a seizure occurs.

Exercise 5. Answer the following questions:
1. What is epilepsy characterized by?
2. What are the causes for epilepsy appearance?
3. What types of seizures are there?
4. What may be observed in the tonic phase?
5. What does the EEG usually show in epilepsy?
6. How can seizures be provoked?
7. What are the symptoms in partial seizures?
8. How can epilepsy be controlled?

Exercise 6. Say whether the following sentences are true or false:
1. Seizure is a predictable attack often including convulsions.
2. The seizure ends with a few minutes of deep, relaxed sleep.

3. The causes for seizures can include scar tissue from brain disease or injury; brain infection, tumor, abscess, or hemorrhage.
4. Medication hardly reduces seizures for more than 75 percent of affected persons. Regular and adequate rest is important.
5. Children, young people and adults with epilepsy should have an accessible point of contact with specialist services.
6. People affected with epilepsy shouldn't be given information about their seizure type(s) and epilepsy syndrome, and the likely prognosis.
7. Photic stimulation and hyperventilation should remain part of standard EEG assessment.
8. An EEG should be performed only to support a diagnosis of epilepsy in adults in whom the clinical history suggests that the seizure is unlikely to be epileptic in origin.

Exercise 7. Put the questions to the underlined words:
1. Attacks are sometimes provoked by overbreathing.
2. The patient may rouse in a state of confusion.
3. In tonic-clonic seizures the patient falls to the ground unconscious.
4. Absence seizures often subside spontaneously in adult life.
5. A simple partial seizure consists of convulsive movements that might spread to the thumb.
6. After the seizure the patient may have no recollection of the event.
7. Seizures are controllable with medication in about 70% of cases.
8. In those whose seizures do not respond to medication, surgery, neurostimulation or dietary changes may be considered.

Exercise 8. Use the verbs in brackets in the appropriate tense form:
1. The patient stated that the onset of epilepsy (to be preceded) by the brain damage during an accident.
2. This woman (to suffer from) encephalitis before epilepsy developed.
3. If epilepsy (to be treated) properly, it may (to subside) gradually.
4. The doctor (to prescribe) him some anticonvulsive drugs.
5. This patient (to experience) seizures since his childhood.
6. The EEG (to take) during the attack (to show) bisynchronous spike and wave discharges.
7. In future about 5–10% of all people (to have) an unprovoked seizure by the age of 80.
8. People with epilepsy either have restrictions placed on their ability to drive or not (to permit) to drive at all.

Exercise 9. Insert the prepositions (to; at; by; for; of; from, about):
1. Connections between autonomic and other brain functions occur _ the brainstem and hypothalamus. 2. The arterial blood supply, carrying oxygen and nutrients, is critical _ the functioning of the brain. 3. Despite its small size and weight, the brain uses 20 percent of the heart's output of blood and 20 percent of the oxygen consumed _ the body at rest. 4. The major function of nervous system is to collect information _ the external conditions in relation to the body's external state, and to analyze this information. 5. The peripheral nervous system is responsible _ the body functions, which are not under conscious control like the heartbeat or the digestive system. 6. The nervous system uses electrical impulses, which travel along the length _ the cells. 7. The cell processes information _ the sensory nerves and initiates an action within milliseconds.

Exercise 10. Give the definitions to the following terms:
– epilepsy
– seizure

Exercise 11. Speak about:
– types of epilepsy
– an epileptic seizure

Exercise 12. Read the case presentation and fill in the table below with appropriate information:

Case study: epilepsy and comorbidities

A 22-year-old male with a history of epilepsy diagnosed at age 12 presents to the epilepsy clinic. The patient's first seizure, which was a generalized tonic–clonic seizure, occurred at age 10. The patient was not started on antiepileptic medication (AED) at that time. The next event, which was also generalized, occurred at age 12. The patient was started on valproic acid. He remained seizure-free for four years and was tapered off valproic acid. At the age of 16, the patient was diagnosed with depression, for which he was started on sertraline. He remained on sertraline until the age of 20, when it was tapered off as his symptoms had gone into remission.

At age 22, the patient was working at a department store. When responding to questions, his speech was slow and slurred. Coworkers took him to the local emergency room. During the trip, he was disoriented and kept repeating himself. Laboratory tests included a drug screen, which was

negative. An MRI of the brain did not reveal any gross abnormalities. An EEG showed frontally predominant 3–4-Hz generalized sharp waves.

The patient was loaded with IV levetiracetam and started on a maintenance dose of 500 mg bid. A few hours later, the patient returned to his baseline and was discharged.

The patient had no further episodes for nearly five months. During the fifth month, the patient's family requested an urgent follow-up because they noted that the patient was becoming more moody, short-tempered, and argumentative. On evaluation by an epileptologist, the patient denied hearing things, seeing things, or having thoughts of wanting to hurt himself. On further inquiry, the patient reluctantly admitted that he started having spontaneous crying spells about two months ago as well as other days where he would have difficulty controlling his temper in disagreements and tense discussions. Both the patient and his family indicated there had not been any new stressors. The patient was started on a slow upward titration of lamotrigine. He was also referred to a psychiatrist who restarted the patient's sertraline. At the next four-week follow-up, the patient remained seizure-free, and his mood symptoms had declined. Levetiracetam was gradually decreased and taped off, and lamotrigine was increased to a therapeutic dose. At the subsequent eight-week follow-up, the patient remained seizure-free and denied any mood symptoms.

https://www.mdedge.com/neurology/epilepsyresourcecenter/article/101070/epilepsy-seizures/case-study-epilepsy-and

Patient	Present complaints	Past history	Examina-tion data	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is epilepsy characterized by?
2. What are the causes for epilepsy appearance?
3. What types of seizures are there?
4. What may be observed in the tonic phase?
5. What does the EEG usually show in epilepsy?
6. How can seizures be provoked?
7. What are the symptoms in partial seizures?
8. How can epilepsy be controlled?

Explain the medical terms: epilepsy, epileptic seizures.

SKIN DISEASES

Exercise 1. Active vocabulary:

acne, *n*	[ˈæknɪ]	a skin condition that occurs when your hair follicles become plugged with oil and dead skin cells
blister, *n*	[ˈblistə]	a painful skin condition where fluid fills a space between layers of skin
comedone, *n*	[ˈkɔmidəun]	a small flesh-colored acne papule
crack, *n*	[ˈkræk]	skin fissure that forms due to intense dryness thickened skin
crust, *n*	[ˈkrʌst]	a dried exudate on the skin surface, either serum, blood or pus or a combination
herpes, *n*	[ˈhə:piz]	the name of a family of viruses, which includes the cold sore virus, genital herpes, infectious mononucleosis, chicken pox and shingles
itch, *n*	[ˈitʃ]	a sensation that causes the desire or reflex to scratch
pustule, *n*	[ˈpʌstju:l]	a small bump on the skin that contain fluid or pus
scale, *n*	[ˈskeil]	an accumulation of loose cornified fragments of the epidermis
scratch, *n*	[ˈskrætʃ]	a mark or superficial injury produced by scraping with the nails on a rough surface

Exercise 2. Read the following words, paying attention to the rules of reading:

[ə]: blister, silver, ulcer, cancer
[æ]: acne, scratch, crack, transparent
[aɪ]: hives, psoriasis, virus, environtment
[ei]: scale, scabies, rosacea, irritation, formation, elevated
[ʌ]: pus, pustule, result, above, ulcer, flush

Exercise 3. Build adjectives from the following words using suffixes: ***-ory, -ic, -y, -ous, -ive, -al***

inflammation, irritation, allergy, cure, itch, blister, poison, environment, scar, pathogen, fat, water, bacteria, silver.

Exercise 4. Match the following terms to their definitions:

1. Scabies	a) a benign tumour derived from epithelial tissue and forming a rounded or lobulated mass
2. Eczema	b) a chronic skin disease common in adolescence, involving inflammation of the sebaceous glands and characterized by pustules on the face, neck, and upper trunk
3. Herpes	c) a black-tipped plug of fatty matter clogging a pore of the skin, especially the duct of a sebaceous gland
4. Acne	d) a skin inflammation with lesions that scale, crust, or ooze a serous fluid, often accompanied by intense itching or burning
5. Comedones (blackheads)	e) any of several inflammatory diseases of the skin, especially herpes simplex, characterized by the formation of small watery blisters
6. Papilloma	f) a contagious skin infection caused by the mite *Sarcoptesscabiei,* characterized by intense itching, inflammation, and the formation of vesicles and pustules
7. Psoriasis	g) a skin disease characterized by the formation of reddish spots and patches covered with silvery scales: tends to run in families
8. Rosacea	h) a chronic inflammatory disease causing the skin of the face to become abnormally flushed and sometimes pustular(adj.)

Exercise 5. Read the text:

SKIN DISEASES

Skin disease is a human disease of varying etiologies characterized by pathological changes in the skin, nails and hair and in the visible mucous membranes. They may be manifested by spots, vesicles filled with

transparent fluid or pus (pustules), nodules elevated above the skin, scratches, ulcers, and cracks. Many skin diseases are accompanied by itching, burning, redness, swelling and pain. Skin problems such as acnes, can affect your appearance. Our skin may also develop several kinds of cancers.

Dermatology is the branch of medicine that studies skin diseases. They may include skin infections and skin neoplasms such as birthmarks, warts, and tumors. Skin diseases may be caused by allergies, irritants, metabolic disorders and immune system problems.

