Волинський національний університет
імені Лесі Українки
Факультет іноземної філології
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спеціальностей

ENGLISH FOR SPECIFIC PURPOSES
MEDICINE

АНГЛІЙСЬКА МОВА ДЛЯ СТУДЕНТІВ МЕДИЧНИХ СПЕЦІАЛЬНОСТЕЙ

Навчально-методичний посібник

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Навчально-методичний посібник “English for Specific Purposes. Medicine” («Англійська мова для студентів медичних спеціальностей») призначений для підготовки студентів 1-4 курсів спеціальності «Медицина», «Фізична терапія», укладений відповідно до вимог нормативної освітньої компоненти «Англійська мова за професійним спрямуванням». Основною метою даного посібника є формування професійної іншомовної комунікативної компетентності, засвоєння граматичних структур та збагачення словникового запасу, для якісної та ефективної підготовки студентів медичних спеціальностей до медичного ліцензійного іспиту «КРОК».

Посібник складається з чотирьох змістових модулів, добірки текстів для самостійної роботи, глосарію з медичною термінологією. Кожний модуль включає тексти фахового орієнтування та комплекс вправ лексико-граматичного характеру на закріплення фахової лексики. Навчально-методичний посібник включає граматичний довідник, в якому матеріал подається у зручному форматі, а саме: у вигляді таблиць та схем. Комплекс вправ до кожної граматичної теми містить лексику професійного спрямування, що сприяє її кращому засвоєнню. Оскільки структура розробки поєднує теоретичну та практичну частини, студенти мають можливість вивчати медичну термінологію в належному контексті систем та функцій людського організму як у здоровому стані, так і у стані захворювання.

Навчально-методичний посібник призначений для студентів-медиків, студентів-фізіотерапевтів, а також для практикуючих лікарів у реальній медичній практиці.

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CONTENTS

THE HIPPOCRATIC OATH

The Hippocratic Oath (Ορκος) is perhaps the most widely known of Greek medical texts. It requires a new physician to swear upon a number of healing gods that he will uphold a number of professional ethical standards. It also strongly binds the student to his teacher and the greater community of physicians with responsibilities similar to that of a family member. In fact, the creation of the Oath may have marked the early stages of medical training to those outside the first families of Hippocratic medicine, the Asclepiads of Kos, by requiring strict loyalty.

Over the centuries, it has been rewritten often in order to suit the values of different cultures influenced by Greek medicine. Contrary to popular belief, the Hippocratic Oath is not required by most modern medical schools, although some have adopted modern versions that suit many in the profession in the 21st century. It also does not explicitly contain the phrase, "First, do no harm," which is commonly attributed to it.

"I swear before my gods, my ancestors, my teachers, my fellow healers and apprentices, and by all the arts and knowledge I was privileged to learn, that I will stand by these words:

I will love those who taught me these arts as I love my parents and I will offer my skills to the young with the same generosity that they were given to me. And I will never ask them for gold, but demand that they stand by this covenant in return. I also swear that if I earn fame and wealth, I will share it with my masters and my students.

I will soothe the pain of anyone who needs my art, and if I don't know how, I will seek the counsel of my teachers.

I will offer those who suffer all my attention, my science and my love. Never will I betray them or risk their wellbeing to satisfy my vanity. I will not hurt my fellow or put a knife to his flesh if I don't know how, or give him an herb to soothe his pain, even if he begs for it in anguish, if it might take away his breath.

I will never harm my suffering friend, because life is sacred, from the tender fruit that he once was in his mother's womb to that first sigh he gave out between her legs when he opened his eyes to the world.

I will try to understand his sorrows but his secrets will never leave my ears. Under no circumstance I will use his body to advance my knowledge or my fame, unless in his last moment, he or his widow give me his corpse, so that his death may help me understand how to soothe another's pain.

I pray that the attention I give to those who put themselves in my hands be rewarded with happiness. And in honor of arion 17.3 winter 2010 the knowledge I've received from my teachers, I swear to care for anyone who suffers, prince or slave. If I ever break this oath, let my gods take away my knowledge of this art and my own health. Here speaks a citizen, a servant of people. May I be destroyed if I betray these words."

(Translated by Amelia Arenas)

UNIT 1. PROFESSIONAL EDUCATION

1. 1. MEDICAL EDUCATION

Speaking

1. Are you a student of the Medical College/University/Academy?
2. What department do you study at?
4. What kind of classes do you have?
5. What subjects do you study this year? Is your higher school curriculum hard?
6. Are you going to be an outstanding scientist in medicine?

Active Vocabulary

1. finish/leave school	закінчити школу
2. enter the university	вступити до університету
3. graduate from the university	закінчити університет
4. attend lessons	відвідувати заняття
5. miss lessons	пропускати заняття
6. curriculum	навчальний план, курс навчання
7. timetable	розклад
8. subjects	навчальні предмети
9. acquire practical skills	набувати практичних навичок
10. master knowledge	оволодіти знаннями
11. syllabus	навчальна програма
12. fellow students	однокурсники
13. training course	курс навчання
14. teaching staff	викладацький склад
15. postgraduate courses	аспірантура
16. research work	науково-дослідна робота
17. anatomy	анатомія
18. botany	ботаніка
19. histology	гістологія
20. education	освіта
21. function	функція
22. microbiology	мікробіологія
23. pharmacology	фармакологія
24. physiology	фізіологія

Exercise 1. Translate the words and word-combinations into English.

Стати лікарем, закінчити школу, вступити до медичного університету, навчальна установа, незалежне тестування, студент першого курсу, певна галузь медицини, практичні заняття та лекції, гістологія, відвідувати лекції, проводити експерименти, секційна кімната, базові (основні) навички, здобувати знання, практика, покращувати виконання, мати справу з пацієнтами.

Exercise 2. Make up the sentences using the words and word combinations below.

1. the Ukrainian Medical Academy /I / a first-year student / at present/ of / am.
2. a family doctor /I am going / to strengthen the health of the people / to be / and / to prevent different diseases.

3. practical classes / several / every day / medical students / or lectures / as / Anatomy, Histology, Chemistry, Physics, Biology, History of Medicine, Latin, English / have / in numerous theoretical and special subjects/ and others.

4. who really care for / every year / medicine / enter medical universities / and /many young people / become students.

5. go to / medical students / different laboratories where / carry out experiments and do practical work / they.

6. to be / if you should like / to work hard / qualified specialist / it is necessary / during the whole academic year.

Exercise 3. Read the texts about Ali and Bob.

A. Ali is a scientist. She comes from Cambridge in England but now she lives in Switzerland. She works three days a week at the Institute of Molecular Biology in Geneva. She speaks three languages: English, French, and German. She's married and has a daughter. She likes skiing in winter and going for walks in summer.

Bob is a doctor. He's English but now he lives in Australia in small town of Alice Springs. He isn't an ordinary doctor, he's a flying doctor. Every day, from 8 a.m. to 10 a.m. he speaks to people on his radio, then he flies to help them. He works 16 hours a day non-stop but he loves his job. He isn't married. He has no free time.

B. Complete the sentences about Ali and Bob.

1. She's a scientist. He _____a doctor.
2. Alison comes from England. Bob _____ _____ England, too.
3. She lives in a big city, but he ___ in a _____ town.
4. She _____ three days ____ ___. He _____ 16 hours a day.
5. He _____ to sick people on his radio. She _____ three languages.
6. She loves her job and he ____ _____ _____ , too.
7. She _____daughter. He _____ married.
8. She _____skiing and going ____walks in her free time. He never _____free time.

Exercise 4. Read and translate the following text paying attention to the highlighted words and word combinations. Put 10 questions to the text and be ready to answer them.

Text. I Study at the Medical College

At first let me introduce myself. My name is Olha Savchuk. I have **finished secondary school**. Now I am a student of the Medical College. I want to be a nurse. I will treat people and fight against different diseases.

My **fellow students** and I are second-year students. All of us **attend lectures** and **practical classes** regularly and never **miss** them. We do our home tasks at the **library** where we can use any textbook we need. The second-year **curriculum** includes many **subjects**. Anatomy is the most important subject this year. Our **timetable** includes four periods a day. During our practical studies we **carry out experiments** or tests in different laboratories. Today it is very important **to study computer science** and to do all operations with it.

Some of my fellow students are members of **scientific circles**. They spend much time on **research work** and get to know more about medicine and its problems.

All my spare time I spend with my friends. We **go in for sports**, discuss many questions, go to the cinema and arrange evening parties. The student’s life is interesting.

Exercise 5. Match the terms with their definitions.

1. rector	A. a detailed plan showing when events or activities will happen
2. dean	B. the subjects comprising a course of study in a school or college
3. senior lecturer	C. a student in the same school, university, college, etc. as you
4. internship	D. higher education after Bachelor's degree
5. faculty	E. instructor at University who has academic rank and is able to deliver lecturers and practical classes, take exams
6. lecturer	F. head of Medical Institution (Academy, University)
7. post-graduate education	G. head of faculty of University or Academy
8. curriculum	H. teaching and administrative staff at educational establishments
9. timetable	I. the period during which a person is an intern
10. fellow student	J. instructor at University who delivers lectures

Exercise 6. Fill in prepositions (of; with; in; from, up) where necessary.

I'm just finishing my first year _____ Medicine. What I like about this course is that you are involved _____ patients _____ the very beginning. Even our first year, we spend time _____ hospital. Much ___ the course is problem-based learning. We have two 2-hour sessions a week where we work _____ groups _____ eight _____ ten solving clinical problems. We decide together how to tackle the problem, look up books and online sources, make notes, and discuss case together. It is a great way _____ learning and getting to know the other students. _____ the past, medical students had lectures ____ the whole class taking notes_____ lectures _____ 9.00. to 5.00, but now it's mainly group work, although we do have some lectures and seminars, where we work _____ small groups _____ a tutor. I like all _____ it, even dissection, we get to cut _____ cadavers _____ the second month _____the course."

Exercise 7. Translate the following sentences into Ukrainian.

Мене звати Софія Гапчук. Я навчаюсь на першому курсі медичної академії. Наші заняття розпочинаються о 8.30. Щодня ми маємо дві лекції і одне практичне заняття. Ми вивчаємо анатомію, фізіологію, біологію, гістологію та інші предмети. На лекціях я уважно слухаю лектора і конспектую новий матеріал. Найскладніший предмет для мене – анатомія, але я багато над ним працюю. Я хочу мати глибокі знання з багатьох спеціальних предметів. Це дуже важливо для моєї майбутньої роботи. Після занять я йду додому та трохи відпочиваю. Увечері я готуюся до практичних занять і читаю матеріал, необхідний для майбутньої лекції.

Part B. MEDICAL EDUCATION IN UKRAINE

Exercise 8. Read and translate the following words:

Medicine, specialty, surgeon, pediatrician, therapeutist, prepare, last, Chemistry, Biology, Histology, subject, senior, acquire, treatment, disease, term, successfully, pass, qualified, outstanding, scientist, technician, Neurology, Urology, Pathologic Physiology, Ophthalmology.

Exercise 9. Read and translate the text:

UKRAINIAN MEDICAL STOMATOLOGICAL ACADEMY

I am a student of the Higher State Educational Establishment of Ukraine "Ukrainian Medical Stomatological Academy". Our Academy is situated in the center of our city. About 3.000 students study at the Academy. There are some faculties at our Academy: medical, stomatological, nursing, dental technician, grounding and post-graduate education. Medical faculty trains doctors of different specialties: family doctors, surgeons, pediatricians, therapeutists, gynaecologists and others. Stomatological faculty prepares stomatologists of different specialties. Doctors' training takes six years and stomatologists' training lasts five years.

During the first two years, the students study Physics, Chemistry, Anatomy, Biology, Histology, History of Medicine, Latin, foreign languages and other pre-clinical subjects. Senior students study Therapy, Surgery, Obstetrics, Gynaecology, Ophthalmology, Dentistry and others. To make good progress in these and other subjects, medical students must work hard on them.

During the lectures, we make notes of new and interesting facts and listen to the lecturer attentively. Sometimes we work in a laboratory. We know that we shall need deep knowledge in many subjects in our future work.

Our classes last till 4.50 p.m. A lesson lasts 90 minutes with a 5-minute break and 40-minute interval between lessons.

We have practical training at hospitals and polyclinics. Senior students acquire such practical skills, as to examine patients, to make a diagnosis, to prescribe proper treatment, and to fill in case histories.

The academic year starts in September and is over in June. It consists of two terms. Our teachers are very qualified. Several outstanding scientists work at our Academy. Their research works are well known in our country and abroad.

Exercise 10. Translate the following words and word-combinations into English:

Факультет; різні спеціальності; хірург; терапевт; стоматолог; підготовка лікарів; доклінічні предмети; готувати; тривати; практика; починати(ся); закінчувати(ся); навчальний рік; семестр; набувати; практичні навички; оглядати пацієнтів; встановлювати діагноз; призначати необхідне лікування; заповнювати історії хвороби; лікувати; наукова робота.

Exercise 11. Answer the following questions:

1. Where do you study? 2. What year student are you? 3. How many students study at your Academy? 4. What faculties are there at the Academy? 5. What specialists does the medical faculty train? 6. What specialists does the stomatological faculty prepare? 7. How long does the training last at your Academy? 8. What subjects do you study? 9. How often do you take your credit tests? 10. How many terms does the academic year have? 11. What practical skills do the senior students acquire?

Exercise 12. Insert the necessary words or word-combinations:

1. About 3.000 students _____ at the Academy. 2. There are some _____ at our Medical Institute, they are: medical, stomatological, nursing, dental technician, grounding and post-graduate education. 3. Medical faculty _____ doctors of different specialties, such as:_____. 4. Stomatological faculty_____ stomatologists. 5. Doctors' _____ takes six years. 6. Stomatologists' training _____ five years. 7. During the first two years medical students study _____. 8. Senior students study _____. 9. We have _____ at the hospitals, clinics, and polyclinics. 10. Senior students _ practical skills, as to examine patients, to make a diagnosis, and to prescribe proper treatment. 11. The academic year _____two terms. 12. Several _____ scientists work at our University.

Exercise 13. Translate the following sentences into English:

1. Медичний факультет готує терапевтів, хірургів, гінекологів, офтальмологів та інших фахівців. 2. Підготовка лікарів триває шість років. 3. Стоматологічний факультет готує стоматологів. 4. Підготовка стоматологів триває п'ять років. 5. Студенти-медики проходять практику в лікарнях і поліклініках нашого міста. 6. Студенти-старшокурсники навчаються оглядати хворих, ставити діагноз і призначати лікування. 7. Навчальний рік складається з двох семестрів. Перший починається у вересні, а другий – в лютому.

Exercise 14. Complete the questions with the necessary words:

1. Why did you _____ medicine as your specialty? 2. How many students ____ at the Academy? 3. What faculty do you _____ at? 4. What _____ does your friend study at? 5. What specialists does the stomatological faculty _____? 6. What specialists does the medical faculty _____? 7. How many years does the doctors' training _____?

Exercise 15. Read and retell the following text:

MEDICAL UNIVERSITY

Our Medical University is one of the oldest Ukrainian medical schools, and one of the most prominent and respectful in the country and abroad. At present University is a very prestigious establishment, which provides the best medical education.

The University has been a leader in developing medical science and medical education. Today, at the beginning of the third millennium, the University is a large medical scientific, research and educational center, noted for its extensive clinical and laboratory base and a brilliant teaching staff. This staff has unique pedagogical experience in training students and postgraduates from all over the world and is always happy to pass on their knowledge and experience.