The term “dermatitis” is used to describe changes in the upper layer of the skin that include redness, itching, blistering, crusting, scaling and sometimes pigmentation. The cause of dermatitis is unclear. One possibility is a dysfunctional interplay between the immune system and skin. Most cases of dermatitis develop in people with sensitive skin and can be prevented simply by avoiding the irritant.

One of the most common skin diseases is acne. It is characterized by comedones (blackheads and whiteheads) and pus-filled spots (pustules). It usually starts at puberty and varies in severity from a few spots on the face, back and chest to a more serious problem that may cause scarring. At present there is no cure for acne, although the available treatments can be very effective in prevention.

Herpes, or cold sores, is a viral disease caused by the herpes simplex virus. After the first infection, the virus goes to sleep (becomes dormant). Sometimes, it later reactivates, causing cold sores on or around the mouth, which typically heal within 2–3 weeks. Outbreaks may be influenced by stress, menstruation, sunburn, dehydration, or local skin trauma. More than 50 percent of the adult population in the United States has oral herpes.

Psoriasis is a long-term skin condition, characterized by dry, itchy, red patches of abnormal skin, covered with silvery scales. The patches usually appear on the knees, elbow and scalp, but they can appear anywhere on the body. Although the cause of psoriasis is unknown, it is considered to be a genetic disease which is triggered by environmental factors. There is no cure for psoriasis. However, various treatments, like steroid creams, ultraviolet light, and immune system suppressing medications can help

control the symptoms. Psoriasis is associated with an increased risk of psoriatic arthritis, lymphomas, cardiovascular disease, and depression.

Exercise 6. Answer the following questions:
1. What is a skin disease?
2. How may skin diseases be manifested?
3. What are many skin diseases accompanied by?
4. What diseases may affect our appearance?
5. What science studies skin diseases?
6. What are the main manifestations of dermatitis?
7. What is acne characterized by?
8. How quickly is herpes usually healed?
9. What is the cause of psoriasis?

Exercise 7. Read and insert the necessary prepositions:
Acne consists … spots and painful bumps on the skin. It's most noticeable … the face, but can also appear … the back, shoulders and buttocks. Severe acne can cause scarring. Acne usually starts … puberty, but it affects adults too. Most teenagers get some form of acne.

Hives (also known as urticaria), is a skin rash that can be triggered … a variety of things including allergic reactions, medicines and heat. The rash is caused when the body produces a substance called histamine, which is a protein used to fight … viruses and bacteria. The common symptoms include a raised, rough red areas … skin are known as wheals, which often fade after a few hours but can sometimes reappear elsewhere … the body.

Scabies is a contagious skin infestation, characterized … severe itchiness and a pimple-like rash. Scabies is most often spread during a relatively long period … direct skin contact … an infected person The itch is often worse … night. Scratching may cause an additional bacterial infection … the skin. Scabies is one … the three most common skin disorders … children.

Nappy rash is a very common skin condition that happens to around one third … nappy wearing babies. It's caused when the skin comes into contact …. urine and faeces (poo) in the nappy. Mild cases are usually painless but severe nappy rash can cause discomfort and distress to babies.

Exercise 8. Insert the missing words given bellow in bold type:

protect; pigment; epidermis; number; concentration

Cells that manufacture skin constitute about 95 percent of the _ . The remaining cells produce a black _, called melanin. Melanin provides the coloring of the skin and helps _ it from ultraviolet light. People of all races are born with the same _ of pigment cells. However, the rate at which melanin granules are formed in these cells and their degree of _ in the epidermis are inherited characteristics and major factors in skin color differences.

Exercise 9. Insert missing words from the table:

exposure, moisture, acid, scratching, oral, irritants, itching, relief

Self-care at home

1. Immediately after … to a known allergen or irritant wash with soap and cool water to remove most of the substance.
2. Weak … solutions (lemon juice, vinegar) can be used to counterpart the effects of dermatitis contracted by exposure to basic ….
3. If blistering develops, cold moist compresses applied for 30 minutes 3 times a day an offer ….
4. Chamomile lotion and cool colloidal oatmeal baths may relieve ….
5. … antihistamines can also relieve itching.
6. Avoid …, as this can cause secondary infections.
7. A barrier cream such as those containing zinc oxide may help to protect the skin and retain….

Exercise 10. Read about dermatitis and fill in the gaps with the words from the box:

eczema, skin, allergic, rash, irritant, discoloration, symptoms, itchy

1. Every type of dermatitis has different ….
2. Atopic dermatitis is an … disease believed to have a hereditary component.
3. In some languages, dermatitis and … are synonyms.
4. Dermatitis is characterized by … crusting patches.
5. Contact dermatitis is of two types: allergic and ….

6. Areas of temporary skin … may appear.
7. Contact dermatitis typically causes the skin to develop a pink or red ….
8. Different types of dermatitis are based on the factor that triggers the … reaction.

Exercise 11. Make up the sentences using the following words and word-combinations:
1. capillaries / blood vessels / dilate / or / constrict / and / according to / the body's temperature / in / the skin.
2. dead skin cells / the outermost surface / the epidermis / of / is made up / of .
3. beneath / makes up / the dermis / found / 90 percent / of / the epidermis / the bulk / of the skin.
4. to / gives / strength / elasticity / the dermis / and / the skin.
5. collagen / the / connective / is / tissue / fibers.
6. is not / as thick / as the dermis / the epidermis.
7. is divided / layer / and / the dermis / into / reticular / papillary / one.

Exercise 12. Open the brackets and put the verbs in the correct tense form:
1. The skin (to compose of) a layer of dense, irregular connective tissue called the dermis and (to cover) by a layer of epithelial tissue called the epidermis.
2. The dermis (to be) responsible for the most of the structural strength of the skin.
3. Nerve endings, hair follicles, smooth muscles, glands, and lymph channels (to extend) into the dermis.
4. The papillary layer (to derive) its name from projections called papillae that (to extend) toward the epidermis.
5. The papillary layer (to contain) a large number of blood vessels that (to supply) the overlying avascular epidermis with nutrients, (to remove) waste products, and (to aid) in regulating body temperature.
6. The epidermis (to separate) from the dermis by a basement membrane.
7. The epidermis (to contain) no blood vessels and (to derive) nourishment by diffusion from capillaries of the papillary layer.
8. Cells (to produce) in the deepest layer of the epidermis.
9. During the movement from the deeper epidermal layers to the surface, the cells (to undergo) keratinization, a process that (to involve) change in shape, structure, and chemical composition.

10. Skin color (to determine) by pigments in the skin and by blood circulating through the skin.

Exercise 13. Make the sentences negative and interrogative:

1. Malignant melanoma is a cancer of the pigment cells of the skin.
2. Treatment of scabies depends on the cause of the infection and severity.
3. Bacterial infections are often treated with antibiotics.
4. The exposure to ultraviolet radiation increases the risk of skin cancer.
5. Dermatitis symptoms vary with all different forms of the condition.
6. The disease may begin at any age.
7. Treatment involves some combination of surgery and chemotherapy.
8. Genetics is thought to be the cause.

Exercise 14. Read the case presentation and fill in the table below with appropriate information:

A young boy with an interesting skin condition: a case study

An Aboriginal and Torres Strait Islander boy, 5 years of age, presented to his general practitioner (GP) with a 5-week history of an itchy skin rash. It had commenced on his right scapula and moved in a linear distribution down his right arm. The initial area had become hypopigmented from scratching. The boy had a history of asthma, but no recent viral illness, interstate travel or other family members with skin issues. He had not previously been diagnosed with a dermatological condition. On examination, there were small linear papules that seemed to “track” down his right arm and scratch marks were apparent.

At initial review, topical steroids were prescribed to assist in relieving symptoms. Dermatology review was arranged but financial stressors did not allow this to be undertaken. Instead, telephone advice and photographic review of the condition was sought from a local dermatologist, who confirmed the diagnosis. The young boy was reviewed 6 weeks later in the GP clinic and the lesion had all but resolved, with hypopigmentation evident in areas of lesion resolution.

https://www.racgp.org.au/afp/2015/april/a-young-boy-with-an-interesting-skin-condition-a-c

Patient	Present complaints	Past history	Examination data	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is skin disease?
2. How are skin diseases manifested?
3. What symptoms are many skin diseases accompanied by?
4. What skin diseases affect person's appearance?
5. What science studies skin diseases?
6. What are the main manifestations of dermatitis?
7. What is acne characterized by?
8. What is the cause of psoriasis?

Explain the medical terms: skin disease, dermatitis, psoriasis.