The University has broad international contacts in the field of education, medical science, health care, and economic activities. The diplomas of our University are recognized in many countries all over the world.

Annually about 4,000 students from Ukraine and foreign countries study at the University. There are three major faculties at University: medical faculty, pediatric faculty, and bio-medical faculty.

The plan of annual admission of first-year students is regularly fulfilled. The University offers the preparatory courses for foreign students where they study Ukrainian, Biology, Chemistry, and Physics.

After graduation from the University over 1.000 students are annually trained at the internship, clinical studies and take the postgraduate course.

The University students, postgraduates and interns, working for their academic degrees, are trained and get specialization, improve their knowledge and skills, carry out their theses at 74 chairs, 22 scientific-research laboratories of Medical University. The University has large library with more than 40,000 volumes in Ukrainian and foreign languages.

The University has very close link with the practical medicine. The bases of University are 32 specialized clinics, hospitals and other preventive and medical institutions for more than 9,000 beds, where the future doctors get extensive probation under the supervision of the most experienced tutors.

Many prominent scientists of Ukraine are working at the Medical Faculty of the University. The glorious past of the University, deep pedagogical and scientific traditions, the importance of medical science and practice, and a wide range of qualified specialists, trained in the University, assure a leading role of our University.

Today Medical University is a complex of buildings designed for practical classes, lectures, laboratory studies, research work, and auxiliary services. All of the out-of-town students have been accommodated at the hostels. Students get medical assistance at a polyclinic staffed by doctors in all fields of medicine. Although studies are the most important in the students' life, attention is also paid to sport and entertainment. The University has sport complex, where students can attend sections of tennis, volleyball, etc.

Exercise 16. Read the following words and word-combinations:

Task; health; reason; personnel; important; Pharmaceutical Institute; pharmacist; last; curriculum; syllabus; approve; course; laboratory; practice; so-called; Chemistry; Anatomy; Biology; senior; Therapy; Surgery; Obstetrics; Gynaecology; acquire; sanitary epidemiological station; chemist's shop; diagnosis; intern; certain period; advanced specialist; engage; research; defend; thesis; candidate of science.

Exercise 17. Read the following text and translate it:

MEDICAL EDUCATION IN UKRAINE

The main task of medicine is the care about the people's health. For that reason the training of the medical personnel is very important. Medical Universities and Academies train future doctors, pharmacists, and stomatologists. Doctors' training takes six years but stomatologists' or pharmacists' training lasts five years. The curriculum and syllabuses for these Universities are approved by the Ministry of Public Health.

The main administrative unit of Medical University is the faculty. As a rule the Medical University or Academy may have one or more faculties (medical, stomatological, pharmaceutical and others), headed by the dean. He/She is responsible for administrative affairs of the faculty.

The training course consists of lectures, practical classes, practical work in laboratories and medical practice at different medical institutions. During the first two years the students of the Medical Universities have so-called pre-clinical training, which includes general subjects, as Physics, Chemistry, Anatomy, Biology and others. In the senior years they study clinical subjects, as Therapy, Surgery, Obstetrics, Gynecology and others.

The senior students acquire practical skills, working at hospitals, polyclinics, sanitary epidemiological stations, and chemist's shops. They acquire such practical skills, as to examine patients, to make a diagnosis, to prescribe proper treatment, and

to fill in case histories. A lot of students participate in scientific societies; their dream is to become research workers in future.

Having passed the state examinations, young doctors begin to work as interns during a certain period. After graduation from the University they work as different specialists at the medical institutions.

The most advanced specialists are engaged in research. They defend theses and obtain degrees of candidates of science (medicine).

Exercise 18. Complete the following sentences.

1. There are some faculties at our Medical Academy such as _____
2. Senior students study such subjects as _____
3. During the third and fourth years of training students have practice at _____.
4. They acquire such practical skills as _____
5. Teaching staff of Medical Academy is _____
6. The training course at Medical University contains _____
7. Student can take part in _____

Exercise 19. Put the words or word combinations in the correct order to make sentences. The first word in the sentence starts with a capital letter.

1. Training / takes / 6 years / of / doctors.
2. Anatomy / the most difficult / subject / at / is / Medical University.
3. During / the students / at / the third and fourth years / work / hospitals / obtain/ and / experience / practical.
4. Curriculum / are / syllabuses / and /approved / the Ministry of Public Health / by.
5. Annually / enter / 700 / our University / students / Ukraine / from / abroad / and.
6. She / took / at / postgraduate courses / the New York Medical School.
7. The lecturer / about / system / read a lecture / of / skeletal / the human body / yesterday.

Exercise 20. Translate the following words and word-combinations into English:

Піклування, турбота; готувати майбутніх лікарів; підготовка лікарів; тривати; включати; навчальна програма; бути затвердженим; набувати практичних навичок; заповнювати історію хвороби; державні іспити; протягом певного періоду; акушерство; хімія; хірургія; кандидат наук; інтерн; аптека.

Exercise 21. Complete the text with the words in the box:

syllabuses; prescribe; examine; training; case histories; is; senior; begin; consists of; learn; train.

The main task of medicine _____ the care about the people's health. Medical Universities ____ future doctors. Doctors' ____ takes six years. The curriculum and _____ for these Universities are approved by the Ministry of Public Health.

The training course _____ lectures, practical work in laboratories, and medical practice at different medical institutions. The medical students _____Physics, Chemistry, Anatomy, Biology, Therapy, Surgery, Obstetrics, Gynecology and others. The _____ students acquire such practical skills as to _____ patients, to make a diagnosis, to _____ proper treatment, and to fill in _____ . Having passed the state examinations, young doctors _____ to work as interns during a certain period.

Exercise. 22. Answer the following questions:

1. What is the main task of medicine? 2. What Universities train future doctors and pharmacists? 3. How long does the doctors' training take? 4. What does the training course consist of? 5. What kind of training do the students have during the first two years? 6. What subjects do they study during this period? 7. What subjects do the students study during the senior years? 8. Where do young specialists work after graduation? 9. What specialists are engaged in research?

Exercise. 23. Translate the following sentences into English:

1. Я – студент медичної академії. 2. Курс підготовки триває шість років. 3. Протягом цього часу ми повинні отримати знання з багатьох медичних предметів, включаючи анатомію, фізіологію, медичну біологію, патологічну фізіологію, терапію, хірургію, гінекологію та ін. 4. Працюючи в лікарнях, студенти-медики вчаться оглядати хворих, встановлювати діагноз, призначати лікування і заповнювати історії хвороби пацієнтів. 5. Після закінчення медичного вишу студенти навчаються в інтернатурі протягом року або в клінічній ординатурі протягом двох років. 6. Медичний університет готує висококваліфікованих фахівців різних галузей. 7. Клінічні кафедри медичного факультету розташовані в обласних й міських лікувальних закладах нашого міста. 8. Кращі студенти медичного університету отримують стипендію. 9. У медичному університеті велика увага приділяється науково-дослідній роботі студентів. 10. Студенти беруть участь у науково-практичних конференціях в Україні та поза межами України.

Exercise 24. Tell the group about medical education in Ukraine keeping the following consistency: ***The main task of medicine; Medical and Pharmaceutical Institutes; the course of training; preclinical and clinical training; practical skills; research work.***

Exercise 25. Compare medical education in Ukraine with medical education in other countries (the USA, the UK, etc.).

Exercise 26. Speak on your medical university (college) or department.

UNIT 2. AT THE DOCTOR'S. STUDY OF DISEASES. MEDICAL CAREERS HOSPITAL STAFF AND DEPARTMENTS.

PART 1. STUDY OF DISEASES. COMMON DISEASES, ILLNESSES AND CONDITIONS.

Speaking

1. Do you go for a regular check-up?
2. Do you usually make an appointment with your doctor?
3. When did you go for a physical examination last?
4. Describe you last visit to the doctor:

- What questions did the doctor ask?
- What symptoms were you developing?
- Did the nurse or the doctor take your vital signs: temperature, pulse, blood pressure, rate of breathing, etc.?
- Did the doctor refer you to any other medical specialist?
- Did the doctor give you prescriptions for any medications?
- Did the doctor recommend you to have any tests taken?
- Did the doctor's recommendations help you?

Active Vocabulary

complaints	скарги
symptoms	симптоми
vital signs	життєво-важливі ознаки
to have complications	мати ускладнення
side effects	побічні ефекти
to take medicine	приймати ліки
to write out a prescription for medication	виписати рецепт на ліки
registry (reception area)	реєстратура
physician	лікар
to make an appointment with a doctor	записатись на прийом до лікаря
fever	гарячка, висока температура
therapeutist	терапевт
internal medicine	терапія
diagnosis	діагноз
injection	ін'єкція
to prescribe	призначати, приписувати
inpatient	стаціонарний, стаціонарний хворий
outpatient	амбулаторний, амбулаторний хворий
a sore throat	біль у горлі
cough	кашель
to sneeze	чхати
to wheeze	хрипіти
to refer to a specialist	звернутися до спеціаліста
referral	направлення до спеціаліста

to admit to a hospital	госпіталізувати
to discharge from a hospital	виписати з лікарні
ward round	обхід палат
runny nose	нежить
clogged (blocked) nose	закладений ніс
wound	рана
injury	травма
suture	шов
rash	висип
dressing	перев'язка
swelling	набряк
first aid station	станція першої допомоги
emergency	відділення невідкладної допомоги
ambulance	швидка допомога

Special Terms:

Illness	**Disease**	**Condition**
Illness is a disease of the body and mind, or the condition of being ill	*Disease* is a particular kind of illness, especially one that spreads from one person to another or affects a particular part of your body, e.g. infectious *diseases*, heart *disease*	1. *Condition* is an illness or health problem that affects you permanently or for a very long time; *heart/lung/skin conditions* *suffer from condition* 2. how healthy or fit you are: *in a critical/stable/ satisfactory condition* *physical/mental condition*
Illness is more often used to refer to the length of time or state of being unwell	*Disease* can also be used to mean a lot of different *diseases.*Cigarette smoking can cause death and *disease.*	
Do not use *illness* to talk about less serios problems such as headaches or colds	**Common collocations:** to catch a *disease* = to contract a *disease;* a *disease* spreads, heart/liver/brain *disease*, a cure for a *disease.*	

Common collocations: through *illness* (because of an *illness*); to recover from an *illness*		
Both can be used in the following collocations: to have / to suffer from a disease /an illness the symptoms of a disease / an illness		

Exercise 1. Read the text and translate it.

STUDY OF DISEASES

Disease is an abnormal state in which part or all the body does not function as usual. There are marked variations in the extent of disease and in its effect on the person. Disease can have a number of causes, such as, disease-producing organisms (bacteria, viruses, parasite worms, or helminthes); malnutrition (lack of vitamins, minerals, proteins): physical and chemical agents (heat or cold, injuries, fractures; poisonous substances, certain detergents); birth defects and tumors.

There are also indirect or predisposing causes. The examples of them are age, sex, heredity, living conditions and habits, occupation, physical exposure, preexisting illness, psychogenic influences.

The modern approach to the study of disease emphasizes the close relationship of the pathologic and psychological aspects and the need to understand the fundamentals of each in treating any body disorder. This is the medical study called pathophysiology.

The study of the cause of any disease or the theory of its origin, is called etiology.

Disease can be acute, chronic or subacute. Acute is severe, but doesn't last long. Chronic lasts for a long time. Subacute is between them, it's neither severe, but lasts for a long period.

A communicable disease is one that can pass from one person to another. Epidemic is a disease of many people in a given region at the same time. Endemic is a disease of fewer people but it is characteristic of a particular region. Pandemic is a disease of a country, continent or the whole world.

In order to treat the patient every doctor must make a diagnosis. So he must know symptoms and signs of the disease. Also nurses do not diagnose, they play a very important role in observing closely for signs, encouraging patients to talk about themselves and their symptoms, and then reporting the doctor the information. Then the doctor prescribes the treatment.

In recent years, physicians, nurses, and other health care workers have taken on increasing the responsibilities for the prevention of diseases.

Exercise 2. Make up the plan of the text.

Exercise 3. Answer the questions.

1. What is disease?
2. What kinds of diseases do you know?
3. What causes diseases?
4. What does pathophysiology study?
5. What disease do we call communicable?
6. What is epidemic? Endemic? Pandemic?

7. What is the role of nurses in looking after patients?
8. What do medical workers do to prevent disease?

Exercise 4. A. Match the words with the correct definitions.

1. An allergy	a) is an infectious disease which is like a bad cold. When you have it you feel very weak and your muscles ache.
2. Anemia	b) is an infectious illness where you have a fever and small red spots on your face and body.
3. Asthma	c) is an illness that make your joints or muscles stiff and painful.
4. A chill	d) is a condition associated with many illnesses where you develop a high temperature.
5. Concussion	e) is a serious medical condition, sometimes fatal, in which your heart begins to beat irregularly or fails to pump your blood properly so that it causes a lot of pain.
6. A fever	f) is a condition of being very sensitive to thigs such as food, animals, medicine, dust, etc. which often results in rashes or difficulty in breathing.
7. Flu/influenza	g) is a sudden and severe illness which affects your brain and which can kill you and make you paralyzed in one side of your body.
8. Food poisoning	h) is a mild illness which can give you a slight fever, a headache and your body might shake.
9. A heart attack	i) is the feeling of wanting to be sick. The feeling that you think you are going to vomit.
10. Indigestion	j) is an injury to the brain caused by a blow to your head. It is not normally long-lasting.
11. Insomnia	k) is an illness when you suffer from deep depression, worry and tiredness. You often cry uncontrollably and find it almost impossible to do your normal work and activities.
12. Measles	l) is an unhealthy condition in which you have to too few red cells in your blood, which makes you look pale and feel tired.
13. Nausea	m) is a pain that you get in stomach when you find it difficult to digest your food.
14. A nervous breakdown	n) is a painful stomach disorder caused by eating food which has gone bad.
15. Rheumatism	o) is a long-lasting chest disease which at times makes breathing very difficult.
16. A stroke	p) is the condition of being constantly unable to sleep.

B. Match the words with the correct definitions.

1. Amnesia	a) is an illness similar to a cold, in which you sneeze a lot. People often get it in summer because they are allergic to pollen from various plants.
2. Anorexia	b) is losing a baby because it is born too early for it to live. It is usually because of illness, shock, etc.

3. Cancer	c) is a deep, unnatural sleep-like state, usually caused by illness or an injury, especially to the brain.
4. Catarrh	d) is a problem with reading caused by difficulty in seeing the difference between the shapes of letters. It is also known as “word-blindness”.
5. A cold	e) is a serious disease which may cause death, in which the cells in your body increase rapidly and uncontrollably, producing abnormal growths.
6. A coma	f) is a serious disease which affects your lungs and makes it difficult for you to breath.
7. Cramp	g) is a mild, very common illness which makes you sneeze a lot and gives you a sore throat or a cough.
8. Diabetes	h) is a painful swelling and soreness of part of the body, which is often red and hot to the touch.
9. Dyslexia	i) is the medical condition of not being able to remember anything . It is usually caused by damage to the brain after an accident, disease, etc.
10. Epilepsy	j) is a common disease in hot countries. It is spread by mosquitoes and causes attacks of fever and shivering.
11. Hay fever	k) is a strong pain caused by the sudden tightening of a muscle. You often get it during or after violent exercise.
12. An inflammation	l) is a serious illness common mostly in young women. They lose the desire to eat because they feel they are unattractive because they are too fat, even they are not.
13. Malaria	m) is an illness of the brain which causes you to suddenly lose consciousness or to have fits.
14. Malnutrition	n) is a disease in which there is too much sugar in the blood. If you suffer from it, you may have to inject insulin into your body every day. Without insulin, you may go into a coma and die.
15. A miscarriage	o) is an inflammation of the nose and throat which, like having a cold, makes your nose feel blocked up.
16. Pneumonia	p) is poor health caused by not eating enough food or by not eating enough of the right kinds of food.

C. Be ready to discuss signs and symptoms of the above-mentioned diseases, illnesses and conditions.

Exercise 5. Match the medical term and its translation.

1. scarlet fever	a) вітряна віспа
2. measles	b) свинка, инфекційний паротит
3. whooping cough	c) сифіліс
4. mumps	d) коклюш
5. syphilis	e) скарлатина
6. chickenpox	f) бронхіоліт, капілярний бронхіт
7. Legionnaires’ disease	g) правець
8. thrush	h) афтозний стоматит
9. gastroenteritis	i) “хвороба легіонерів”

10. bronchiolitis	j) краснуха
11. gingivostomatitis	k) гінгівостоматит
12. impetigo	l) запалення язика
13. rabies	m) кір
14. glossitis	n) сказ
15. tetanus	o) краснуха (немовлят)
16. polio	p) импетіго
17. German measles	q) поліомієліт
18. roseola	r) гастроентерит

Exercise 6. Put the diseases into the appropriate columns.

Children's diseases	Common infectious diseases

Exercise 7. Translate the following words and word-combinations into Ukrainian:

Dermatitis, cause, arthritis, harmful, tetanus, produce, influenza, manufacture, cold, outside, rabies, roseola, ffect, tapeworm, infestation, lice, fleas, ticks, wart, invade, vieuses, fungus, fungi, thrush, botulism, glossitis, gingivostomatitis, encephalitis, meningitis, gastroenteritis, poliomyelitis; peritonitis; bronchiolitis, bronchitis, dermatitis; arthritis trachoma, Legionnaires' Disease, tuberculosis; impetigo, multiply, powerful, beneficial, yeast, typhoid fever, trichinosis.

Exercise 8. Read and translate the following text:

INFECTIOUS DISEASES AND THEIR TYPES

The infectious diseases are caused by the following types of organisms: bacteria, viruses, fungi, protozoa, helminthes.

Bacteria are one-cell organisms that are visible only under a microscope. They appear as slender rods or groups of round cells and are able to live and multiply by subdivision. When infectious bacteria gain entry to the human body, they multiply and may produce powerful chemicals, called toxins. A few of the common groups of bacteria that cause disease are Staphylococci, Streptococci, Chlamydia, Haemophilus, Gonococci, and Rickettsia. Not all bacteria are harmful. Some bacteria that reside in the body are beneficial. A virus is a minute microorganism consisting of the one or more molecules of either DNA or RNA and covered by a protein coat.

Viruses grow and multiply themselves only when they have invaded living cells. The types of fungi are molds, yeasts, and mushrooms. Obviously, mushrooms are not

infectious, but certain yeasts and molds can be. Of the thousands that are harmless or even helpful, only about 100 cause disease.

Protozoa are single-cell organisms that may live within a person as a parasite. Often these organisms spend part of their life cycle outside of humans, living in food, soil, water, or insects. Many protozoa reside in the intestinal tract and are harmless, although some may cause disease.

The word "helminth" comes from Greek word helmins, meaning "worm". Helminths are among the larger parasites. If they enter the body, they take up residence in the intestinal tract, lungs, liver, skin, or even brain.

So, some infectious diseases are bacterial, some are viral, and still others have other causes. The most common infectious diseases that affect only one organ or body system are: glossitis, gingivostomatitis, oral thrush, salivary gland infections (diseases of the mouth); botulism, encephalitis, meningitis, poliomyelitis (infections of the central nervous system); trachoma (infections of the eyes), acute viral gastroenteritis, Whipple's Disease, peritonitis (infections of gastrointestinal tract); bronchiolitis, acute bronchitis, Legionnaires' Disease, tuberculosis (infections of the respiratory system); impetigo, dermatitis (infections of the skin); infectious arthritis (joint disorder).

Some diseases affect multiple systems of the body. They are called "generalized infections". They are: HIV infections and AIDS, influenza, typhoid fever, tetanus, rabies and others.

Common contagious diseases are common viral colds, measles, roseola, whooping cough, croup, chickenpox, mumps, diphtheria, and scarlet fever.

Parasitic infestations are malaria, tapeworm, trichinosis and others. Some infestations are caused by small insects that attach themselves to the skin and feed off the blood. They are known as insect infestations, for example: lice, fleas, and ticks.

Bacteria and viruses transmitted by sexual contact can cause various sexually transmitted diseases. Gonorrhea, chlamydial infection, and syphilis are bacterial in origin. Herpes and venereal warts are viral infections.

There are four subgroups of the infectious diseases. Intestinal infections compose the first subgroup. They are spread through the intestines and stools. Dysentery is an example. The infections of the respiratory tract compose the second group. They are spread during coughing and talking. The diseases of this subgroup are diphtheria, smallpox and others. The diseases of the third subgroup are spread through the skin and mucosa. Herpes and lichen (лишай) are the examples. Blood infections compose the fourth subgroup. These diseases are spread by insects. Encephalitis is an example.

Exercise 9. Put 8-10 questions on the text "Infectious Diseases and Their Types" and be ready to answer them.

Exercise 10. Insert the missing words:

1. The infectious diseases are caused by the following types of organisms: bacteria, viruses, _, protozoa, and _ . 2. Some infectious diseases are bacterial, some are viral, and still others have other _ . 3. The most common infectious diseases, that affects only one organ or body system are: glossitis, oral thrush, salivary gland infections, encephalitis, _ , poliomyelitis, trachoma, peritonitis, _ , tuberculosis, _ and others. 4. Some diseases _ multiple systems of the body. 5. They are: HIV infections and AIDS, _ , typhoid fever, tetanus, _ and others. 6. When infectious bacteria gain entry to the human body, they multiply and may produce _ chemicals, called toxins.

Exercise 11. Make up sentences using the following words:

1. and / contagious / are / whooping cough / common / diseases / viral colds / measles / chickenpox /mumps / diphtheria / scarlet fever.

2. parasitic / are / malaria / infestations / and / tapeworm / others / trichinosis

3. infestations / that / themselves / and / feed off / the blood / some / are / by / small / caused / insects / attach / to the skin.

4. bacteria / and / can / various / sexually / transmitted / cause / viruses / diseases.

Exercise 12. List the infectious diseases concerning the following groups:

a) organ or body system diseases;
b) generalized infections;
c) common contagious diseases;
d) parasitic infestations;
e) insect infestations;
f) sexually transmitted diseases.

Exercise 13. Speak on the infectious diseases.

Exercise 14. Make up a dialogue using the following sentences:

Have you had direct contact with a sick infected person?	Чи був у вас контакт з інфікованим хворим?
Have you been inoculated against tetanus?	Чи є у вас щеплення проти правця?
Avoid contact with an infected patient. You may get infected.	Уникайте контакту з інфікованим хворим. Ви можете інфікуватися.
This vaccine confers immunity against …	Ця вакцина викликає імунітет проти …
Revaccination must be done in 5 years.	Повторне щеплення (ревакцинація) повинна проводитись через 5 років.
The patient must be isolated.	Хворого потрібно ізолювати.
Decontaminate the patient's discharge.	Проведіть знезараження виділень хворого.
Treat the patient's hair with antiparasitic remedies.	Обробіть волосся хворого протипаразитарними засобами.
The epidemic center has been liquidated. The epidemic (pandemic) has abated.	Епідемічне вогнище знешкоджено. Епідемія стихла.

Exercise 15. Read and translate the text.

CHILDREN'S DISEASES

Most children with infectious disease have the same symptoms. The beginning of them is rather common: sore throat, fever, running nose, headache, cough and flushed face. To children infectious disease belong: chicken pox, measles, mumps, whooping cough, scarlet fever, and poliomyelitis. In children such disease are taking an easier course than in adults.

Children often fall ill with measles today. Measles is a very infectious disease. The disease passes from one child to another. The first symptoms are sneezing, coughing. The disease begins with signs of heavy cold, running nose and dry cough.

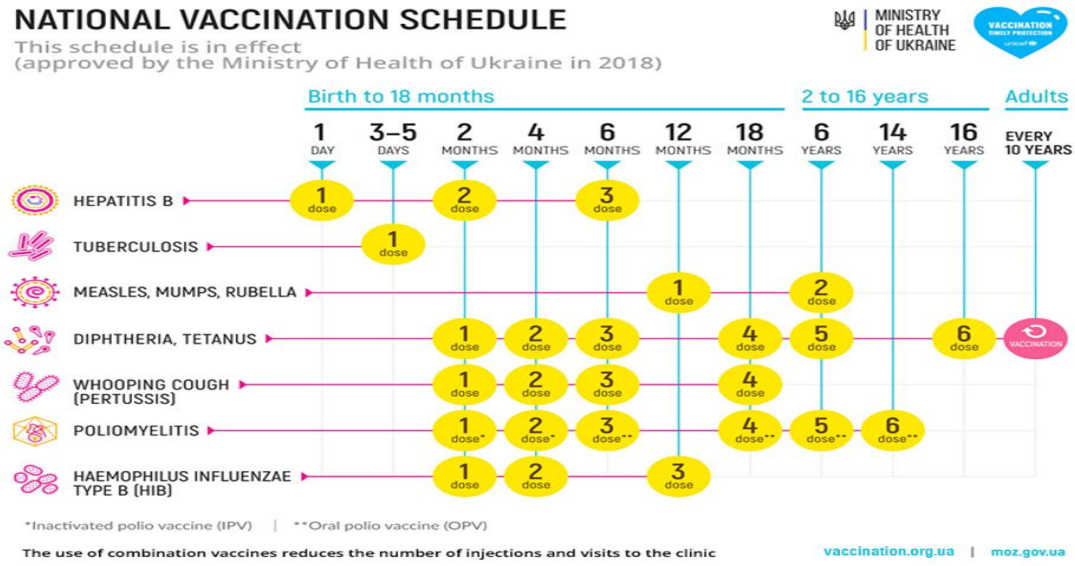
The temperature is high and the child dislikes the light. The rash appears on the third or the fourth day behind the ears and around the mouth and then covers the whole body.

The nurse must be careful to prevent the spread of infection. She must take care of hygiene of the children's mouth.

The most common infectious disease is flu (influenza).

An unvaccinated child is exposed to any infectious disease, so children must be vaccinated according to the recommended immunization schedule.

TYPES OF IMMUNIZATION



Exercise 16. Many illnesses also have informal names. Match the informal and formal names listed below. The first one has been done for you as an example.

INFORMAL	FORMAL
1. Chickenpox is the same	as allergic rhinitis
2. A cold is the same as	infectious parotitis
3. The flu is the same as	coryza
4. German measles is the same	as influenza
5. Hay fever is the same as	rubella
6. Measles is the same as	rubeola
7. Mumps is the same as	pertussis
8. Whooping cough is the same as	varicella

Exercise 17. Complete these six conversations between doctors and patients by writing in the name of the illness. Use the informal terms from the table above.

1. - What seems to be the trouble?

- My eyes and my nose are running all the time.

- I feel terrible.

- When did this begin?

- At the beginning of July.

- It's probably just ……..

2. - 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……

3. - How are you feeling?

- I've got this terrible cough.

- Mm-hmm.

- And after I cough I make a noise when I try to breathe.

- Sounds like ……

4. - How are you today?

- Oh, not very well. I've got a cough and a terrible cold.

- Do you have a fever?

- Umm, yes I do.

- It's probably a touch of …….

5. - What's the problem?

- It's my daughter. She's got a fever and this swelling.

- Where's the swelling?

- In her throat.

- It could be……

6. - So, what can I do for you?

- It's the twins. They're covered in these dreadful red spots.

- Are they experiencing any itching?

- Yes, they are.

- It may be……

Exercise 18. Translate the following sentences into English.

1. Першими симптомами скарлатини є біль у горлі, температура, головний біль і загальна кволість (нездужання). Через день чи два з'являються висипи на шкірі.
2. Привиті діти зазвичай не хворіють цими хворобами.
3. При кашлюку дитина страждає від нападів кашлю, іноді буває блювота. Кашлюк – одна із хвороб, для якої немає спеціальних ліків. Спокій – головні ліки від цього захворювння.
4. Період інфекційної хвороби, під час якого немає характерних клінічних проявів, називається породом інкубації. Перші симптоми з'являються на другій стадії – продромальній стадії хвороби. При захворюваннях з висипами на шкірі, поява висипу – це третя стадія.
5. При сккарлатині перод злущення, який є найбільш інфекційним, починається на 21-23 день.

PART 2. AT THE DOCTOR'S

Exercise 19. Read and translate the text. Pay attention to the active vocabulary. Make up sentences of your own with the highlighted words and word-combinations. Retell the text.

MY LAST VISIT TO THE DOCTOR

I was **feeling** a little **unwell** the other day, so I decided to visit my doctor before things get worse. I called her in the morning, and **made an appointment** for 9.30 a.m. When I arrived at her office, I had to **fill in** some **insurance form** and a questionnaire asking about my **current and past medical condition** along with the **symptoms** I was developing. After a few minutes, the receptionist called my name and took me back to one of their **examination rooms**. She **took** my **vital signs** including my **temperature and blood pressure** and then I waited until the doctor came in. After looking me over and asking a few questions, the doctor's **diagnosis** was that I had a **bacterial infection.** She **wrote me out a prescription** for some medication, which I was supposed to take two times a day. I asked her if there were any **side effects** to taking that medicine as I didn't want **to run the risk of having complications**. The doctor assured me that the drug she prescribed would help me feel better and not **make my condition worse**. After that I went back to the **reception area** and got my prescription.

Exercise 20. Decide whether these are signs or symptoms. Some may be both. Complete the following table. ***Signs are what the doctor finds during examination of a patient (raised pulse, fever, etc.). Symptoms are what a patient reports to the doctor.***

blocked nose, wheeze, itching, rash, stomachache, bruising, nausea, loss of appetite, runny nose, diarrhea, abdominal pain, coughing, breathlessness, dehydration, high blood pressure, constipation, vomiting, tight chest, a sore throat, burning on urination

Signs	***Symptoms***	***Both***

Exercise 21. Use the verbs below to complete the following collocations.

take	give	make	listen to	have

1._____ you an injection.
2. _____ you blood pressure.
3. _____ your chest.
4. _____ your temperature.
5. _____ your pulse.
6. _____ you a prescription.
7. _____ you a check-up.
8. _____ you a diagnosis.
9. _____ a blood sample.
10. _____ an appointment with a doctor.

Exercise 22. Read the text and translate it.

AT THE DOCTOR'S

If we catch cold, we feel a splitting headache, have a clogged nose, cough, run a high temperature, we must go to the polyclinic. First, we come to the registry. The register on duty asks the name, address, age and occupation. He writes out some slips (referrals), because several specialists will examine us. Some of them will listen to our heart and lungs, some will check our kidneys, liver, stomach, eyesight, hearing. The others will take our blood tests, our blood pressure and X-ray us.

Our district doctor sees his patients in the consulting room No. 4. A nurse gives us a thermometer to take our temperature. We must keep it under an armpit. Last time my temperature| was 37.9°C. The doctor asked what my trouble was. He offered to sit down in a chair and strip to the waist. He felt my pulse. It was faint and accelerated. Then I lay on the examination couch, and the doctor palpated my abdomen. He asked me from what diseases 1 suffered in my childhood. I suffered from scarlet fever (measles, chicken pox). At that moment I felt dizzy and was damp with sweat. The doctor filled in my card and diagnosed the case as the flu.