EYE DISEASES

Exercise 1. Active vocabulary:

accommodation, *n*	[əˈkɒməˈdeiʃən]	the ability of the eye to change its focus from distant to near objects and vice versa
adjustment, *n*	[əˈdʒʌstmənt]	adaptation
biconcave, *adj*	[baiˈkɒnkeiv]	concave on both sides
biconvex, *adj*	[baiˈkɒnveks]	convex on both sides
blurry, *adj*	[blə:rɪ]	not clearly or distinctly visible
converge, *v*	[kənˈvɛ:dʒ]	tend to meet at a point
curvature, *n*	[ˈkɜ: vətʃə]	the degree to which a curve deviates from a straight line
elongation, *n*	[i:lɒŋˈgeiʃən]	the action or process of lengthening
refraction, *n*	[riˈfrækʃən]	the bending of light that takes place within the human eye
sebaceous, *adj*	[si ˈbeiʃəs]	pertaining to or secreting sebum

Exercise 2. Pronounce correctly:

Astigmatism [æˈstigmətizm]; cataract [ˈkætərəkt]; cylinder-shaped [ˈsilindəˈʃeipt]; glaucoma [glɔ:ˈkəmə]; spectrum [ˈspektrəm]; exposure [iksˈpəʊʒə]; sty [ˈstai]; retina [ˈretinə]; lens [ˈlenz]; iris [ˈairis]; lump [ˈlʌmp]; blurry [ˈblɛ:ri]; clouding [ˈklaudiŋ]; sebum [si:bəm]; daltonism [ˈdɔ:ltə nɪ zə m]; farsightedness [fɑ: ˈsaɪtɪdnəs]

Exercise 3. Find explanation on the right to the word on the left:

1. Astigmatism	a) abnormal alignment of one or both eyes
2. Hyperopia	b) the condition of nearsightedness
3. Myopia	c) abnormal condition in which vision for distant objects is better than for near objects
4. Glaucoma	d) red-green colorblindness
5. Sebum	e) a defect of the eye in which the curvature of the cornea or lens is uneven.
6. Daltonism	f) partial or total opacity of the crystalline lens of the eye

7. Cataract	g) a condition of elevated fluid pressure within the eyeball
8. Strabismus	h) the oily secretion of the sebaceous glands

Exercise 4. Read and memorize words and word combinations:
curvature – different curvatures of lenses, the eyeball's degree of curvature, curvature of the spine
blur – blurs, to blur, a blurry image, a gradual blurring of vision, a blurred vision, to blur vision
to converge – to converge completely, to converge to a point, to converge together
exposure – exposure to ultraviolet light, exposure to radiation, long-term exposure, to be exposed
advanced – advanced age, advanced case, advanced research, the signs of advanced disease

Exercise 5. Read the text:

EYE DISEASES

Disorders of vision affect various parts of the eye. Some disorders are the result of aging,genetic tendency, or both. Eye diseases may be classified as congenital and
acquired, infectious and non-infectious, acute and chronic, and unilateral and bilateral.

Such disorders include glaucoma (increased fluid pressure within the eye), cataract (clouding of the lens), and various retinal problems. New techniques and medications for detecting and treating glaucoma and cataract have made these two leading causes of blindness very treatable. Today's modern surgical procedures make the treatment of cataracts among the most successful of all operations. **Cataract** is a major cause of vision loss worldwide. Almost 20 million people are blind because of this condition. A cataract is a clouding of the normally clear lens of the eye. The clouding of the lens blocks the passage of light needed for sigh. Although a cataract often starts in only one eye, usually both become involved. Cataracts are accompanied by changes in the chemical composition of the lens, but the cause of these alterations is unknown. The signs of cataract are blurred vision, impaired vision at night or in very

bright light, and halos around lights. A certain amount of lens clouding occurs in 65% of patient over the age of 50 and 95% of patients over the age of 65. The most effective treatment for cataract is surgical removal.

Glaucoma is a group of diseases that can damage the eye's optic nerve and result in vision loss and blindness. However, the group has a single feature in common: progressive damage to the optic nerve due to increased pressure within the eyeball. The risk is much greater for people over 60. The symptoms of glaucoma are blurred vision, usually in one eye, halos appearing around lights, pain in the eye, and loss of peripheral vision. There are several different forms of glaucoma. In general the group of disease is divided into two ones, acute and chronic. Most of these involve the drainage system within the eye. There is no cure for glaucoma. Vision lost from the disease cannot be restored. However, there are treatments (medications and surgery) that may save remaining vision. That is why early diagnosis is important.

Two common disorders of the eye are the myopia and hyperopia. **Myopia** is inability to see distant objects clearly because the images are focused in front of the retina. This condition is due to elongation of the eyeball or it may be caused by insufficient adjustment of a lens during accommodation. Glasses with biconcave lenses are used to focus the image on the retina. **Hyperopia** is inability to see near objects clearly because the images received by the eye are focused behind the retina and blurred because the eyeball is too short or because the lens is too flat to permit nearby vision. This defect often happens as the lens loses elasticity with age. Glasses with biconvex lenses are used to focus the image on the retina.

Astigmatism is a type of faulty vision caused by irregular curvature of a lens or cornea. It results in a light refraction so that the rays fall on different areas of the retina, thereby producing a blurry image. Astigmatism is the inability to separate two closely placed points. The condition is corrected by using cylinder-shaped lenses.

Another visual defect is **color blindness** resulting from the inability of cones to react to certain colors of the spectrum. For example, a person may be color blind to red and green colors. In this case red and green cannot be distinguished because of the lack of cones sensitive to red and green. Color blindness is usually a sex-linked genetic trait carried by females and expressed in males.

A sty is a localized inflammation of a sebaceous gland of the eyelid. This common infection results from blocked glands within the eyelid. When the gland is blocked, the sebum produced by the gland occasionally backs up and extrudes through the wall of the gland, forming a lump which can be red, painful, and nodular. Frequently bacteria can infect the blocked gland causing increased inflammation, pain, and redness of the eye, and even redness of the surrounding eyelid and cheek tissue. The lump frequently goes away when the blockage of the gland opening is relieved. Furthermore, the infection goes away the pus is drained from the sty.

Strabismus is a condition that causes crossed eyes, a condition in which eyes do not converge together and a person sees two images instead of one. It is usually caused by paralysis of an eye muscle. Its treatment may include glasses, patches (any protective dressing), eye drops, vision therapy or surgery.

Exercise 6. Answer the following questions:

1. How can eye disorders be classified?
2. What are the common disorders of the eyes?
3. What is astigmatism usually caused by?
4. What is the main cause of color blindness?
5. What are the common symptoms of cataract?
6. What are the causes of cataract development?
7. What glasses can correct myopia and hyperopia?
8. What are the symptoms of a sty?
9. What is the treatment for strabismus?

Exercise 7. Match the terms to their definitions:

1. Eye	a) the cavity in the skull that contains the eye. It is formed from parts of the frontal, sphenoid, zygomatic, lacrimal, ethmoid, palatine and maxillary bones
2. Iris	b) the light-sensitive membrane forming the inner lining of the posterior wall of the eyeball composed largely of a specialized terminal expansion of the optic nerve
3. Orbit	c) the organ of sight, containing light-sensitive cells associated with nerve fibres, so that light entering the eye is converted to nervous impulses that reach the brain.

4. Cone	d) the body of the eye, which is roughly spherical, is bounded by the sclera, and lies in the orbit
5. Cornea	e) the transparent crystalline structure situated behind the pupil of the eye and enclosed in a thin transparent capsule. It helps to refract incoming light and focus it onto the retina
6. Lens	f) the convex transparent membrane that forms the anterior covering of the eyeball and is continuous with the sclera
7. Eyeball	g) one of the two types of light-sensitive cells in the retina of the eye. The human retina contains more than 6 million cones
8. Retina	h) the coloured muscular diaphragm that surrounds and controls the size of the pupil. It is the part of the eye that regulates the amount of light entering the eye

Exercise 8. Find synonyms of the following words or words combinations:

A	B
double vision	cataract
colour blindness	senility
myopia	long-sightedness
sty	short-sightedness
strabismus	hordeolum
hyperopia	daltonism
advanced age	crossed eyes
clouding of the lens	diplopia

Exercise 9. Insert the missing words given in the box:

sclera; eyeball; eye; layer; light; cornea; shape; choroids; middle

The eye is composed of three coats or tunics. The fibrous tunic is the outer ____ of the eye. It consists of the ____ and cornea. The sclera is the posterior four fifths of the ____. It is white connective tissue that maintains the ___ of the eye and provides a site for muscle attachment. The ____ is the anterior four fifths of the eye. It is transparent and retracts ____ that enters the eye. The vascular tunic of the eye is the ____ layer.

This layer contains most of the blood vessels of the ____. The vascular tunic consists of the ____, ciliary body, and iris.

Exercise 10. Choose the proper continuation on the right:

1. Eye diseases may be classified as …	a) the inability of cones to react to certain colours of the spectrum
2. Myopia is inability to see …	b) crossed eyes, a condition in which eyes do not converge together and a person sees two images instead of one
3. Hyperopia is inability to see …	c) to focus the image on the retina
4. Glasses with biconcave lenses are used ….	d) near objects clearly because the images received by the eye are focused behind the retina
5. Astigmatism is a type of faulty vision caused by ….	e) the intraocular pressure of the eyeball
6. Cataract is a …	f) congenital and acquired, infectious and non-infectious, acute and chronic, and unilateral and bilateral
7. Color blindness results from …	g) clouding of the lens
8. Glaucoma is an abnormal increase in …	h) irregular curvature of a lens or cornea
9. A sty is a	i) localized inflammation of a sebaceous gland of the eyelid
10. Strabismus is a condition that causes …	j) distant objects clearly because the images are focused in front of the retina

Exercise 11. Define if the following statements are true or false:

1. Astigmatism results from inability of cones to react to certain colors.
2. There is only one cause of cataract.
3. In myopia glasses with biconcave lenses are used.
4. Cataracts can develop in both eyes.
5. A sty is a localized inflammation of a sebaceous gland of the eyelid.
6. Color blindness is usually a sex-linked genetic trait carried by males and expressed in females.
7. It is very difficult and expensive to treat glaucoma.

8. Persons with strabismus see two images instead of one.
9. The symptoms of cataract include a gradual blurring of vision, halos around lights, and double vision.
10. Glasses with biconcave lenses are used to focus the image on the retina.