Then he wrote out a prescription for some medicine: pills, powder, drops, mixture. He also advised me to take a scalding foot bath, to put a hot water bottle on mv feet, to have a hot tea with raspberry jam. That would keep my fever down. The results of my X-ray examination and blood analysis were normal. I had the prescription made at the chemist's. I followed the prescribed treatment to avoid complications. Every day I took a tablespoonful of mixture 3 times a day and some pills. In two days I was better and in a week I recovered from my illness. I began to take a good care of myself. Now I go in for sports because sports make us strong, healthy and cheerful. Every day I do my morning exercises and have a cold rubdown to prevent myself from catching cold. There is a good proverb: *An apple a day keeps the doctor away.* That's why I eat a lot of fruit and vegetables.

In cause of a sudden and severe illness or an accident, calls are made to the first aid station. There doctors are on duty all day round. There are many ambulances there

equipped with everything necessary to render first aid. They have all kinds of medicine, stretchers, radio equipment. A patient is transported to the hospital without delay. There he is taken to the reception ward first. After careful questioning and examination the doctor fills in the patient's case history. Then a patient is given special clothes and is put to a ward for treatment. The doctors make their daily ward round there. They examine patients and prescribe different treatments. The nurses take the patients' temperature, give injections, apply cups and mustard plasters, give medicine.

When a patient is completely cured, he is discharged from the hospital. There are different departments in the hospital. They are: surgical department, therapy, the department of infectious diseases, etc.

The problem of health service has become one of the greatest concerns of the government. It's necessary to expose the disease before it has taken root, to nip the disease in the bud. Periodic medical examination at schools, plants, factories helps to do it. If a person is ill, he can take a sick-leave paid at the government's expense. Trade unions provide sanatoriums, health resorts, rest houses, summer camps. The aim of medical service is to achieve lower mortality rate.

Exercise 23. Make the plan of the text "At the Doctor's". Retell the text.

Exercise 25. Give one word for the following.

1. A person who makes patients' appointments with a doctor.
2. A piece of paper which specifies the medicine for curing your illness.
3. A place where patients come for the check-up.
4. A pre-arranged time for somebody to come.
5. A paid number of days given to you by your office when you are ill.
6. A sick person who is treated by a local physician.
7. A sort of medicine which can cure you of cold.
8. A pain in your head which you have felt for a long time.
9. Not long ago.
10. To make a sick person healthy again.
11. That which promises a lot.

Exercise 26. Answer the questions.

1. What should you do if a) you feel feverish; b) you are susceptible to drugs; c) your brother / sister is running high temperature; d) you have a very bad headache.
2. What should a doctor do to diagnose you? How can you arrange for a doctor's visit to you?
3. Which do you prefer: to go to the local out-patient clinic or to send for a doctor?
4. What should you do with those prescriptions that the doctor has written out for you?
5. How long is your sick-leave?
6. What can you cure your running nose with?

Exercise 27. Paraphrase the italicized phrases.

1. The cough *became very bad.*
2. I think she's *running a high temperature*.
3. She said she was *feeling sick.*
4. I *phoned up on local doctor's office* and asked them to arrange for my check up.

5. You should *do whatever the doctors tell you.*
6. Everybody said that you *looked very healthy.*
7. The doctor *told me I should take the medicine* so that I *would get better*.
8. They *checked her blood pressure*.

Exercise 28. Complete the sentences.

1. On Saturday I went out without my warm coat on and now … .
2. The doctor took the patient's temperature and said ….
3. I can hardly breathe because ….
4. When she came home she complained of a headache and her mother … .
5. It hurts me when I swallow ….
6. This medicine will work wonders if … .
7. If you follow all doctor's instructions you'll … .
8. She looks unwell because … .
9. She looks a picture of health … .
10. She is loosing weight ….

Exercise 29. Complete the sentences using a word from the box for each blank.

alleviate; antibiotics; blood; breakdown; care; consciousness; cure; discharged; flu; illness; infectious; migraine; perform; prescription; recovery; respond; runny; through; upset; wear

1. The Red Cross has urged the population to give _____whenever possible.
2. Dr Jones was the best surgeon able to _____such a difficult operation.
3. If you're on _____ you shouldn't drink any alcohol.
4. Take aspirin three times a day. It will help _____ the pain.
5. After being treated for over three weeks, he was _____ from hospital yesterday.
6. Doctors in developing countries often don't have enough supplies to treat severe _____.
7. The patient hasn't regained _____ yet, so we'll have to wait and see what happens next.
8. Everyone in the family has gone down with the _____.
9. The injury was pretty bad, but the doctors expect him to make a full _____.
10. Many patients don't _____ to such an aggressive treatment.
11. The disease was highly _____, so they put everyone into quarantine.
12. When the painkillers start to _____ off, you'll feel soreness back.
13. This is the second nervous _____ she's had this year.
14. Dad got an _____ stomach because he probably ate some spoilt food.
15. Up to now, research hasn't found a _____ for the disease.
16. I got the _____ from my doctor, so I went to the next pharmacy to get the pills.
17. She's only got a _____nose and a sore throat, otherwise she's OK.
18. Her situation was so critical that she had to spend a few days in intensive _____.

19. She suffers from _____, especially when the weather changes a lot.

20. Although the patient is still in critical condition the doctors expect him to pull _____.

Exercise 30. Match the parts of the table to get correct information on the main methods of examination:

			How to use this method		**When to use this method**
1	**Inspection**	A	During this kind of examination, the examiner places one hand on the patient and then taps a finger on that hand, with the index finger[1] of the other hand	1	Vibrations can help the physician to determine if various organs (heart, liver, etc.) are enlarged or not, as well as to diagnose fluid in the abdominal and chest cavities[2] or make one suspect the presence of pneumonia
2	**Palpation**	B	During this kind of examination, the physician looks at different parts of the patient's body	2	This technique can diagnose such conditions as heart failure[3], accumulation of fluid, asthma, bronchitis, pneumonia, collapsed lungs, etc.
3	**Percussion**	C	During this kind of examination, the physician listens to the patient's heart, lungs and blood vessels	3	The physician can feel the heart beat and diagnose enlargement, find the tenderness[4] of an active ulcer, or diagnose the presence of edema[5] or excess fluid
4	**Auscultation**	D	During this kind of examination, the physician presses his fingers or hands to the surface of the patient's body	4	A characteristic growth on the eyelids[6] could point to a high cholesterol level that is a risk factor for coronary artery disease. A bluish discoloration of the tongue and nail beds could point to a low oxygen level in the blood, while pallor[7] or a pale appearance could indicate a low level of hemoglobin

Exercise 31. Fill in the missing words to get information on the diseases. Choose from the following:

temperatures; heart; blood; back; taking; chest; lasts; discomfort; exertion; relieve; pain

Angina pectoris is the medical term used to describe the temporary chest ___ that occurs when the ___ is not getting enough blood. When the heart does not get enough ___, it can no longer function at its full capacity. When physical ___, strong emotions, extreme ___, or eating increase the demand on the heart, a person with angina feels temporary ___, pressure, fullness, or squeezing in the center of the ___ or in the neck, shoulder, jaw, upper arm, or upper ___. You can ___ the discomfort by removing the stressor and/or ___ sublingual (under the tongue) nitroglycerin. The discomfort of angina ___ a few seconds or minutes.

flu; lung; disease; admitted; breathing; infection; blood; ill; cold; cause

Pneumonia is a ___ infection that can make you cough, sometimes with mucus or even ___, run a fever, and have a hard time ___. For most people, pneumonia can be treated at home. It often clears up in 2 to 3 weeks. But older adults, babies, and people with other diseases can become very ___. They may need to be ___ to hospital. Bacteria or viruses usually ___ pneumonia. You may get the disease after having a ___ or the ___. These illnesses make it hard for your lungs to fight ___, so it is easier to get pneumonia. Having a long-term, or chronic ___ like asthma, heart disease, cancer, or diabetes also makes you more likely to get pneumonia.

headache; tonsil; complains; tender; complication; abscess; pain; swallowing

Quinsy, or peritonsillar abscess (PTA), is a recognized ___ of tonsillitis and consists of a collection of pus beside the ___. Symptoms start appearing two to eight days before the formation of an ___. The patient ___ of a sore throat and pain on ___. As the abscess develops, the condition is worsened by fever, malaise, ___ and changes in the voice. Neck pain associated with ___, swollen lymph nodes, ear ___ and halitosis are also common.

causes; stomach; abdomen; complication; drugs; doctor; pain; blood; irritate; advice; improve

Stomach ulcers, also known as gastric ulcers, are open sores that develop on the lining of the ___. The most common symptom of a stomach ulcer is a burning or pain in the centre of the ___. You should always visit your ___ if you suspect you have a stomach ulcer. Seek urgent medical ___ if you experience any of the following symptoms: vomiting ___, passing black stools, a sudden, sharp ___ in your stomach that gets steadily worse and does not ___. These could be a sign of a ___, such as internal bleeding. There are two main ___ of stomach ulcers: Helicobacter pylori (H. pylori) bacteria, which can ___ the stomach or upper intestine lining, causing an ulcer to form, and non-steroidal anti-inflammatory ___ (NSAIDs), such as ibuprofen or aspirin, which can have a similar effect.

Exercise 32. Read the dialogue and act it out with your fellow student.

- Good afternoon, doctor!
- Good afternoon. Sit down, please. What's troubling you? Where is the pain?
- I am quite unwell. I feel giddy. My nose is running. I have a splitting headache, a sore throat and a cough.
- What is your temperature?
-1 was running a very high temperature yesterday. But today I haven't taken it.
- Take the thermometer, please, and put it under your armpit. What infectious diseases have you suffered from?
- I've had measles, mumps, chicken pox and pneumonia.
- Well, now give me the thermometer... 38.5. It's rather high. Let me feel your pulse... Now strip to the waist, please. I'll listen to your heart and lungs. Please, take a deep breath. Breathe deeply... Now hold your breath... Now cough... That will do. Do you feel a little pain in your heart?
- A little bit.

You have cardiac murmur. Do you do morning exercises?

- No, I don't.
- Well, you should, and have a cold rubdown every morning. That will keep catching colds. Then eat lots of fruit. Drink hot tea with lemon or raspberry jam. 1 al, you to put a hot water bottle under your feet and try a scalding foot bath. Apply mustard plasters on your back. Here is a prescription for medicine. You'll have it made at the chemist's.
- Thank you ever so much, doctor. Good-bye.

2.1.3. INJURIES. FIRST AID. FIRST AID KIT.

Read and learn the following words and word-combinations.

aid	допомога
care	турбота
victim	жертва, потерпілий
accident	нещасний випадок
emergency	надзвичайна ситуація, критичне становище
bleeding	кровотеча
poison	отрута
breathing	дихання
injury	травма, пошкодження
available	доступний
reassure	заспокоювати, запевняти
relieve	заспокоювати, полегшувати
urgent	невідкладний, терміновий
prevent	запобігати
swelling	набряк
life-threatening	небезпечний для життя

Exercise 33. Read and translate the text.

FIRST AID

Everybody must know how to give first aid. First aid is immediate care rendered to a victim of an accident, sudden illness or other medical emergency.

Proper first aid can save a victim's life, especially if the victim is bleeding heavily, has stopped breathing or has been poisoned.

First aid also can prevent the development of additional medical problems that might result from injury or illness.

The person that gives first aid must have the best knowledge of it. He must be calm and act without panic.

Whenever possible, wash your hands thoroughly with soap and water before providing first aid. Use hand sanitizer only if soap and water are not available. This will help keep you from passing bacteria on to the person you are assisting.

Treatment should be continued until professional medical help is available. First aid also involves reassuring the victim, relieving the pain, and moving the victim, if necessary, to a hospital or a clinic.

Remember: "SOS" means "Save Our Souls".

The general steps to take in any situations. Requiring first aid include the following:

1) call a local emergency medical service or a doctor;
2) provide urgent care (for life-threatening emergencies);
3) examine the victim for injuries;
4) treat the victim for shock.

Exercise 34. Find English equivalents in the text.

Надавати першу допомогу, врятуйте наші душі, могло бути результатом пошкодження, бути повністю обізнаним, негайна медична допомога (екстрена), доступний, небезпечний для життя, полегшення/зменшення болю, заспокоєння потерпілого, транспортування потерпілого, додаткові проблеми, діяти без паніки, надати невідкладну допомогу, врятувати життя людини.

Exercise 35. Answer the following questions.

1. What is first aid?
2. What are the most common conditions requiring first aid?
3. Can everybody render first aid?
4. What actions does first aid involve?
5. If a person has a nose-bleeding, what must you do?
6. What does "SOS" mean?

Exercise 36. Read and translate the text. Memorize the main steps (ABC) of first aid.

ABCs of First Aid

If someone is unconscious or unresponsive, the basic principle of first aid that you need to know is **ABC:** airway, breathing, and circulation.

Airway: If someone's not breathing, the first thing you need to do is clear their airway.

Breathing: If you have cleared a person's airway but they're still not breathing, provide rescue breathing.

Circulation: As you are doing rescue breathing, perform chest compressions to keep the person's blood circulating. If the person is breathing but is not responsive, check their pulse. If their heart has stopped, provide chest compressions.

A simpler version of the ABCs is:

Awake? If the person is not awake, try to wake them. If they don't wake up, make sure someone is calling 911 and move on to the next step.

Breathing? If a person is not awake and not breathing, start rescue breathing and chest compressions. Then, move to the next step.

Continue care: When you call for help, follow instructions from 911 or continue treatment until an ambulance arrives.

Some first aid courses also include **D** and **E:**

D can stand for: **Disability assessment**, deadly bleeding, or automated external defibrillator (AED). An AED is a device that shocks the heart to make it start beating again.

E can stand for: **Examination** (checking the person for signs of injury, bleeding, allergies, or other problems once you know they're breathing and their heart is beating).

List of conditions requiring first aid

asphyxiation	ядуха, асфіксія
bee sting	бджолиний укус
bleeding	кровотеча
blister	пухир
bruise	забій, тунець
black eye	синець під оком
burn	опік
cuts	порізи
dislocation	вивих
drowning	утоплення
fainting	зомління
fracture	перелом
frostbite	обмороження
hemorrhage	крововилив, кровотеча
hyperthermia	перегрівання
hypothermia	переохолодження
nosebleed	носова кровотеча
poison	отрута
rabies	сказ
shock	шок
snakebite	зміїний укус
stroke	параліч, інсульт
sunburn	сонячний опік

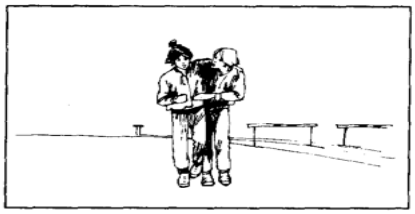
unconsciousness	непритомність

Exercise 37. Look at the drawings below and write under each one what is wrong with the person. The following words should help you.

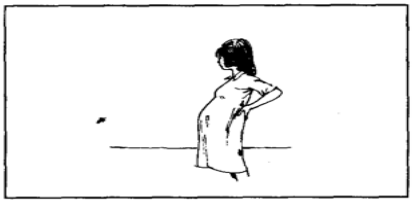
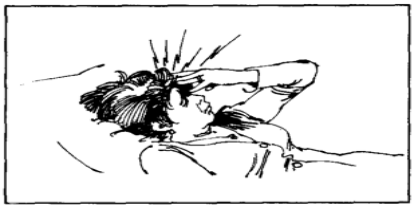
a bad cough	a temperature	hard of hearing
a black eye	blind	high blood pressure
a migraine	break one's leg	pregnant
a nose-bleed	burn oneself	sea-sick
a rash	catch a cold	sprain one's ankle
a sore throat	crippled	to be stung
a stomach ache	faint	



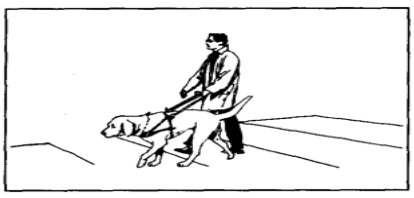
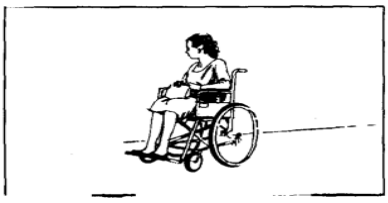
1. She's_____ 2. He's_____ 3. He's_____



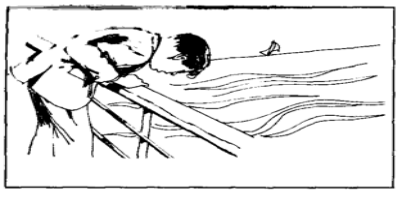
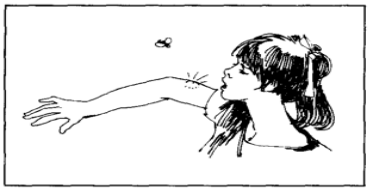
4. She's_____ 5. He's _____ 6. She's _____

7. He's _____ 8. She's _____ 9. She's_____


10. He's _____ 11. She's _____ 12. He'_____


13. He's _____ 14. She's _____ 15. She's _____



16. He's _____ 17. She's _____ 18. He's _____


19. She's _____ 20. He's _____

Exercise 38. Look at the drawing below and write the correct numbers 1-10 next to the following words.

a blister ____	***a bump _____***	***a mole_____***	***varicose vein_____***
a boil _____	***a corn _____***	***pimples _____***	
a bruise_____	***a cut _____***	***a wart _____***	

Exercise 39. Translate the sentences into Ukrainian.

1. There was blood all over the place.
2. Do you bleed easily?
3. The operation only left a small scar.
4. The bruise will disappear in a few days.
5. Are you in pain?
6. Look where the cat scratched me.
7. His injuries are all fairly minor.
8. This wound was caused by flying glass.
9. My ankle is very swollen.
10. I have got a horrible blister on my foot.

11. I've sprained my wrist.
12. Be careful or that wasp will sting you.

Exercise 40. Complete the following sentences with the words below.

injured	***injury***	***wound***	***wounded***

1. It's quite a deep _____. You'll probably need stiches. I'll take you to the hospital.
2. Venus Williams was unable to finish her match because of a shoulder _____.
3. My granddads was _____ in the war. He got shot in the leg.
4. There was a train crash in London this morning. Several people are seriously _____.

Exercise 41. Which of these words go with *injury* or *wound?*

slight	*knife*	*bullet*	*deep*	*internal*	*back*	*stab*	*sports*

INJURY	**WOUND**

Exercis 42. Complete the following dialogues with the phrases below.

a) burnt myself
b) cut myself
c) scratched myself
d) injured myself

1. - You've got blood on your face.
   - I know. I've just _____ shaving.
2. – What have you done to your hand?
   - I _____ taking something out of the oven last night. I don't think it' too serious.
3. - Have you ever been horse-riding?
   - Yes, once, but I fell off and _____ quite badly. I've never done it since.
4. – What's the matter?
   - I've just _____myself on that rose bush.

Exercise 43. Read the list of situations and emergencies below? Then decide how you would treat the casualties. Write the correct numbers (1-12) next to the words below.

animal bite (not serious)____	*feeling faint _____*
bruising ___	*headache, migraine___*
burns _____	*a heart attack _____*
choking ____	*a nose-bleed _____*

cramp _____	*poisoning _____*
drowning _____	*a stroke _____*

1. Reassure the casualty and let him or her rest in a half-sitting position with head and shoulders supported and knees bent. Put a cushion under them. To help get oxygen into the brain, loosen any tight clothing around the throat, chest and waist. Send for an ambulance and while you wait, check the pulse rate every five or ten minutes and pass this information on to the ambulancemen.
2. If food has gone out the wrong way or a child has got something caught in his or her throat and coughing does not bring it up, slap him or her sharply on the back up to four times, between the shoulder blades.
3. All you can do is to try to minimize the effect of damage to the brain by keeping the patient breathing. Loosen clothing and support him or her in a half-sitting position with the head to one side, so that any saliva can drain away. Arrange for urgent removal to hospital. Do not give anything to eat or drink.
4. Do not waste time trying to clear water from the casualty's lungs but act at once. Do not even wait to get the casualty out of the water – only his or her head need to be clear of it for you to begin artificial respiration. And after the first inflations continue on dry land. If you successful and breathing starts again, place the casualty in the recovery position (in which the body is placed facing downwards and slightly to the side, supported by the bent limbs) and keep him or her warm. Take the casualty to hospital in case the lungs have been affected.
5. If it breaks the skin it should be well cleaned with cotton wool squeezed out in warm water or with a weak antiseptic solution.
6. Place a cold compress on the sufferer's forehead and get him or her to lie down, preferably somewhere quiet and dark. Also give him or her a mild painkiller, such as aspirin.
7. Sit the patient quietly, head bent forward to prevent blood running back down the throat. Get him or her to pinch the soft part of the nostrils together. After ten minutes the patient may release his or her grip gently.
8. Apply a cold compress, e.g. ice cubes in a plastic bag, or even a pack of frozen peas to slow down the flow of blood and reduce the swelling.
9. There a little you can do yourself but if any liquid remains around the mouth, wash it away with cold water. If what has been swallowed is something corrosive such as bleach or acid, give sips of milk or water to dilute it and cool the lips and mouth but do not induce vomiting as this may cause the throat and mouth to be burned again as the chemical comes up. Get the casualty to hospital.
10. Advise the person to sit down, put his or her head between his or her knees and take deep breathe.
11. Straighten out the affected part and then massage gently to ease the muscle.
12. The main thing to remember is to cool the injured part at once by running or pouring cold water over it. Even covering with wet towels and handkerchiefs will help. Continue this for at least fifteen minutes. If it hurts after an hour, seek medical advice.

FIRST AID KIT. MEDICAL EQUIPMENT

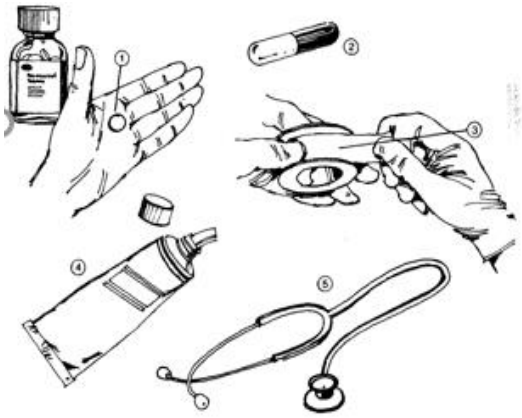
A well-stocked first-aid kit can help you respond effectively to common injuries and emergencies. Keep at least one first-aid kit in your home and one in your car. Store your kits someplace easy to get to and out of the reach of young children. Make sure children old enough to understand the purpose of the kits know where they're stored. Besides basic supplies, keep some basic medications in your first-aid kit.

Medications

- Aloe vera gel
- Calamine lotion
- Anti-diarrhea medication
- Laxative
- Antacids
- Antihistamine, such as diphenhydramine
- Hydrocortisone cream
- Cough and cold medications
- Personal medications that don't need refrigeration
- Auto-injector of epinephrine, if prescribed by your doctor
- Pain relievers, such as acetaminophen (Tylenol, others), ibuprofen (Advil, Motrin IB, others)

Exercise 44. Look at the drawings and the correct numbers 1-20 next to the following words.

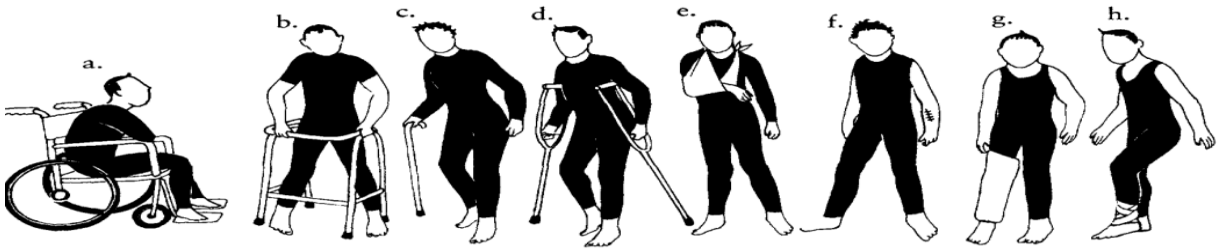
adhesive tape __	*ointment ___*	*thermometer ____*
bandage __	*pill/tablet___*	*tweezers _____*
capsule __	*plaster cast___*	*walking frame ___*
cotton wool __	*safety pin ___*	*walking stick ____*
crutch__	*sling ___*	*wheelchair _____*
hearing aid __	*stethoscope___*	*X-ray _____*
hypodermic needle __	*stretcher ____*	



Exercise 45. Match the descriptions with the pictures.

1. His leg is in plaster.
2. His arm is in a sling.
3. He's walking on crutches.
5. His ankle's bandaged up.
6. He had to have stiches.
7. He is in a wheelchair.

4. He needs a walking stick. 8. He can't walk without a zimmer.



The composition of an individual military first aid kit for a soldier of the Armed Forces of Ukraine

The best battle is the one not fought. If you can't avoid conflict, save as many lives as possible. Therefore, for a soldier of the Armed Forces of Ukraine, it is important to have an effective weapon and a properly equipped military first-aid kit. An individual first-aid kit significantly increases the ability of a fighter to provide self-help. This first aid kit offers emergency care for the two main causes of death on the battlefield: severe bleeding and respiratory failure. Each military first-aid kit in the Armed Forces of Ukraine multiplies the soldier's survival rate. It is also important to know what exactly the military first-aid kit of the army of the Armed Forces of Ukraine includes because you should not forget the main rule of assisting "do no harm."

What does the AFU first aid kit consist of?

When preparing equipment, it's important to balance its weight and the minimum needed items. The items listed below, included in the army first-aid kit, are the very minimum of what can save health or lives. The enhanced set is determined individually.

- sterile gauze bandage;
- individual emergency bandage pack;
- non-woven adhesive plaster;
- a corrugated hemostatic bandage;
- a pair of medical gloves;
- thermal blanket;
- two tourniquets CAT type;
- emergency shears for cutting clothes and shoes;
- a marker pen for applying information;
- nasopharyngeal airway;
- medical stowage bag.

Part 2. MEDICAL CAREERS

Exercise 46. Match medical problems with the specialists they deal with.

1. You need glasses.	a) dietician
2. You are very depressed.	b) cardiologist
3. You have arthritis.	c) optician
4. You hurt your shoulder playing tennis.	d) psychotherapist
5. You are overweight.	e) chiropodist
6. You have ingrown toenails.	f) gynecologist
7. You are trying to have a baby.	g) rheumatologist
8. Your two-year-old son is not well.	i) endocrinologist
9. Your grandma is keeping high blood pressure.	h) pediatrician
10. My recent tests showed high blood sugar levels.	j) physiotherapist

Exercise 47. (A). Write down unknown words from the text below into your vocabulary and learn them by heart. Complete the text.

In Ukraine the most hospitals are the general ones which deal with many kinds of _____ and injuries. Each hospital department is intended for patients with similar diseases. There are some _____ in any regional hospital in Ukraine, they are: surgical, cardiological, oncological, gastroenterological, _____, and other departments. In the hospital the doctors make the ward round, _____ the patients, listen to the heart and lungs, palpate the abdominal parts, feel the pulse, measure blood pressure, _____ the diagnosis and prescribe proper treatment. In the surgical department there are patients suffering from such surgical diseases as, _____, hernia, cholecystitis, gastric and duodenal ulcers and others. The surgeons _____ such operations as appendectomy, vagotomy, stomach resection, cholecystectomy, operations on the thorax and thoracic organs. The operations are performed under general or _____ anesthesia. After operation the nurse _____the patient's temperature, dresses the wounds, gives _____, and fulfills the doctor's prescriptions. The cardiological department deals with the emergency _____ of patients with unstable angina pectoris, acute myocardial infarction and provides successful treatment of patients with myocarditis, pericarditis, _____, complicated forms of arterial hypertension and other _____ diseases. All technical achievements in cardiology are used to diagnose and cardiovascular system diseases. The patients complain of chest discomfort, heart troubles, sensation of heaviness, breathlessness, _____ and others. In the _____ department there are patients with diseases of respiratory system. They suffer from bronchitis, asthma and others. The patients have a bad cough, high temperature, and headache. In the gastroenterological department there are patients with liver cirrhosis, _____, chronic cholecystitis, pancreatitis, chronic hepatitis, intestinal dysbacteriosis and some others. The patients with diseases of gastrointestinal tract feel a pain in the _____, weakness, and sometimes they have nausea and vomiting. The doctors use different _____ of treatment using modern medicines, tools and devices (e.g. ultrasound scan, arteriography, X-ray) for treatment of these patients.

(B). Put 5-8 questions to the text above. Make up a short dialogue based on the text.

Exercise 48. Match each specialist with their duties (what they deal with) and speak about them as in the example.

Example: *An otolaryngologist (ENT specialist) is a doctor who treats ear, nose and throat diseases.*

1. a urologist	a) prevents pain during surgery
2. an oncologist	b) treats babies and children
3. a pathologist	c) treats skin problems
4. a geriatrician	d) specializes in digestive diseases or disorders
5. an obstetrician	e) treats eye diseases
6. an allergist	f) deals with malignant diseases and tumors
7. a cardiologist	g) deals with the birth of children
8. a gastroenterologist	h) specializes in nervous diseases
9. an endocrinologist	i) treats mental illnesses by discussing patients' problems rather than giving drugs
10. an anesthesiologist	j) specializes in diseases of the urinary organs in females and the urinary tract and sex organs in males
11. a psychiatrist	k) treats people with mental illnesses through medication
12. a psychotherapist	l) specializes in the diagnosis and management of hormonal conditions
13. a pediatrician	m) treats heart diseases
14. a dermatologist	n) determines food and environmental allergies
15. a neurologist	o) specializes in diseases of elderly patients
16. an ophthalmologist	p) specialists who study the cause of disease and the ways in which diseases affect our bodies by examining changes in the tissues and in blood and other body fluids

Exercise 49. (A) Read and translate the text. Put 10-15 questions about the text.

MAJOR MEDICAL SPECIALTY FIELDS

Allergy and Immunology deal with disorders of the immune system, including allergies, autoimmune diseases, and immune deficiencies.

Anesthesiology is the study of anesthesia and anesthetic. Anesthesiologists give anesthetics during operations or supervise the administration of these drugs.

Cardiology is the diagnosis and treatment of disorders of the heart.

Colon and rectal surgery is the surgical treatment of disorders of the lower digestive tract.

Dermatology diagnoses and treats diseases of the skin, nails, and hair.

Emergency medicine deals with the immediate recognition and treatment of acute injuries, illnesses, and emotional crises.

Family practice is the supervision of the total health care of patients and their families, regardless of age.

Neurological surgery, or neurosurgery, is the surgical treatment of disorders of the nervous system.

Oncology is the study of tumors.

Ophthalmology is the diagnosis, treatment and prevention of eye diseases.