Exercise 12. Choose the proper preposition and complete the text:

- The primary mode (of\ with\ from) treatment for a sty is application (by\ at\ of) warm compresses. Incision and drainage is performed if resolution does not begin (in\ on\ to) the next 48 hours after warm compresses are started.
- As a part of self-care at home patients may cleanse the affected eyelid (from\ in\ with) water. Cleansing must be done gently and while eyes are closed to prevent eye injuries.
- Patients are highly advised not to lance the stye as it may result (in\ by\ at) a serious infection.
- Medical treatment can also be provided (by\ with\ in) a doctor and it is aimed (at\ by\ to) relieving symptoms. Antibiotic are normally given (to\ on\ in) patients with multiple sties. Antibiotic ointments can also be administered (on\ from\ in) sty treatment.
- Eye sty sufferers should avoid eye make-up, lotions and wearing contact lenses, since these can aggravate and spread the infection (sometimes (to/with/for) the cornea).

Exercise 13. Put questions to the underlined words:
1. Many people with diabetes notice <u>that their vision becomes blurry</u>.
2. Eyes receive light <u>from the image on the nervous cells of the retina.</u>
3. Lens is tightly attached to its place <u>by a ligament</u>.
4. Additional structures of the eye include <u>eyebrows, eye lashes, conjunctiva and the lacrimal apparatus</u>.
5. <u>Eyebrows and eyelashes</u> protect eyes from foreign matters.
6. Human eye differs <u>10 million</u> colors.
7. <u>The cones</u> enable one to see details and are responsible for colour vision.
8. The lump frequently goes away <u>when the blockage of the gland opening is relieved.</u>

Exercise 14. Open the brackets and use verbs in the correct tense form:

1. Color blindness, or color vision deficiency, (to be) the inability or decreased ability to see color, or perceive color differences, under normal lighting conditions.
2. Color blindness (affect) a significant percentage of the population.
3. Color blindness also (can to produce) by physical or chemical damage to the eye, the optic nerve, or parts of the brain.
4. Color blindness usually (to classify) as a mild disability.
5. Color vision deficiencies (can to classify) as acquired or inherited.
6. About 8 percent of males, but only 0.5 percent of females, (to be) color blind.
7. Causes of color blindness (to include) brain or retinal damage.
8. The different kinds of inherited color blindness (to result from) partial or complete loss of function of one or more of the different cone systems.

Exercise 15. Read the case presentation and fill in the table below with appropriate information:

The baby with the big eyes

Afreen, a 5 day old child, was brought to our hospital. Afreen's mother had noticed that Afreen would not open her eyes in bright light. Her parents also felt that both her eyes were bigger in size and had a whitish opacity in the black of her eye. There seemed to be no redness or excessive watering or discharge.

When the Eye Specialist at Advanced Eye Hospital, Navi Mumbai enquired about Afreen further, it was found that she was the fourth child of a consanguineous marriage. However, no other sibling had a similar complaint. Also Afreen's birth had been a normal one, being born at term without any significant injury or illness or eye drops being required.

When Afreen was examined, she did not seem to have any other abnormality from her head to toes. When Afreen's eyes were examined, it was indeed found that she had an enlargement of her eyeballs which was equal. Her cornea seemed enlarged in both vertical and horizontal diameters. She also had increased sensitivity to bright light where she would squeeze her eye lids (Photophobia). Her white of eye or sclera

appeared thinned out and blue. Her cornea had a haze because of which the back of her eye (retina) could not be examined.

Because of all these, a provisional diagnosis of congenital glaucoma was made.

A Glaucoma Specialist at Advanced Eye, Sanpada, performed Examination under anaesthesia followed by glaucoma surgery in Afreen's right eye. This was followed by the same surgery in her left eye one week later.

https://advancedeyehospital.com/case-studies-details/the-baby-with-the-big-eyes

Patient	Present complaints	Past history	Examin-ation data	Diag-nosis	Treat-ment

TASKS FOR SELF-CONTROL

Answer the following questions:

1. How can eye disorders be classified?
2. What are the common disorders of the eyes?
3. What is astigmatism usually caused by?
4. What is the main cause of color blindness?
5. What are the common symptoms of cataract?
6. What are the causes of cataract development?
7. What glasses can correct myopia and hyperopia?
8. What are the symptoms of a sty?
9. What is the treatment for strabismus?

Explain the medical terms: eye diseases, cataract, sty, glaucoma, color blindness, strabismus, astigmatism, myopia, hyperopia.

EAR DISEASES

Exercise 1. Active vocabulary:

benefit, *v*	[ˈbenɪfɪt]	receive an advantage
exposure, *n*	[ɪkˈspəʊʒə]	the state of having no protection from something harmful
heredity, *n*	[hɪˈredɪtɪ]	the passing on of physical or mental characteristics genetically from one generation to another
incus, *n*	[ˈɪŋkəs]	a small anvil-shaped bone in the middle ear, transmitting vibrations between the malleus and stapes
irritability, *n*	[ˌɪrɪtəˈbɪlɪtɪ]	the quality or state of being irritable
ossicle, *n*	[ˊɒsɪk(ə)l]	a very small bone, especially one of those in the middle ear
stapes, *n*	[ˌɪrɪtəˈbɪlɪtɪ]	a small stirrup-shaped bone in the middle ear, transmitting vibrations from the incus to the inner ear
tympanic membrane	[ˌtɪmˈpænɪk ˈmembreɪn]	the eardrum
temporary, *adj*	[ˈtemp(ə)rərɪ]	lasting for only a limited period of time; not permanent
wax, *n*	[wæks]	the secretion of the ceruminous glands in the skin of the outer ear canal

Exercise 2. Insert the missing letters:
Ea_; a_ricle; eardr_m; ossi_le; mall_us; in_us; sta_es; coc_lea; d_liver.

Exercise 3. Read and remember interesting facts about ears:
1. The smallest bones are the ossicles in the middle ear: the *incus*, the *malleus*, and the *stapes* (also called the anvil, hammer, and stirrup).
2. Your ear drum is less than 17.5 mm in diameter
3. Your ear never stops working, even when you're asleep. The ear continues to hear sounds, but your brain just ignores incoming sounds.

4. Your ear does more than just let you hear – it also gives you a sense of balance. Maybe you've noticed feeling dizzy if you've had an ear infection.
5. The three bones in your ear are the smallest bones in your body, and all three could fit together on a penny.
6. The inner ear is about the size of a pencil eraser, but it contains more than 20,000 hairs.
7. Your sense of hearing is dependent upon tiny hairs deep inside your ear. If you lose these hairs, you lose your hearing.
8. Not all living creatures hear with ears. Snakes use jawbones, fish respond to pressure changes, and male mosquitoes use antennae.
9. Your hearing can be damaged permanently even after a single incident of exposure to extremely loud noise (shotgun blast, explosion, etc.).
10. You do not need to clean wax out of your ears unless you have an abnormal condition. Ears push excess wax out as needed.

Exercise 4. Match the following words with their definitions:

1. Auricle	a) the bony and membranous labyrinth of the inner ear
2. Auditory ossicle	b) middle of the three ossicles in the middle ear
3. Eardrum	c) cellular membrane that separates the outer from the middle ear
4. Malleus	d) smallest of the three auditory ossicles
5. Incus	e) bone of the middle ear: includes the malleus, incus, and stapes
6. Stapes	f) largest of the three auditory ossicles
7. Labyrinth	g) part of the outer ear that protrudes from the side of the head

Exercise 5. Read and translate the text:

EAR DISEASES

A variety of disorders may affect your hearing or balance. The most common is hearing loss.

Hearing impairment may result from disease, injury, or developmental problems that affect the ear itself or any nervous pathways concerned with the sense of hearing. Heredity, toxins, exposure to loud noises, and the

aging process are possible causes for hearing loss. It may range from inability to hear certain frequencies of sound to a complete loss of hearing (deafness). People with extreme hearing loss that originates in the inner ear may benefit from a cochlear implant. This prosthesis stimulates the cochlear nerve and may allow the recipient to hear medium to loud sounds.

The most common disorders of the ear are perforated eardrum, occupational or age-related hearing loss, ear infections, otosclerosis, wax blockage, otitis media and others. **Otosclerosis** is an ear disorder in which spongy bone grows over the oval window and immobilizes the stapes, leading to progressive loss of hearing. Otosclerosis is the most frequent cause of middle ear hearing loss in young adults. It is more common in women than in men. Symptoms usually become apparent between the ages of 15 and 35. They are gradual hearing loss in one or both ears and noise in the ear. This disorder can be corrected surgically. During surgery the oval window is covered by a fat pad or a synthetic membrane, and the stapes is replaced by a small rod connected to the fat or membrane over the oval window at one end and to the incus at the other. Infections of the middle ear (otitis media) are common in young children. These infections usually result from the spread of infection from the mucous membrane of the pharynx through the auditory tube to the mucous lining of the middle ear.

Otitis media occurs in four basic forms: serous otitis media, otitis media with effusion, purulent otitis media, and secondary otitis media. The symptoms of otitis media, consisting of low-grade fever, feeling of fullness in the ear, and irritability, are often not easily recognized by the parent as signs of middle ear infection. The infection can also cause a temporary decrease or loss of hearing because fluid buildup has dampened the tympanic membrane or ossicles. The treatment includes a course of antibiotics to fight the infection, nasal decongestants or antihistamines. In some cases a surgical incision in the eardrum is necessary.

Otitis externa is inflammation of the external auditory canal. Infections in this region may be caused by a fungus or bacterium and are most common among those living in hot climates and among swimmers, so it is called “swimmer’s ear.” It often presents with ear pain, swelling of the ear canal, and occasionally decreased hearing Effective solutions for the ear canal include acidifying and drying agents, used either singly or in combination.