Orthopedics is the diagnosis and treatment of disorders of the skeletal and muscular systems.

Pathology is the study of changes in the body that cause disease or are cause by disease.

Pediatrics is the diagnosis, treatment and prevention of children's diseases.

Radiology is the use of X-rays and radium to diagnose and treat disease.

Thoracic surgery is the surgical treatment of diseases of the heart, lungs or large blood vessels in the chest.

Urology deals with diseases of the organs that pass the urine and of the male reproductive organs.

Otolaryngology diagnoses and treats ear, nose, and throat diseases.

(B) Answer what departments there are at your district hospital.

Exercise 50. Complete the following table.

Department	Specialists	Diseases

Exercise 51. Add job titles of the people to the sentences below. You can use singular or plural nouns.

practice manager; receptionist; general practitioner, midwife, district nurse; health visitor; practice nurse

1. A practice is run by _____.
2. _____ work with individuals, families and groups like the elderly and new-born babies in the community.
3. _____ need very good interpersonal skills because they are the first contact people have with the practice.
4. Ninety-seven percent of the UK population is registered with a _____.
5. The duties of a _____ include “traditional” nursing skills and running specialist clinics for immunization, diabetes, and so on.
6. An important link between hospitals, GPs, and other health professionals involved in antenatal care is the _____.
7. _____ visit those who are housebound or those-recently discharged from hospital and / or dress wounds.

Exercise 52. Match medical jobs with the correct definitions.

1. a nurse	a. a doctor who specializes in one area of medical treatment, e.g. an eye
2. a general practitioner	b. a person, usually a woman, to advise pregnant who has been trained to advise pregnant women and to help them when they are giving birth

3. a specialist (a specialist registrar)	c. a senior house officer who is in the second year of postgraduate training
4. a midwife	d. a high-ranking and very respected hospital doctor who gives specialist advice in one particular area of medicine
5. a home help	e. a nurse, employed by the local authority, who visits and treats people in their own home
6. a pharmacist	f. a newly graduated doctor in the first year of postgraduate training (junior doctor)
7. a consultant	g. a fully qualified specialist
8. a matron	h. a person who is employed by the medical and social services to help people who are old or ill with their cleaning, cooking, shopping etc.
9. a health visitor	i. a person who is responsible for all of the medical staff
10. student nurse	j. a doctor trained in a general medicine, who treats people in a certain local area for all kinds of illnesses. He or she is usually the first doctor people go to when they are ill.
11. district nurse	k. the woman in charge of the nurses in a hospital
12. Foundation Year 1 doctor (FY1)	l. a person who looks after patients in hospital
13. Foundation Year 2 doctor (FY2)	m. a nurse who is still training
14. medical director	n. a person who is qualified to prepare and sell medicines

Exercise 53. Read and translate the text.

IT'S MY JOB

My name is Dr. Franco Carulli. I'm newly qualified. I work as a junior doctor at Alderbay General Hospital as a part of medical team ("firm"). I work with two other junior doctors also in the first year of postgraduate training. Our main aim is to learn as much as possible from our seniors. The first people we turn to are the two doctors in the second year of training. They supervise any practical procedures we do and are available to help us when we have problems.

Above these senior doctors there are specialist registrars. They are usually in charge of daily ward rounds. They also work in outpatient clinics, deal with inpatient referrals, teach and undertake procedures and operations. They give us instructions about what investigations need to be performed. Specialist registrars are training posts for the next grade up, consultant level. They can be bleeped at any time if we need advice or to refer a patient. If nobody at these two levels is available, we refer to the consultants who are responsible for our posts.

We see each consultant when they do their weekly ward rounds, once on a Wednesday and the other on a Friday morning. These rounds are the most tense and hectic times each week, as we have to make sure all the patient records are up-to-date and present patients to the consultant. In addition to doctors at all levels of the firm, there may be a nurse present, as well as undergraduate students and doctors doing clinical attachments.

My job also involves a wide range of duties from clerking patients, keeping the patient list in order, requesting investigations and making sure the results are received

and referring and liaising with specialists as a part of multidisciplinary team, doing practical procedure, administrative tasks like rewriting drug charts, and doing TTOs.

We have to keep our knowledge up-to-date through training from our seniors and keep a log or record of all the special procedures we learn and cases we see. We also have to find time for learning to present case to our peers and other colleagues. I also find time to talk to the patients and their families.

B. Find in the text:

1. the name given to a medical team;
2. who supervises the practical procedures junior doctors perform;
3. who leads the daily ward rounds;
4. who deals with the patient referral;
5. who leads the weekly ward rounds;
6. when the busiest time of the week is;
7. who rewrites the drug charts.

C. Find out what TTO is.

D. Speak on the duties of all groups of the medical staff in a British hospital.

E. Answer the question: How does hospital training of doctors in your country differ from the British system?

UNIT 3.
STRUCTURAL ORGANIZATION OF THE BODY

Speaking:

1. What are the main levels of structural organization of the human body?
2. What is the smallest independently functioning unit of a living organism?
3. What does a human cell typically consist of?
4. What is a tissue? What types of tissues do you know?
5. What is metabolism?
6. How many body systems have been stated? What are the main systems of the human body?
7. What are the major parts of a skeleton?
8. What internal organs do you know?

ACTIVE VOCABULARY

1. cell	клітина
2. tissue	тканина
3. organ	орган
4. system	система
5. metabolism	метаболізм
6. anabolism	анаболізм
7. catabolism	катаболізм
8. nutrients	поживні речовини
9. vital activities	життєдіяльність
10. excretory organs	органи виділення
11. to affect	впливати
12. substance	речовина
13. protein	білок
14. acid	кислота
15. fats	жири
16. chromosomes	хромосоми
17. gene	ген
18. DNA	ДНК
19. a karyotype	каріотип
20. amniocentesis	амніоцентез
21. abnormality	аномалія
22. obstetrician	акушер
23. cytoplasm	цитоплазма
24. nucleus	ядро
25. cell membrane	клітинна мембрана
26. mitochondria	мітохондрії
27. endoplasmic reticulum	ендоплазматичний ретикулум
28. fiber	волокна
29. fibrous extensions	волокнисті (фіброзні) розширення
30. integumentary	покривний
31. cardiovascular	серцево-судинний

32. respiratory	дихальний
33. digestive	травний
34, urinary	сечовий, сечовивідний
35. sweat	потовий
36. posture	постава
37. heat	тепло, жар
38. participate	брати участь
39. nutrient	поживна речовина
40. hormone	гормон
41. combat	боротися
42. oxygen	кисень
43. carbon dioxide	вуглекислий газ
44. elimination	видалення, виведення
45. wastes products	продукти відходів
46. ion	іон
47. nervous	нервовий
48. receptor	рецептор
49. major	головний
50. endocrine	ендокринний
51. balance	рівновага
52. gonad	статева залоза
53. genitals	статеві органи
54. passage	прохід, протока
55. accessory	додатковий, допоміжний

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

A complex organism, intercellular substance, tissues, closely interconnected, affect each other, vital activities, nutritive substances, decomposition of organic substances, waste products renewed from other substances, muscular contraction, blood vessels, excretory organs, pathologic changes, morbid state.

Exercise 2. Read and translate the text. Summarize it.

ORGANISM AS A WHOLE

The organism is a single system. In a complex organism cells and intercellular substance form tissues, tissues make up organs, and organs unite in systems. All the cells, tissues, organs and systems of organs are closely interconnected and affect each other.

The vital activities of the cells, tissues, organs and the whole organism are based on metabolism, which consists of two interconnected processes: assimilation of nutritive substances (anabolism) and decomposition of organic substances (catabolism).

The complex substances of the cells and tissues continuously split into simpler ones: at the same time, they are renewed from other substances delivered to the cells and tissues from outside. The catabolism in the cells and tissues is accompanied by liberation of energy which operates all the processes in the organs and tissues (muscular contraction, heart action, cerebral activity, etc.) including anabolism.

During the vital activities of the organism, which are based on metabolism, various organs and systems of organs establish close connections and interactions. This

may be readily demonstrated on a skeletal muscle. Metabolism takes place in the muscle, as it does in other organs. This naturally requires a continuous supply of nutrients and oxygen which are delivered by the blood through the blood vessels. The nutrients enter the blood from the digestive system, and the oxygen from the respiratory system (through the lungs). The waste products formed in the process of metabolism pass from the muscles into the blood and are transported to the excretory organs and eliminated. The blood flows through the blood vessels because of the contractions of the heart whose work, like that of other organs, is regulated by the nervous system.

The regulations between the various systems of organs can also be demonstrated by coordinated changes in their activities. Intensification of the activity of one organ or system of organs is accompanied by changes in the other system. For example, physical work causes metabolism to increase sharply in the muscles.

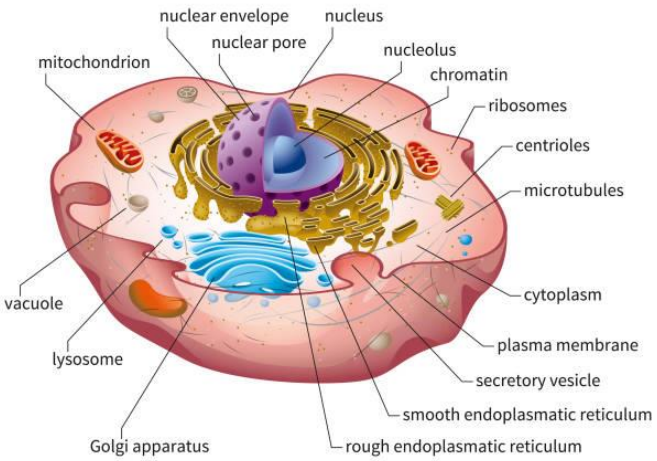
This leads to a coordinated change in the activity of the cardiovascular, respiratory, excretory and other systems.

The interdependence between the various organs and the entire organism manifests itself a disease. Pathologic changes in one particular organ affect other systems of organs. The principle of integrity of the organism implies that the disease of any organ must not be regarded a purely local disturbance, but as a morbid state of the entire organism.

Exercise 3. Answer the following questions.

1. How are the cells, tissues, organs and systems of organs interconnected and affect each other?
2. What processes are the vital activities of the cells, tissues, organs and the whole organism based on?
3. What two interconnected processes does metabolism consist of?
4. What is the catabolism in the cells and tissues accompanied by?
5. How do various organs and systems of organs establish close connections and interactions during the vital activities of the organism?
6. How do pathologic changes in one particular organ affect other systems of organs? Can you give the examples?
7. What does the principle of integrity of the organism imply?

Exercise 4. Read and translate the text. Study the picture and the main terms. Make a plan of the text.



Exercise 5. Read the following words and word-combinations:

Substance; originate; variety; plasma; protein fiber; extracellular; nucleus; cycle; osteoclast; deoxyribonucleic acid; throughout; hereditary; cytoplasm; cytosol; organelle; particular function; manufacture; to separate; unique.

Exercise 6. Read the following text:

CELL

A cell is the structural and functional unit of living organism. Trillions of cells and the substances between them compose the human body. Every cell contains water, protein, carbohydrates, acids, fats, and minerals. All human cells originate from a single fertilized egg, and as differentiation proceeds during embryonic development. Cells specialize and give rise to a wide variety of cell types such as nerve, muscle, bone, fat, and blood cells.

The plasma membrane, nucleus and cytoplasm compose the cell.

The plasma or cell membrane is the outer component of a cell. The plasma membrane consists primarily of lipids and proteins and small amounts of carbohydrates. Substances outside the plasma membrane are extracellular or intercellular, and substances inside it are intracellular. The functions of the plasma membrane are to enclose and support the cell contents and to determine what moves into and out of the cell.

The nucleus is a large membrane-bound structure usually located near the center of the cell. All cells of the body have a nucleus at some point in their life cycle, although some cells such as red blood cells lose their nuclei as they develop. Other cells, such as osteoclasts and skeletal muscle cells, contain more than one nucleus. The nucleus is surrounded by a nuclear envelope composed of two membranes separated by a space. At many points on the surface of the nuclear envelope the inner and outer membranes fuse to form pore-like structures, the nuclear pores.

Deoxyribonucleic acid (DNA) and associated proteins are dispersed throughout the nucleus as thin strands (23 pairs of chromosomes) approximately 4 to 5 nm in diameter. DNA is the hereditary material of the cell. It controls the activities of the cell through ribonucleic acid (RNA). The nucleus directs the cell's activities.

Cytoplasm, the cellular material outside the nucleus but inside the plasma membrane, is approximately half cytosol and half organelles. Cytosol consists of a fluid portion, a cytoskeleton, and cytoplasmic inclusions. The cytoskeleton supports the cell and enables cell movements. It consists of protein fibers. Organelles are small structures within cells and are specialized for particular functions such as manufacturing proteins or producing adenosine triphosphate (ATP).

Most organelles have membranes that are similar to the plasma membrane. The membranes separate the organelles from the rest of the cytoplasm, creating a subcellular compartment with its own enzymes and capable of carrying out its own unique chemical reactions. The nucleus is an exampleof an organelle. Mitochondria are small bodies, produce energy in the cell. Endoplasmic reticulum is a series of canals within the cell. Some canals contain small bodies called ribosomes. They help make substances for the cell.

Exercise 7. Translate the following words and word-combinations into English:

Функціональна одиниця; ембріональний розвиток; ядро (клітини); брати початок, походити, виникати; цитозоль; оточувати; дезоксирібонуклеїновий; розповсюджувати; білок, протеїн; вуглевод; волокно; остеокласт, остеокластоцит; відділення; молекулярний ланцюжок; об'єднувати(ся); обмежувати, ставити межу, стримувати; спадковий.

Exercise 8. Answer the questions:

1. What is the cell?
2. What do all human cells originate from?
3. What is the cell composed of?
4. What is cell membrane?
5. What is the cell membrane composed of?
6. What is the nucleus?
7. What is nucleus surrounded by? 8. What is cytoplasm? 9. What does cytosol consist of?
10. What are organelles?

Exercise 9. Do you agree, disagree or partially agree with the statements below (A), (D), (PA):

1. Millions of cells and the substances between them compose the human body. ___
2. The cell consists of the plasma membrane, enzymes, and cytoplasm. ____
3. The plasma membrane is the inner component of a cell.____
4. The plasma membrane consists of lipids, proteins, and carbohydrates.___
5. The function of the plasma membrane is to play a role in the regulation of DNA function. ____
6. The nucleus is a hollow tubule composed primarily of protein units.____
7. The nuclear envelope is composed of two membranes separated by a space. ____
8. DNA is the hereditary material of the cell. ____
9. The cellular material outside the nucleus but inside the plasma membrane is osteoclast. ____
10. The cytoskeleton increases the mechanical stability and flexibility of the plasma membrane. ____

Exercise 10. Match the following terms with their definitions:

1. Cell	A) Cell membrane; outermost component of the cell, surrounding and banding the rest of cell contents.
2. Plasma membrane	B) Basic living subunit of all living things.
3. Nuclear envelope	C) Protein that acts as a catalyst.
4. Nucleus	D) Macromolecule consisting of long sequences of amino acids linked together by peptide bonds.
5. Cytoplasm	E) Protoplasm of the cell surrounding the nucleus.
6. Lipid	F) Monosaccharide (simple sugar) or organic molecules composed of monosaccharides bound together by chemical bonds.

7. Protein	G) Cell organelle containing most of genetic material of the cell.
8. Carbohydrate	J) Substance composed principally of carbon, oxygen, and hydrogen; contains a lower ratio of oxygen to carbon and is less polar than carbohydrates.
9. Nuclear pores	K) Any foreign or other substance containing the nucleus.
10. Cytoplasmic inclusion	L) Specialized part of a cell serving one or more specific individual functions.
11. Organelle	M) Pore-like openings in the nuclear envelope where the inner and outer membranes fuse.
12. Enzyme	N) Double membrane structure surrounding and enclosing the nucleus.

Exercise 11. Learn the active vocabulary.

event	перетворення
mitosis	каріокінез, мітоз
cytokinesis	цитокінез, клітинний поділ
disperse	диспергувати, розсіювати частини
condense	збирати до купи, зводити разом
refer	стосуватися
diploid	диплоїдний
homologous	гомологічний
derive	походити
cleavage furrow	борознадрібнення
puckering	виникнення борозни
centriole	центріоль
contractile	стискальний, стискувальний; скорочувальний
filament	філамент, нитка; волоконце; волокно
inward	всередину

Exercise 12. Read and translate the following text.

CELL DIVISION

The scientists have determined that the new cells necessary for growth and tissue repair are produced by cell division. A parent cell divides to form two daughter cells, each of which has the same amount and type of DNA as the parent cell. Because DNA determines the structure and function of cells, the daughter cells have the same structure and perform the same functions as the parent cell.

Cell division involves two major events: the division of the nucleus to form two new nuclei, and the division of the cytoplasm to form two new cells, each of which contains one of the newly formed nuclei. The division of the nucleus occurs by mitosis, and division of the cytoplasm is called cytokinesis.

Physiologists have estimated that mitosis is the division of the nucleus into two nuclei, each of which has the same amount and type of DNA (deoxyribonucleic acid) as the original nucleus.

The DNA, which was dispersed as chromatin in interphase, condenses in mitosis to form chromosomes. In each of the human somatic cells, which include all cells except the sex cells, thereare 46 chromosomes, which are referred to as a diploid number of chromosomes. Sex cells have half the number of chromosomes as somatic cells. The 46 chromosomes in somatic cells are organized into 23 pairs of chromosomes. Twenty-two of these pairs are called autosomes. Each member of an autosomal pair of chromosomes looks structurally alike, and together they are called a homologous pair of chromosomes. One member of each autosomal pair is derived from the person's father, and the other is derived from the mother. The remaining pair of chromosomes comprises the sex chromosomes. In females sex chromosomes look alike, and each is called an X chromosome. In males the sex chromosomes do not alike, one is an X chromosome, and other is smaller and is called a Y chromosome.

Mitosis is divided into four stages: prophase, metaphase, anaphase, and telophase. Although each stage represents major events, mitosis is a continuous process, and there are no jumps from one stage to another.

Cytokinesis begins in anaphase, continues through telophase, and ends in the following interphase. The first sign of cytokinesis is the formation of a cleavage furrow, or puckering of the cell membrane, which forms midway between the centrioles. A contractile ring composed primarily of actin filaments pulls the plasma membrane inward, dividing the cell into two halves. Cytokinesis is complete when the two halves separate to form two new cells.

Exercise 13. Answer the following questions:

1. How are new cells produced?
2. What stages does cell division consist of?
3. What is mitosis?
4. Why does the DNA condense in mitosis?
5. What are autosomes?
6. What is X chromosome? And Y chromosome?
7. How many stages is mitosis divided into? What are they?
8. What is cytokinesis?
9. What stage does it consist of?

Exercise 14. Translate the following sentences into English:

1. Клітина – це структурна одиниця організму людини. 2. Основними структурами клітини є оболонка, цитоплазма та ядро. 3. Клітинна оболонка, або зовнішня клітинна мембрана, відокремлює вміст клітини від позаклітинного середовища. 4. Під клітинною оболонкою міститься цитоплазма. 5. У цитоплазмі, крім основної речовини, розміщені загальні та спеціальні органели і численні цитоплазматичні включення. 6. Органели виконують важливі, специфічні для кожної клітини функції. 7. Життєво необхідною частиною клітини є її ядро. 8. Форма ядра іноді відповідає формі клітини.

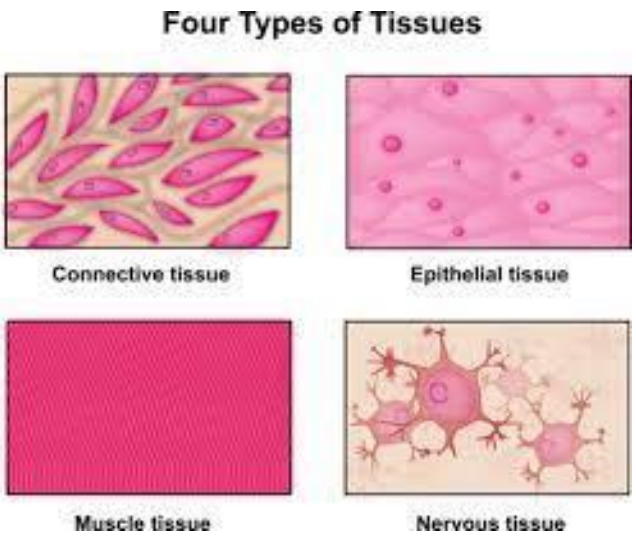
Exercise 15. Give Ukrainian equivalents for the following words and word-combinations.

Tissue, histologist, regions of the body, epithelial tissue, linings of internal organs, exocrine and endocrine glands, responsible for the secretions, muscle tissue, voluntary muscle, involuntary muscle, under conscious control, muscle contractions, connective tissue, cartilage, adipose tissue, nerve tissue, glandular epithelial tissue, viscera, bloodstream.

Exercise 16. Read and translate the text. Put 10 -12 questions about the text.

Tissues

A tissue is a group of similar cells working together to do a specific job. A histologist (hist/o = tissue) is a scientist who specializes in the study of tissues. Several different types of tissue are recognized. Tissues of the same type may be located in various regions of the body. There are four types of tissues.



Epithelial Tissue

Epithelial tissue, located all over the body, forms the linings of internal organs, and the outer surface of the skin covering the body. It also lines exocrine and endocrine glands and is responsible for the secretions that the glands produce. The term epithelial originally referred to the tissue on (epi-) the breast nipple (thel/o). Now it describes all tissue that covers the outside of the body and lines the inner surface of internal organs.

Muscle Tissue

Voluntary muscle is found in arms and legs and parts of the body where movement is under conscious control. Involuntary muscle, found in the heart and digestive system, as well as other organs, allows movement that is not under conscious control. Cardiac muscle is a specialized type of muscle found only in the heart. Contractions of this muscle type can be seen as a beating heart in an ultrasound scan of a 6-week-old fetus.

Connective Tissue

Examples are adipose (fat) tissue, cartilage (elastic, fibrous tissue attached to bones), bones and blood.

Nerve Tissue

Nervous tissue is the main component of the two parts of the nervous system; the brain and spinal cord of the central nervous system (CNS), and the branching peripheral nerves of the peripheral nervous system (PNS), which regulates and controls bodily functions and activity.

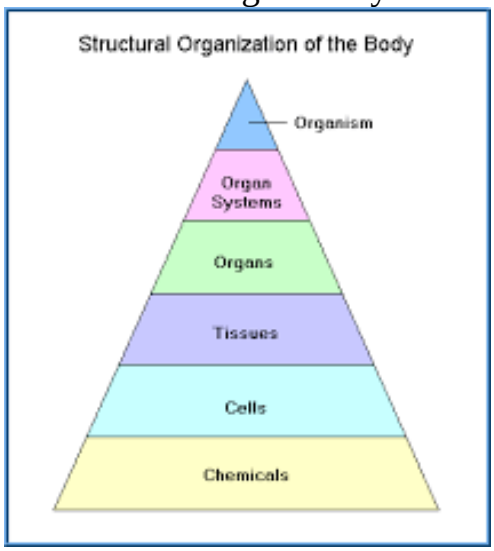
Organs

Different types of tissue combine to form an organ. For example, an organ such as the stomach is composed of muscle tissue, nerve tissue, and glandular epithelial tissue. The medical term for internal organs is viscera (singular: viscus). Examples of

abdominal viscera (organs located in the abdomen) are the liver, stomach, intestines, pancreas, spleen, and gallbladder.

Systems

Systems are groups of organs working together to perform complex functions. For example, the mouth, esophagus, stomach, and small and large intestines are organs that do the work of the digestive system to digest food and absorb it into the bloodstream.



Exercise 17. Translate the following words and word-combinations into Ukrainian:

Combine; subdivide; peripheral nervous system; major organ systems; respiratory; digestive; integumentary; sweat gland; protect; gonad; circulatory system; kidney; urinary bladder; urine; remove; esophagus; stomach; small and large intestines; digestion; nutrient; foreign substances; sensory receptors; allow body movements.

Exercise 18. Read and translate the following words and word-combinations:

Regulate temperature; prevent; cartilage; muscle; maintain posture; body heat; spinal cord; receive; metabolism; reproduction; pump; blood; throughout; remove; balance; respiratory passage; carbon dioxide; stomach; chemical process.

Exercise 19. Read the following text and translate into Ukrainian:

ORGAN SYSTEMS

The body systems have been variously stated to be nine, ten or eleven in number, depending on how much detail one wishes to include.

An organ system is a group of organs classified as a unit because of a common function or set of functions. The classification of organ systems is somewhat arbitrary. For example, the muscular and skeletal systems can be combined as the musculoskeletal system, or the nervous system can be subdivided into the peripheral and central nervous systems.

The human organism is divided into the following major organ systems: the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.

The integumentary system consists of skin, hair, nails, and sweat glands. This system protects, regulates temperature, and prevents water loss.

The skeletal system includes bones, ligaments, cartilages, and joints. It protects internal organs, supports, and allows body movement, produces blood cells, and stores minerals.

The muscular system consists of muscles attached to the skeleton. This system allows body movement, maintains posture, and produces body heat.

The nervous system includes brain, spinal cord, nerves, and sensory receptors. It is a complex information system. It receives, processes and communicates information.

The endocrine system consists of endocrine glands. This system participates in the regulation of metabolism, reproduction, and controlling a large number of activities.

The cardiovascular system includes heart, blood vessels, and blood, which is pumped through the blood vessels by the heart. It transports nutrients, waste products, gases, and hormones throughout the body; plays a role in the regulation of body temperature.

The lymphatic system consists of lymph vessels, lymph nodes, and other lymph organs. This system removes foreign substances from the blood and lymph, maintains tissue fluid balance, and absorbs fats.

The respiratory system includes lungs and respiratory passages. It exchanges gases (oxygen and carbon dioxide) between the blood and the air and regulates blood pH.

The digestive system consists of mouth, esophagus, stomach, intestines, and accessory structures. This system performs the mechanical and chemical processes of digestion, absorption of nutrients, and elimination of wastes.

The urinary system includes kidneys, urinary bladder, and ducts that carry urine. It removes waste products from the circulatory system; regulates blood pH, ion balance, and water balance.

The reproductive system consists of gonads, accessory structures, and genitals of males and females. This system performs the processes of reproduction and controls sexual functions.

Exercise 20. Translate the following words and word-combinations into English:

Додатковий, допоміжний; покривний; нервовий; серцево-судинний; дихальний; травний; м'язовий; скелетний; сечовий; потовий; шкіра; запобігати втраті води; головний; кістка; суглоб; хрящ; зв'язка; розумовий; ендокринний; підтримувати поставу; мозок; чутливий рецептор; спинний мозок; брати участь; поживна речовина; серце; кров'яні судини; качати (кров); гормон; боротися; стороння речовина; нирки; сечовий міхур; протока; кисень; вуглекислий газ; видалення.

Exercise 21. Study the table with the main organ systems and organs that these systems consist of.

SYSTEM	ORGANS
Digestive	Mouth, pharynx (throat), esophagus (tube from the throat to the stomach), stomach, intestines (small and large), liver, gallbladder, pancreas
Urinary or excretory	Kidneys, ureters (tubes from the kidneys to the urinary bladder), urinary bladder, urethra (tube from the bladder to the outside of the body)
Respiratory	Nose, pharynx, larynx (voice box), trachea (windpipe), bronchial tubes, lungs (where the exchange of gases takes place)
Reproductive Female: Male:	Ovaries, fallopian tubes, uterus (womb), vagina, mammary glands

	Testes and associated tubes, urethra, penis, prostate gland
Endocrine	Thyroid gland (in the neck), pituitary gland (at the base of the brain), sex glands (ovaries and testes), adrenal glands, pancreas (islets of Langerhans), parathyroid glands
Nervous	Brain, spinal cord, nerves, and collections of nerves
Circulatory	Heart, blood vessels (arteries, veins, and capillaries), lymphatic vessels and nodes, spleen, thymus gland
Musculoskeletal	Muscles, bones, and joints
Skin and sense organs	Skin, hair, nails, sweat glands, and sebaceous (oil) glands; eye, ear, nose, and tongue

Exercise 22. Answer the following questions:

1. What systems does the human body consist of? 2. What are the major components of the integumentary system? 3. What are the major components of the skeletal system? 4. What does the muscular system consist of? 5. What are the major components of the nervous system? 6. What does the endocrine system consist of? 7. What are the major components of the cardiovascular system? 8. What does the lymphatic system consist of? 9. What are the major components of the respiratory system? 10. What are the major components of the digestive system? 11. What are the major components of the urinary system? 12. What does the reproductive system consist of? 13. What is the function of the integumentary system? 14. What is the function of the skeletal-muscular system? 15. What is the function of the cardiovascular system? 16. What is the function of the respiratory system? 17. What is the function of the digestive system? 18. What is the function of the endocrine system? 19. What is the function of the urinary system? 20. What is the function of the reproductive system?

Exercise 23. Insert the missing words:

1. The body is divided into 11 major organ systems: integumentary, _____, muscular, nervous, endocrine, _____, lymphatic, respiratory, _____, urinary, and reproductive systems.
2. The skeletal system includes bones, associated _____, and joints.
3. It protects, _____, and allows body movement.
4. The muscular system consists of _____.
5. This system allows body _____.
6. The cardiovascular system includes heart, blood _____, and blood.
7. It transports _____.

Exercise 24. Make up the sentences using the following words and word-combinations:

1. The nervous system / brain / and / includes / spinal cord /nerves.
2. It / physiological / intellectual functions / controls / and.
3. Includes / respiratory passages / the respiratory system / lungs / and.
4. Between / it / exchanges / the blood / gases / and / the air.
5. Intestines / the digestive / mouth / system / consists of / esophagus / and / stomach.
6. Chemical / this / system / digestion / the mechanical / and / performs / processes / of.

Exercise 25. Speak on the systems of the human body.

Exercise 26. Translate the following sentences into English:

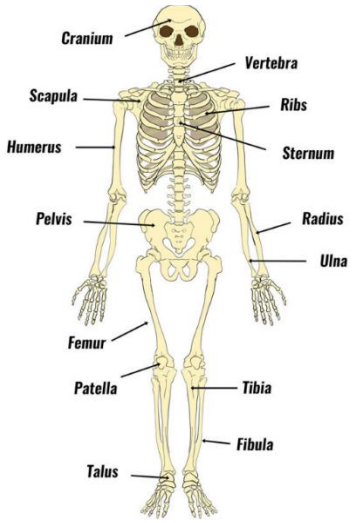
1. Покривна система складається зі шкіри, волосся, нігтів та потових залоз. 2. Ця система регулює температуру тіла та запобігає зневоднюванню. 3. Скелетна система складається кісток, хрящів та суглобів. 4. М'язова система складається із м'язів, дозволяючи людині пересуватися. 5. Серцево-судинна система складається з серця, кров'яних судин та крові, що транспортує поживні речовини до всіх частин організму. 6. Дихальна система сформована легенями. 7. Травна система виконує хімічні та механічні процеси травлення.