Acetic acid ear drops may be used as a preventative measure. Treatment of acute cases is typically with antibiotic drops such as ofloxacin or acetic acid. Steroid drops may be used in addition to antibiotics. Pain medications such as ibuprofen may be used for the pain.

Exercise 6. Answer the following questions:

1. What are the main disorders of the ear?
2. What are the causes of hearing loss?
3. What kind of disease is otitis media?
4. What are the basic forms of otitis media?
5. What symptoms is otitis media characterized by?
6. What does the treatment for otitis media include?
7. What is otitis externa caused by?
8. What can otitis externa be characterized by?

Exercise 7. Match the terms to their definitions:

1. Equilibrium	a) the two-carbon carboxylic acid, the characteristic component of vinegar; used as a solvent
2. Hearing	b) the capacity to hear
3. Cochlea	c) the tube that connects the middle ear with the nasopharynx and serves to equalize pressure between the outer and middle ear
4. Otitis	d) the smallest bones of the middle ear
5. Acetic acid	e) the sense of balance
6. Eustachian tube	f) the coiled portion of the inner ear that contains the receptors for hearing
7. Ossicles	g) lack or loss of all or a major part of the sense of hearing
8. Deafness	h) any inflammation of the ear

Exercise 8. Choose the terms from the text to match the following definitions:

1. _____ inflammation of the middle ear with accumulation of watery (serous) or mucoid fluid.
2. _____ surgical incision of the tympanic membrane; performed to drain the middle ear cavity or to insert a tube into the tympanic membrane for drainage.

3. _____ an antipyretic and analgesic, with potency similar to that of aspirin. .
4. _____ inflammation of the external auditory canal; swimmer's ear.
5. _____ a hole or break in the containing walls or membranes of an organ or structure of the body.
6. _____ any of a class of compounds that bind with a number of closely related specific receptors in the central nervous system to block the perception of pain or affect the emotional response to pain.

Exercise 9. Complete this description using the words and phrases below:

auricle	inner ear
ear canal	oval window
eardrum	cochlea
sound waves	hair cells
middle ear	auditory nerve

How the ear works

Sounds from the outside world are picked up by the outer ear, which is made up of the … (1) and the ear canal. As the sound waves enter the ear, the … (2) serves to increase the loudness of those pitches that make it easier to understand speech. At the same time the ear canal protects another important part of the ear: the … (3) – a flexible, circular membrane which vibrates when touched by … (4).

The sound vibrations continue their journey into the … (5), which contains three tiny bones called the ossicles, which are also known as the hammer, anvil and stirrup. These bones form the bridge from the eardrum into the … (6). They increase and amplify the sound vibrations even more, before safely transmitting them on to the inner ear via the … (7).

The inner ear, or … (8), resembles the circular shell of a snail, and houses a system of tubes which are filled with a watery fluid. As the sound waves pass through the oval window the fluid begins to move, setting tiny … (9) in motion. In turn, these hairs transform the vibrations into electrical impulses that travel along the … (10) to the brain itself. Exactly how the brain actually translates these nerve impulses remains a mystery.

Exercise 10. Read the text and insert the missing prepositions:

by, to(2), with, of, for(2), on

How Are Ear Infections Diagnosed?

If you or your child has an earache that is accompanied ___ a stuffy or runny nose and a sore throat and fever, it is likely that the ear pain is due ___ an ear infection.

Your doctor will examine the eardrum ___ an instrument called an otoscope for signs of infection. The doctor may also check for blockage or filling ___ the middle ear using a pneumatic otoscope, which blows a little air at the eardrum. This air should cause the eardrum to move a little back and forth. If fluid is present, the eardrum will not move as readily.

Another test ___ ear infections is tympanometry, which uses sound and air pressure to check for fluid in the middle ear. If needed, an audiologist will perform a hearing test ___ determine if there is hearing loss.

___ rare occasions, when the person is quite ill, a doctor may make an opening in the eardrum, draw out a sample of fluid from the middle ear to culture the sample in a lab. This more extreme measure is usually used only ___ serious infections.

Exercise 11. Put questions to the underlined words and words combinations:

1. An otoscope is a device to look into the ear canal to see the drum.
2. An audiologist examines a person's hearing in each ear, using sounds of varying volume and frequency.
3. Audiogram has just been compared with that of an individual with normal hearing.
4. ACT scanner uses X-rays and a computer to create images of the ears and surrounding structures.
5. Using radio waves in a magnetic field, a scanner creates high-resolution images of the ears and surrounding structures.
6. The ear changes sound into electrical signals, so the brain can interpret it.
7. Otosclerosis mainly affects the tiny stapes bone.
8. People with extreme hearing loss may benefit from a cochlear implant.

Exercise 12. Complete the text using one word in each gap:

Do you ever wish that your neighbours **(turned / will turn / had turned)** down their music? Perhaps you are trying to sleep and you wish that the people next-door **(do / were / will be)** not holding an all-night barbecue party in their garden. Or do you feel it is high **(time / place / site)** you moved to an uninhabited island? Don't worry – you are just another victim of noise pollution. Of course most people would prefer if cars **(make / made / will make)** no noise at all, neighbours **(was / were / are)** as quite as mice, and nobody **(drive / drove will have drive)** about the streets in cars with open windows and high-powered sound systems. You may even wish you **(stop / stopped / have stopped)** children from playing in the street, or planes from passing overhead. But in the end, if I **(was / am / will be)** you I **(would / will / will have)** just get used to it. Close the windows, buy some earplugs, laugh and turn up your own stereo. Just act **(as / though / that)** if the noise **(is / was / will be)** simply not there! Who knows, perhaps it will go away.

Exercise 13. Fill in the table to describe the term *Otitis externa*:

Definition	
Causes	
Symptoms	
Treatment	

Exercise 14. Read the case presentation and fill in the table below with appropriate information:

Swimmer's Ear

A 7-year-old patient came in to the office after being on vacation in Hawaii for a week with his family where he swam daily. Once he returned he went to his father's new house and swam in the hot tub, a tub that had not yet been cleaned out from the previous owners. He walked into the office with a very bright red and painful left ear. His axillary temperature in the office was around 100.4 degrees, he had slight discomfort with pressure on the left tragus and he was visibly disturbed by the earache. Within the canal of the left ear was a thick cream-colored discharge covering the majority of the canal (the right ear had only a very small amount of discharge in the canal, but no other symptoms). He did not have any significantly swollen lymph nodes, no pain with pressure applied to the mastoid process, or any other EENT type complaints.

With such a clear-cut case of otitis externa, or swimmer's ear, the treatment fell into place nicely.

During his first office visit, since his tympanic membrane had clearly not ruptured, the doctor applied 3–4 drops of garlic/mullein oil with St. John's Wort, and within five minutes he was asleep on the table. Aconite would have also been a positive addition to the ear oil, however it was momentarily unavailable. For the next 48 hours his treatment consisted of avoidance of sugar and foods he was sensitive to, increased rest, no swimming, an immune support combination that included Vitamins A, C, and E, zinc and echinacea, Ferr Phos 6x and onion ear muffs for pain. His parents brought him back into the office two days later so the doctor could remove the discharge from the ear. At that time, his axillary temperature was 98.4 and the erythema had resolved from around the left ear. His parents reported he had experienced some minor discomfort in his right ear, but that too resolved within another day or two of continued treatment.

https://ndnr.com/pain-medicine/ear-infection-case-studies/

Patient	Present complaints	Past history	Examin-ation data	Diag-nosis	Treat-ment

TASKS FOR SELF-CONTROL

Answer the following questions:
1. What are the main disorders of the ear?
2. What are the causes of hearing loss?
3. What kind of disease is otitis media?
4. What are the basic forms of otitis media?
5. What symptoms is otitis media characterized by?
6. What does the treatment for otitis media include?
7. What is *otitis externa* caused by?
8. What can *otitis externa* be characterized by?

Explain the medical terms: otitis, deafness

PACKAGE INSERTS

Exercise 1. Topic vocabulary:

approve, *v*	[əˈpruv]	consider right or good
clinical trial	[ˈklinikl ˈtraɪ əl]	an experiment or observations done in clinical research
dependence, *n*	[dɪˈpɛn dəns]	the state of relying on or being controlled by someone or something else
drug abuse	[drʌg əˈbjuːz]	drug abuse or substance abuse refers to the use of certain chemicals for the purpose of creating pleasurable effects on the brain
indications, *n*	[ˌɪndɪˈkeɪʃənz]	symptoms that suggest that certain medical treatment is necessary
package insert	[ˈpæk ɪdʒ ˈ insəːt]	a medical document which includes details and directions that health care providers need to prescribe a drug properly, including approved uses for the drug, contraindications, potential adverse reactions, available formulations and dosage, and how to administer the drug
precaution, *n*	[prɪˈkɔːʃən]	a measure taken in advance to prevent something dangerous, unpleasant, or inconvenient from happening
warning, *n*	[ˈwɔːnɪŋ]	something that makes you understand there is a possible danger or problem, especially one in the future

Exercise 2. Read the word combinations and explain them:

1. Approve: approve for use; approved medication; approved for treatment of neurosis.

2. Dependence: physical dependence; independence; alcohol dependence; insulin dependence.
3. Eliminate: eliminate side effects; eliminate waste products out of the body; eliminate vitamins.
4. Impairment: physical impairment; impairment of health; impairment of a body function.

Exercise 3. Explain the following word combinations:
licensed medicines; clinical pharmacology; absorb and eliminate; clinical trials; medication's effect on various populations; physical impairments and drug interactions; cause physical dependence; results of an overdose; storage information.

Exercise 4. Read the text and answer the questions below:

PACKAGE INSERTS

Package inserts or drug leaflets are leaflets containing specific information about medical conditions, doses, side effects packed with medicines to give the user information about the product. Package inserts are written by the manufacturing pharmaceutical company. All licensed medicines need to carry such a leaflet.

Package inserts follow a standard format for every medication and include the same types of information. The first thing listed is usually the brand name and generic name of the product. The other sections are as follows:

Clinical pharmacology tells how the medicine works in the body, how it is absorbed and eliminated, and what its effects are likely to be at various concentrations. It may also contain results of various clinical trials (studies) and/or explanations of the medication's effect on various populations (e.g. children, women, etc.).

Indications and usage is the section which tells about uses (indications) for which the drug has been approved (e.g. migraines, seizures, high blood pressure).

Contraindications are the situations in which the medication should not be used, for example in patients with other medical conditions such as kidney problems or allergies.

Warnings is the section which covers possible serious side effects that may occur.

Precautions explain how to use the medication safely including physical impairments and drug interactions.

Adverse reactions include all side effects observed in all studies of the drug (as opposed to just the dangerous side effects which are separately listed in "Warnings" section)

Drug abuse and dependence is the section which provides information regarding whether prolonged use of the medication can cause physical dependence (only included if applicable).

Overdosage is the section which gives the results of an overdose and provides recommended action in such cases.

Dosage and administration include recommended dosage(s); may list more than one for different conditions or different patients (e.g., lower dosages for children)

Physical properties are the physical characteristics of the medication including color, shape, markings, etc., and storage information (e.g., "Do not store above 95°")

Exercise 5. Answer the questions:
1. What is a package insert?
2. What are the main sections of an information leaflet?
3. What does the section Clinical Pharmacology contain?
4. What does the section Indications and Usage contain?
5. What does the section Contraindications list?
6. What does the section Warnings cover?
7. What does the section Precautions explain?
8. What does the section Overdosage give?

Exercise 6. Agree or disagree with the statements below:
1. Drug abuse and dependence tell how the medicine works in the body.
2. Physical properties are the physical characteristics of the medication.

3. Contraindications are the situations in which the medication should not be used.
4. Indications and usage is the section which tells about recommended dosage(s).
5. Overdosage is the section which gives the results of an overdose and provides recommended action in such cases.
6. Clinical pharmacology is the section which provides information regarding whether prolonged use of the medication can cause physical dependence.
7. Warnings is the section which covers possible serious side effects that may occur.
8. Adverse reactions include all side effects observed in all studies of the drug.

Exercise 7. Match the terms to their definitions:

1. Package insert	a) the section of a package insert which covers possible serious side effects
2. Contraindications	b) a leaflet containing specific information about medical conditions, doses, side effects packed with medicines to give the user information about the product
3. Warnings	c) the section of a package insert including the physical characteristics of the medication including color, shape, markings, etc., and storage information
4. Precautions	d) the section of a package insert including the situations in which the medication should not be used
5. Physical properties	e) the section of a package insert which explains how to use the medication safely including physical impairments and drug interactions

Exercise 8. Here are some sentences taken from different package inserts, read them translate and decide which sections (indications, contraindications, physical properties, side effects, etc.) they refer to:
1. Zaditen is an antiasthmatic drug with marked antianaphylactic properties and a specific antihistaminic effect.
2. Following oral administration, Fosiopril is absorbed slowly.

3. Daflon treats venous insufficiently and oedema of venous origin by reinforcing the walls of veins.
4. Atrovent is indicated as a bronchodilator for maintenance treatment of bronchospasm.
5. Eye drops may be used for the prevention of ocular infection after removal of a corneal or conjuctival foreign body.
6. Phenergan is indicated in many allergic disorders and anaphylactic reactions including hay fever, urticaria and sensitization reactions of various drugs.
7. Dosage should be adjusted according to blood pressure response.
8. If immediate action is required, the capsule could be chewed and held in mouth.

Exercise 9. Put questions to the underlined words:
1. Tablets Noroxin should be stored in a tightly closed container.
2. The expiration date is mentioned on the package.
3. Renal function should be closely monitored, as it may be further impaired by the use of antihypertensive drugs.
4. Prolonged use of antibiotics may give rise to overgrowth of nonsusceptible microorganisms and fungi.
5. Pantrisin ophthalmic solution and ointment are incompatible with other preparations.
6. Kesalamine produces an acute intolerance syndrome characterized by acute abdominal pain and bloody diarrhea.
7. Tachycardia and blood pressure generally subside after a few days.
8. Zocar may cause fatal harm when administered to a pregnant woman.

Exercise 10. Open the brackets using the verbs in the appropriate form, translate the sentences into Ukrainian:
1. Isocard (to contraindicate) in patients sensitive to the drug.
2. Hypersensitivity to atropine or its derivatives (to report).
3. Mesalanine is 5-amino-2-hydroxybensoic acid, and it (to classify) as an anti-inflammatory drug.
4. Benazepril hydrochloride (to be) soluble in water, in methanol.
5. Zocor is a cholesterol lowering agent that (to derive) synthetically from a fermentation product of Aspergillus terreus.
6. Cetax (to indicate) for the treatment of patient with genitourinary infections caused by susceptible strains of microorganisms.

7. Suppositories (to indicate) for the treatment of active ulcerative proctitis.
8. Weight gain occasionally (to report).

Exercise 11. Fill in the gaps with prepositions from the table below:

at; for(3); in; from; on; with

1. Package inserts follow a standard format … every medication.
2. Effects of the medicine can be different … different concentrations.
3. This section explains the medication's effect … various populations.
4. This drug has been approved … migraine.
5. Adverse reactions include all side effects observed … all studies of the drug.
6. … children lower dosage is recommended.
7. This ointment is incompatible … other preparations.
8. This drug is derived synthetically … Aspergillus terreus.

Exercise 12. Put the sentences into the correct order to explain the term *package insert*:

__A standard package insert includes a number of sections such as: clinical pharmacology, indications, contraindications, warnings, physical properties, side effects and others.
__Package inserts or drug leaflets are leaflets containing specific information about medical conditions, doses, side effects.
__Package inserts are written by the manufacturing pharmaceutical company.
__All licensed medicines need to carry such a leaflet.
__They are packed with medicines to give the user information about the product.

Exercise 13. Read the drug leaflet and answer the questions below:

THERAGRAN-M TABLETS

COMPOSITION
Each THERAGRAN-M tablet supplies: Vitamin A 10 000 i.u.; Vitamin D 400 i.u.; Vitamin B110 mg; Vitamin B210 mg; Vitamin B65 mg; Vitamin B125 mcg; Niacinamide 100 mg; Calcium Pantothenate 20 mg; Vitamin C 200 mg; Vitamin E 15 i.u.; Iodine 0,15 mg; Iron 12 mg; Copper 2 mg; Manganese 1 mg; Magnesium 65 mg; Zinc 1.5 mg.

PHARMACOLOGICAL CLASSIFICATION
Category A 22.1 Multivitamins and multivitamins with minerals.

INDICATIONS
THERAGRAN-M is indicated in mixed vitamin deficiencies. THERAGRAN-M supplies high potency dosages of vitamins required in chronic vitamin deficiency states, and is of clinical importance when high potency nutritional support is indicated in special medical situations.
THERAGRAN-M contains all the essential vitamins for an extended vitamin coverage of multiple deficiencies resulting from unbalanced diets, pregnancy, old age, infections. convalescence and adolescence.

WARNINGS
Not to be used by persons who are allergic to iodine.

DOSAGE AND DIRECTIONS FOR USE
Adult dosage is 1 tablet daily. Do not exceed the recommended dose unless prescribed by a doctor.

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENT
Treatment of overdosage should be symptomatic and supportive.

IDENTIFICATION
A maroon coloured, capsule shaped, sugar coated tablet with an odour of vanillin.

PRESENTATION
Bottles of 30 tablets.

STORAGE INSTRUCTIONS
Store at room temperature not exceeding 25°C.
Avoid excessive heat.

KEEP OUT OF REACH OF CHILDREN.
1. What kind of medical preparations is THERAGRAN-M?
2. What vitamins and minerals does it supply for the body?
3. In which cases is THERAGRAN-M indicated?
4. Who shouldn’t use THERAGRAN-M?
5. What is the recommended dose for adults?

6. How should overdosage of THERAGRAN-M be treated?
7. What does THERAGRAN-M look like?
8. What are the recommendations as to storage of the preparation?

TASKS FOR SELF-CONTROL

Answer the questions:
1. What is pharmacology?
2. What is a package insert?
3. What are the main sections of an information leaflet?
4. What do the sections Indications and Usage contain?
5. What does the section Contraindications list?
6. What does the section Precautions explain?
7. What information does the section Overdosage include?
8. Which part of a leaflet explains physical characteristics of a medicine?

Explain the term: package insert

CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR DRUGS

Exercise 1. Topic vocabulary:

analgesic *n.*	[æn(ə)lˈdʒɪ:zɪk]	a remedy that relieves pain
anticoagulant *n.*	[ˈæntɪkəuˈægjulənt]	a substance that slows or prevents the clotting of blood
digitalis glycosides *n.*	[ˌdɪdʒɪˈteɪlɪs ˈglaɪkəuˌsaɪd]	a drug prepared from the dried leaves of *Digitalis purpurea,* used as a cardiac stimulant.
hypnotic *n.*	[hɪpˈnɒtɪk]	an agent that causes sleep; a soporific
insomnia *n.*	[ɪnˈsɒmniə]	chronic inability to fall asleep or remain asleep for an adequate length of time
suppress *v.*	[səˈprɛs]	stop or arrest
unconsciousness *n.*	[enˈkɔn(t)ʃəsnəs]	temporarily lacking consciousness

Exercise 2. Study the following combining forms ad their meanings. Do you know any other words formed so?

Combining form	Definitions	Term
pharmac-	drug	pharmacology
chem-	drug	chemotherapy
tox-	poison	toxic toxicology
contra-	against	contraindication
cras-	disease	dyscrasia
derm-	skin	hypodermic
lingu	tongue	sublingual

Exercise 3. Form words with the help of negative prefixes explain their meanings.

Model: *consciousness – **un**consciousness*

un-: treated, experienced, human, hurt, bearable, believable;

in-: visible, different, curable, variable, voluntary, soluble;

mis-: understand, translate, pronounce, diagnose, read, count;
mal-: nutrition, formation, position, treatment, occlusion, absorption.

Exercise 4. Explain the following word combinations:
Temporary feeling of euphoria, excessive dose, addictive and habit-forming, loss of the appreciation of pain, prevent blood clotting, involuntary muscles, promote excretion of fluid, constrict muscle fibers,

Exercise 5. Read the text and answer the questions below:

CENTRAL NERVOUS SYSTEM DRUGS. CARDIOVASCULAR DRUGS

People in every civilization have used drugs of plant and animal origin to prevent and treat diseases. Many of these drugs are still in use today, but most drugs used are produced synthetically.

A drug is a synthetic, semisynthetic, or natural chemical substance used in the treatment, prevention, or diagnosis of disease, or for other medical reasons.

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**. Stimulants produce a temporary feeling of euphoria. Amphetamines can produce restlessness, insomnia and nervousness. Used in excessive doses, such side effects as convulsions can appear.

There are several types of central nervous system **depressants**. These include analgesics, hypnotics, sedatives and barbiturates, tranquilizers, anticonvulsants, alcohol and anesthetics.

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. A**nesthetics** 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 to the text:

1. What is a drug?
2. What types are CNS drugs subdivided into?
3. What drugs are used before surgery to stop appreciation of pain?
4. What is the action of anticonvulsants?
5. What are the main groups of cardiovascular drugs?
6. What drugs are used to increase heart rate and the force of contraction?

7. What drugs are used to low blood pressure?
8. What is the action of anticoagulants on the human body?

Exercise 7. Say whether the sentences are true or false according to the text:

1. The drugs that stimulate the nerves in the brain and spinal cord are called anti-convulsants.
2. Vasoconstrictors relax the muscles of vessels walls, thus increasing the size of blood vessels.
3. Central nervous system stimulants are used to slow down vital processes in case of shock and collapse.
4. Anticoagulants are used to prevent the formation of clots in veins and arteries.
5. Vasodilators lower blood pressure by excreting fluid out of the body.
6. We need diuretics to raise blood pressure, increase the force of heart action, and stop local bleeding.
7. Vasoconstrictors lower blood pressure by increasing the kidney's excretion of sodium and water.
8. Anesthetics produce temporary state of unconsciousness and muscle relaxation.

Exercise 8. Match the words and word-combinations with their definitions:

1. Anesthetics	a) mild purgative (promoting defecation)
2. Antacids	b) drugs producing the loss of sensation like lidocaine
3. Antibiotics	c) drugs relieving nausea and vomiting
4. Vasodilators	d) drugs used to prevent or abolish seizures
5. Anticonvulsant agents	e) drugs inhibiting the growth of bacteria
6. Antiemetics	f) drugs relieving constipation
7. Purgatives	g) drugs neutralizing acids in the stomach
8. Laxatives	h) relax the muscles of vessel walls

Exercise 9. Find synonyms to the text to the phrases given below:

Loss of the appreciation of pain, sleeplessness, to relieve convulsions, anxiety, to soothe and calm down, loss of consciousness, adverse effects,

illness, addictive, to increase blood pressure, to decrease the volume of blood, cardiac insufficiency, coagulation of blood, a thrombus, high doses.

Exercise 10. Insert the missing prepositions:

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. Most of these drugs are extracted … plant leaves.
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. Central nervous system stimulants are used to speed up vital processes ... cases of shock and collapse.

Exercise 11. Say what type of drugs it is:

1. _____ inhibit the growth of microorganisms.
2. _____ are used to prevent the formation of clots in veins and arteries.
3. _____ are used to raise blood pressure, increase the force of heart action, and stop local bleeding.
4. _____ strengthen the myocardium and slow the rate of contraction of the heart.
5. _____ produce substances, which are called antibodies that fight a particular disease.
6. _____ facilitate or increase bowel movements and are mostly used to treat constipation.
7. _____ despite antibiotics are produced synthetically.
8. Penicillin was the first _____ to be produced and it still assumes a position of major importance in this field.

Exercise 12. Put questions to the underlined words:

1. The excessive use of this drug may occasionally cause a rise in blood pressure.
2. The patient suffering from nausea and vomiting will be administered antiemetics.

3. Antiserum gave only temporary protection against the disease.
4. This antibiotic was obtained from naturally occurring microorganisms.
5. Most antibiotics nowadays are prepared synthetically.
6. The lobular pneumonia has successfully been treated with antibiotics.
7. Unlike vaccines, antiserums contain antibodies rather than substances that cause the body to produce antibodies.
8. Before the patient went to Africa he had been vaccinated against malaria.

Exercise 13. Open the brackets using the verbs in correct forms:
1. Antiserums usually (to give) only temporary protection.
2. Antihistamines (not to cure) the allergic reaction, but they (to relieve) its symptoms. (refers to the future)
3. The patient never (to suffer) so much from an acute pain before so he (to prescribe) potent drugs.
4. The doctor stated that insomnia (to cause) by stress at work.
5. If you take this drug regularly the formation of clots in veins and arteries (to prevent).
6. Heart rhythm (to control) by antiarrhythmics after a long treatment. (refers to the past)
7. Amphetamines already (to produce) restlessness and insomnia.
8. The loss of the appreciation of pain in this patient (to produce) by hypnotic drugs. (refers to the past)

Exercise 14. Read the case presentation and fill in the table below with appropriate information:
The patient was a 65-year-old woman who received an allo-HCST from an unrelated HLA-matched donor for a myeloproliferative neoplasm with JAK2 V617F and SRSF2 mutations. She received ruxolitinib, which was discontinued before allo-HSCT. She had a MAC regimen with fludarabine and melphalan. She was treated with CsA and MMF as GvHD prophylaxis. She developed skin, gut, and liver acute GvHD (grade III according Glucksberg classification) at day 7 posttransplantation. At day 9, she presented an encephalitis confirmed with an electroencephalogram. MRI showed a hyper-T2 focal lesion of the left hemisphere, and CSF analysis revealed lymphocytosis with 100% of cells from donor origin confirmed with molecular chimerism. CSF and blood analysis showed absence of bacterial, viral and fungal infection by direct examination, and culture and PCR. She was treated with methylprednisolone (2 mg/kg)

without response. Despite the treatment, the patient's neurological symptoms worsened, resulting in coma. Eventually, she developed pneumonia and multivisceral failures and deceased at day 14. The chronology of CNS alteration, the donor lymphocytosis in CSF, and the absence of toxic or infectious diagnosis suggested that the patient developed acute GVHD-related encephalitis.

https://journals.lww.com/md-journal/fulltext/2017/10200/case_report__central_nervous_system_involvement_of.70.aspx

Patient	Present complaints	Past history	Examin-ation data	Diagnosis	Treatment

TASKS FOR SELF-CONTROL

Answer the questions:

1. What is a drug?
2. What types are CNS drugs subdivided into?
3. What drugs are used before surgery to stop appreciation of pain?
4. What is the action of anticonvulsants?
5. What are the main groups of cardiovascular drugs?
6. What drugs are used to increase heart rate and the force of contraction?
7. What drugs are used to low blood pressure?
8. What is the action of anticoagulants on the human body?

Explain the medical terms: central nervous drugs, cardiovascular drugs, vasoconstrictors, vasodilators, analgesics, anticonvulsants, anticoagulants, sedatives

LIST OF LINKS TO THE E-SOURCES USED (RECOMMENDED FOR ADDITIONAL READING AND SELF-TRAINING)

1. **Diseases of the upper respiratory tract**
   https://www.nhs.uk/conditions/tonsillitis/
   https://www.mayoclinic.org/diseases-conditions/laryngitis/symptoms-causes/syc-20374262
   https://www.healthline.com/health/pharyngitis

2. **Diseases of the lower respiratory tract**
   https://www.nhs.uk/conditions/pneumonia/
   https://www.mayoclinic.org/diseases-conditions/bronchitis/symptoms-causes/syc-20355566
   https://my.clevelandclinic.org/health/diseases/3993-bronchitis
   https://www.meddean.luc.edu/lumen/meded/mech/cases/case9/case1qa.htm

3. **Pulmonary tuberculosis**
   https://www.who.int/news-room/fact-sheets/detail/tuberculosis
   https://www.nhs.uk/conditions/tuberculosis-tb/
   http://www.scielo.org.co/scielo.php?pid=S0120-99572014000200015&script=sci_arttext&tlng=en

4. **Hypertension**
   https://https://www.who.int/news-room/fact-sheets/detail/hypertension#:~:text=Overview,get%20your%20blood%20pressure%20checked.
   https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/symptoms-causes/syc-20373410
   medwinpublishers.com/VIJ/VIJ16000211.pdf

5. **Myocardial infarction**
   https://www.nhs.uk/conditions/heart-attack/
   https://my.clevelandclinic.org/health/diseases/16818-heart-attack-myocardial-infarction

https://www.hopkinsmedicine.org/health/conditions-and-diseases/heart-attack#:~:text=A%20heart%20attack%20(myocardial%20infarction,the%20heart%20muscle%20is%20blocked.
https://f1000research.com/articles/11-617

6. **Diseases of the stomach**
https://www.nhs.uk/conditions/gastritis/
https://my.clevelandclinic.org/health/diseases/10349-gastritis
https://www.mayoclinic.org/diseases-conditions/peptic-ulcer/symptoms-causes/syc-20354223#:~:text=Peptic%20ulcers%20are%20open%20sores,the%20inside%20of%20the%20stomach
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7971729/

7. **Cholecystitis**
https://www.nhs.uk/conditions/acute-cholecystitis/
https://www.hopkinsmedicine.org/health/conditions-and-diseases/cholecystitis#:~:text=Cholecystitis%20is%20a%20redness%20and,be%20admitted%20to%20a%20hospital.
https://www.webmd.com/digestive-disorders/what-is-chloecystitis
https://u.osu.edu/cholecystitiscasestudyautum2019/patient-case-presentation/

8. **Renal diseases**
https://www.medicalnewstoday.com/articles/312579#types
https://my.clevelandclinic.org/health/diseases/15456-kidney-infection-pyelonephritis
https://emedicine.medscape.com/article/437096-overview?form=fpf
https://www.remedypublications.com/open-access/primary-chronic-pyelonephritis-a-case-report-689.pdf

9. **Diabetes mellitus**
https://www.who.int/news-room/fact-sheets/detail/diabetes
https://my.clevelandclinic.org/health/diseases/7104-diabetes
https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444

10. **Goitre**
    https://www.nhs.uk/conditions/goitre/
    https://my.clevelandclinic.org/health/diseases/12625-goiter
    https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924860/

11. **AIDS (acquired immune deficiency syndrome)**
    https://www.who.int/news-room/fact-sheets/detail/hiv-aids
    https://www.mayoclinic.org/diseases-conditions/hiv-aids/symptoms-causes/syc-20373524
    https://www.nhs.uk/conditions/hiv-and-aids/
    https://www.healthline.com/health/hiv-aids#what-is-hiv

12. **Influenza**
    https://www.who.int/news-room/fact-sheets/detail/influenza-(seasonal)
    https://my.clevelandclinic.org/health/diseases/4335-influenza-flu
    https://www.chegg.com/homework-help/questions-and-answers/influenza-case-study-jp-29-year-old-female-presenting-emergency-department-dyspnea-myalgia-q44958916

13. **Tetanus**
    https://www.who.int/news-room/fact-sheets/detail/tetanus
    https://www.webmd.com/vaccines/tetanus-vaccine
    https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2709971/#:~:text=A%204%2Dyear%2Dold%20Caucasian,fluids%2C%20a%20pediatrician%20was%20consulted.

14. **Diphtheria**
    https://www.nhs.uk/conditions/tetanus/
    https://www.ncbi.nlm.nih.gov/books/NBK459217/
    https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4244344/

15. **Hepatitis**
    https://www.who.int/health-topics/hepatitis#tab=tab_1
    https://www.who.int/news-room/fact-sheets/detail/hepatitis-a
    https://www.who.int/news-room/fact-sheets/detail/hepatitis-b#:~:text=Chronic%20hepatitis%20B%20infection%20can,and%20improve%20long%20term%20survival.

https://www.who.int/news-room/fact-sheets/detail/hepatitis-c
https://www.who.int/news-room/fact-sheets/detail/hepatitis-d
https://www.who.int/news-room/fact-sheets/detail/hepatitis-e
https://medlineplus.gov/hepatitis.html
https://www.cdc.gov/hepatitis/abc/index.htm
https://www.mayoclinic.org/diseases-conditions/hepatitis-b/symptoms-causes/syc-20366802
https://www.cureus.com/articles/84231-a-case-of-hepatitis-e-in-metropolitan-new-york#!/
https://www.nhs.uk/conditions/cirrhosis/

16. **Childhood infectious diseases**
https://www.nhs.uk/conditions/chickenpox/
https://www.who.int/news-room/fact-sheets/detail/measles#:~:text=Measles%20is%20a%20highly%20contagious,being%20between%202000%20and%202021.
https://www.nhs.uk/conditions/mumps/
https://www.who.int/teams/health-product-policy-and-standards/standards-and-specifications/vaccine-standardization/mumps
https://www.who.int/health-topics/pertussis#tab=tab_1
https://www.ecdc.europa.eu/en/pertussis/facts

17. **Open wounds**
https://www.futurelearn.com/info/courses/basic-first-aid/0/steps/27028
http://howmed.net/forensic/incised-and-stab-wounds/
https://www.orthopaedics.com.sg/treatments/orthopaedic-surgeries/laceration-wound/
https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/skin-cuts-and-abrasions

18. **Closed wounds**
https://www.woundcarecenters.org/article/wound-basics/closed-wound-basics
https://www.medicalnewstoday.com/articles/324266#treatment
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5884265/

https://www.sciencedirect.com/science/article/pii/S2049080121008578

19. **Appendicitis**
https://www.healthline.com/health/appendicitis#treatment
https://www.ncbi.nlm.nih.gov/books/NBK493193/
https://emedicine.medscape.com/article/180234-overview

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https://medicalguidelines.msf.org/en/viewport/CG/english/shock-16689371.html
https://www.uptodate.com/contents/definition-classification-etiology-and-pathophysiology-of-shock-in-adults
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3987335/

21. **Benign tumors**
https://jamanetwork.com/journals/jamaoncology/fullarticle/2768634#:~:text=Benign%20tumors%20are%20those%20that,tumors%20are%20not%20usually%20problematic.
https://my.clevelandclinic.org/health/diseases/22121-benign-tumor
https://academic.oup.com/jscr/article/2021/11/rjab518/6445947

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https://www.who.int/news-room/fact-sheets/detail/cancer
https://www.mayoclinic.org/diseases-conditions/cancer/symptoms-causes/syc-20370588
https://my.clevelandclinic.org/health/diseases/12194-cancer
https://cancerconsultindia.com/LungCancerStage4

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https://www.webmd.com/mental-health/neurotic-behavior-overview
https://www.mayoclinic.org/diseases-conditions/anxiety/symptoms-causes/syc-20350961
https://journals.sagepub.com/doi/10.1177/000992287501400912?icid=int.sj-abstract.similar-articles.3&

24. **Stroke**
https://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/syc-20350113
https://www.emro.who.int/health-topics/stroke-cerebrovascular-accident/index.html
https://www.stroke.org/en/about-stroke
https://www.netce.com/casestudies.php?courseid=1977

25. **Epilepsy**
https://www.who.int/news-room/fact-sheets/detail/epilepsy
https://www.nhs.uk/conditions/epilepsy/
https://my.clevelandclinic.org/health/diseases/17636-epilepsy
https://www.mdedge.com/neurology/epilepsyresourcecenter/article/101070/epilepsy-seizures/case-study-epilepsy-and

26. **Skin diseases**
https://my.clevelandclinic.org/health/diseases/21573-skin-diseases
https://www.niams.nih.gov/health-topics/skin-diseases
https://medlineplus.gov/skinconditions.html
https://www.racgp.org.au/afp/2015/april/a-young-boy-with-an-interesting-skin-condition-a-c

27. **Eye diseases**
https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases
https://my.clevelandclinic.org/health/diseases/17130-eye-diseases
https://www.mayoclinic.org/diseases-conditions/nearsightedness/symptoms-causes/syc-20375556
https://www.mayoclinic.org/diseases-conditions/farsightedness/symptoms-causes/syc-20372495
https://advancedeyehospital.com/case-studies-details/the-baby-with-the-big-eyes

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https://www.healthdirect.gov.au/ear-diseases-and-disorders
https://medlineplus.gov/eardisorders.html
https://my.clevelandclinic.org/health/diseases/8613-ear-infection-otitis-media
https://www.who.int/news-room/fact-sheets/detail/deafness-and-

hearing-loss
https://ndnr.com/pain-medicine/ear-infection-case-studies/

29. **Package inserts**
https://www.birmingham.ac.uk/Documents/college-les/psych/ld/medicine-information/Introduction.pdf
https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/medicine-information-leaflets-for-consumers

30. **Central nervous system and cardiovascular drugs**
https://www.drugs.com/drug-class/central-nervous-system-agents.html
https://www.news-medical.net/health/Cardiovascular-Drugs.aspx#:~:text=Examples%20of%20agents%20in%20this%20class%20include%20chlorothiazide%2C%20amiloride%2C%20furosemide,failure%2C%20angina%20and%20heart%20attacks.
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Мета навчального посібника – сформувати у здобувачів вищої медичної освіти іншомовну комунікативну компетенцію у сфері фахової термінології. Посібник складається з 30 розділів, організованих за тематичним принципом. Кожний розділ містить текст, тематичний тлумачний словник, систему лексичних і граматичних вправ комунікативного спрямування, історію хвороби. При укладанні навчального посібника використано автентичні текстові матеріали. Посібник може використовуватися на курсах післядипломної освіти, а також для самостійного вдосконалення рівня англійської мови за професійним спрямуванням практикуючими лікарями.

Для здобувачів вищої освіти за спеціальністю «222 Медицина» другого року навчання відповідно до вимог програми з англійської мови за професійним спрямуванням.

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