3.2. SKELETON AS A FRAMEWORK OF THE BODY

Active vocabulary

1. skeleton	скелет
2. framework	каркас
3. bone	кістка
4. skull	череп
5. clavicle	ключиця
6. scapula	лопатка
7. rib	ребро
8. breastbone	грудина
9. pelvis	таз
10. spine	спинний хребет
11. vertebra	хребець
12. raduis	променева кістка
13. humerus	плечова кістка
14. ulna	ліктьова кістка
15. femur	стегнова кістка
16. tibia	велика гомілкова кістка
17. joint	суглоб
18. fibula	мала гомілкова кістка
19. patella	колінна чашечка
20. extremity (limb)	кінцівка

Exercise 1. Look at the picture of the skeleton and try to memorize the location of the bones.



Exercise 2. Read the text and translate it. Describe the human skeleton.

SKELETON

The skeleton is the framework of the body. The skeleton supports the soft parts and protects the internal organs from injury. There are more than two hundred bones of different sizes and shapes in the skeleton.

The skeleton may be divided into three main groups of bones: the bones of the head, trunk and extremities. The bones are connected together by joints, cartilages and ligaments. The joints allow the bones to move. Ligaments connect one bone to another. Tendons attach bones to muscles. Muscles contract and move skeleton parts.

The head bones are called the skull. The skull consists of many cranial bones. The upper part of the trunk is formed by the ribs and breastbone in front and the vertebrae in the spine. The lower part is the pelvis.

The bones of the trunk are connected with the upper extremities by the clavicles and scapulas. The upper extremity consists of the humerus, the radius with the ulna and the hand bones. The lower extremity has the femur, the tibia with the fibula and the foot bones.

We do all kinds of work with our upper extremities. And we can walk, run and jump with our lower extremities.

Exercise 3. What words are defined below?

1. The framework of bones.
2. The human body apart from the head and extremities.
3. The upper part of the trunk.
4. The lower part of the trunk.
5. The part of the head which contains the brain.
6. The upper extremities.
7. The lower extremities.
8. The end of the arm.
9. The part of the leg on which we walk.
10. The part of the upper extremity from the shoulder to the hand.

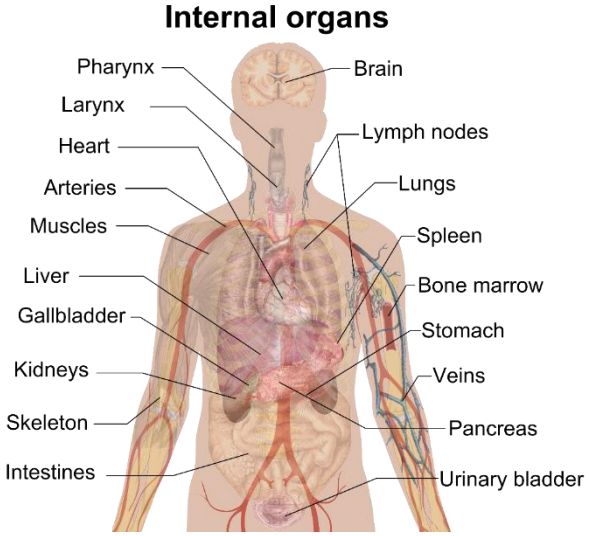
Exercise 4. Ask questions on the text "Skeleton" and retell the text.

Exercise 5. Communicative situation. Try to explain to your younger brother how we can move, make things, do different types of work, run, jump, walk.

Exercise 6. Read the words and remember them.

internal organ	внутрішній орган
lung	легеня
heart	серце
pharynx	глотка
sternum	грудина
blood	кров
esophagus	стравохід
diaphragm	діафрагма
stomach	шлунок
liver	печінка
poison	отрута
gall bladder	жовчний міхур

bacterium	мікроб, бактерія
digestion	травлення
pancreas	підшлункова залоза
spleen	селезінка
kidney	нирка
intestine	кишка, кишечник
bladder	сечовий) міхур
to differ	відрізнятись
to destroy	руйнувати
abdominal cavity	черевна порожнина
large intestine	товста кишка
small intestine	тонка кишка
sex gland	статева залоза



Exercise 7. Read and translate the following words.

Human body, trunk, limb, extremity, upper, lower, to consist of, to contain the brain, skull, forehead, mouth, lip, cheek, chin, external, internal, gum, tooth (teeth), tongue, palate, to connect, neck, chest, abdomen, lung, heart, gullet, to breathe, beat, abdominal, cavity, stomach, liver, spleen, intestine, kidney, gallbladder, bladder, bone, skeleton, to support, soft, to protect, injury, muscle, shoulder, forearm, elbow, wrist, thumb, hip, thigh, knee, calf, ankle, skin.

Exercise 8. Read the text. Name the internal organs. Retell the text.

3.3. INTERNAL ORGANS

All internal organs are situated in the chest and abdomen. The chest is separated from abdomen by the diaphragm. The principal organs of the chest are the gullet, the heart and lungs. The gullet connects the pharynx and the stomach.

There are two lungs – one in each half of the chest. They differ in size. The right lung is larger than the left one. There is the heart between the lungs behind the breastbone. The heart pumps the blood to the whole body.

The lower part of the trunk is the abdominal cavity. The principal organs here are the stomach, the liver, two kidneys, the gallbladder, the pancreas, the spleen, the small and large intestines, the bladder and internal sex glands.

There is the liver with the gallbladder in the right upper abdominal part. The liver is the largest and heaviest organ in the body. It works over all the products of digestion. The liver destroys poisons and bacteria which get into the blood. There is the stomach, the pancreas, the spleen in the left upper part of the abdominal cavity. Behind them there are the right and left kidneys at the back.

The small and large intestines occupy all the lower abdomen. Here is also the bladder and sex glands.

Each internal organ of the body plays a specific role in the organism.

The branch of medicine which studies internal organ diseases is called internal medicine.

Exercise 9. Answer the following questions.

1) Where is the chest?
2) What is the lower part of the trunk?
3) What is there between the chest and abdomen?
4) What are the principal organs of the chest?
5) What are the principal organs of the abdominal cavity?
6) What can you say about the lungs?
7) What is the function of the heart?
8) What is the function of the liver?
9) Does each organ have its specific role?
10) What is the name of the branch of medicine which deals with internal organ diseases?

Exercise 10. Complete the sentences.

1. The external organs are _____.
2. The internal organs are _____.
3. The organs of the chest are _____.
4. The organs of the abdominal cavity are _____.
5. The organs of the head are _____.

Exercise 11. Put the following parts of the body into the appropriate column.

heart skull ribs spine lungs pelvis liver kidneys bladder scapula spleen thorax intestine stomach pancreas patella gallbladder tibia vertebra larynx brain fibula

Bones	Internal organs

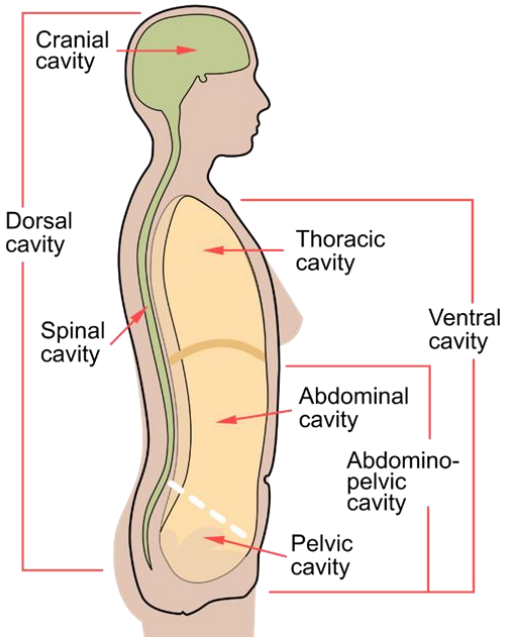
Exercise 12. Give the definition to the terms as in the example.

Example. Wrist is a part of the upper limb, a joint that connects the forearm with the hand.

1. Hip _____
2. Neck _____
3. Arm _____
4. Ankle _____
5. Knee _____
6. Thorax_____
7. Thigh _____
8. Shoulder _____
9. Foot _____
10. Shin _____

3.4. BODY CAVITIES

Exercise 13. Read and study the following information about body cavities.



The human body, like that of many other multicellular organisms, is divided into a number of body cavities. A body cavity is a fluid-filled space inside the body that holds and protects internal organs. Human body cavities are separated by membranes and other structures. The two largest human body cavities are the ventral cavity and the dorsal cavity.

The ventral cavity is at the anterior, or front, of the trunk. Organs contained within this body cavity include the lungs, heart, stomach, intestines, and reproductive organs. The ventral cavity allows for considerable changes in the size and shape of the organs within it as they perform their functions. For example, organs such as the lungs, stomach, or uterus can expand or contract without distorting other tissues or disrupting the activities of nearby organs. The ventral cavity is subdivided into the thoracic and abdominopelvic cavities.

The thoracic cavity fills the chest and is subdivided into two pleural cavities and the pericardial cavity. The pleural cavities hold the lungs, and the pericardial cavity holds the heart.

The abdominopelvic cavity fills the lower half of the trunk and is subdivided into the abdominal cavity and the pelvic cavity. The abdominal cavity holds digestive organs and the kidneys, and the pelvic cavity holds reproductive organs and organs of excretion.

The dorsal cavity is at the posterior, or back, of the body, including both the head and the back of the trunk. The dorsal cavity is subdivided into the cranial and spinal cavities.

The cranial cavity fills most of the upper part of the skull and contains the brain.

The spinal cavity is a very long, narrow cavity inside the vertebral column. It runs the length of the trunk and contains the spinal cord. The brain and spinal cord are protected by the bones of the skull and the vertebrae of the spine. They are further protected by the meninges, a three-layer membrane that encloses the brain and spinal cord. A thin layer of cerebrospinal fluid is maintained between two of the meningeal layers. This clear fluid is produced by the brain, and it provides extra protection and cushioning for the brain and spinal cord.

Exercise 14. Answer the questions and do the following tasks.

1. What is a body cavity?
2. Compare and contrast ventral and dorsal body cavities.
3. Identify the subdivisions of the ventral cavity and the organs each contains.
4. Describe the subdivisions of the dorsal cavity and its contents.
5. Identify and describe all the tissues that protect the brain and spinal cord.
6. What do you think might happen if fluid were to build up excessively in one of the body cavities?
7. Explain why a woman's body can accommodate a full-term fetus during pregnancy, without damage to her internal organs.
8. Which body cavity does the needle enter in a lumbar puncture?
9. What are the names given to the three body cavity divisions where the heart is located?
10. What are the names given to the three body cavity divisions where the kidneys are located?
11. What is the name of the fluid that protects the brain and spinal cord?

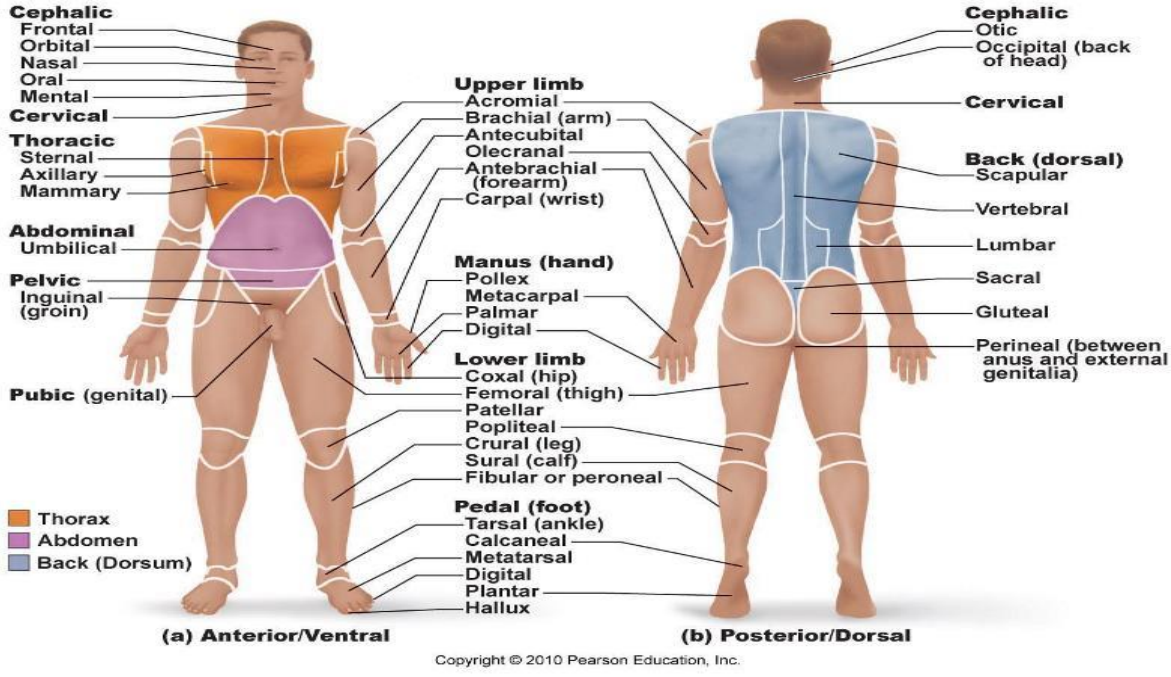
Exercise 15. Read and translate the following words:

Pelvic; thigh; forearm; shoulder; girdle; approach; limb; thorax; superficial; chest; trunk; wrist; division; elbow; abdomen; stomach; intestine; knee, pelvic; thorax; wrist; elbow; hip; quadrant; pectoral; ankle; lower; associated; clinician.

Exercise 16. Translate the following words into English:

Поділ, розподіл; лицьова частина; тулуб; черевна порожнина; пояс; передпліччя; коліно; гомілка; належати; тазовий; зап'ясток; нижня кінцівка; плече; серце; печінка; селезінка; кишківник; сечовий міхур; легені; відповідний.

Exercise 17. Study the major regions of the body.



3.5. BODY REGIONS

Exercise 18. Read and translate the following text:

The body is commonly divided into several regions. They are the head, trunk, and limbs.

The head is divided into the cranial and the facial parts. The facial bones form the structure of the face. The forehead, the temples, eyes, eyebrows, the cheeks, the cheekbones, nose, oral cavity and chin compose the face.

The upper limb (or extremity) is divided into the arm, elbow, forearm, wrist, and hand. The arm extends from the shoulder to the elbow, and the forearm extends from the elbow to the wrist. The upper limb is attached to the body by the shoulder, or pectoral girdle (the bony structure by which the limbs are attached to the body). The lower limb is divided into the thigh, knee, leg, ankle, and foot. The thigh extends from the hip to the knee, and the leg extends from the knee to the ankle.

The lower limb is attached to the body by the hip, or pelvic girdle. Note that the terms arm and leg, contrary to popular usage, refer only to a portion of the respective limb.

The trunk can be divided into the thorax (chest), abdomen (region between the thorax and pelvis), and pelvis (the inferior end of the trunk, associated with the hips). The major organs are located in the trunk, such as: the heart, the lungs, the stomach, the liver, the spleen, the large and small intestines, the kidneys, the gallbladder, and bladder. The abdomen is often subdivided superficially into four quadrants. They include the upper right, upper left, lower right, and lower left quadrants. The four-quadrant approach is commonly used by clinicians to describe the location of some organs or of a clinical problem such as pain or a tumor.

Exercise 19. Answer the questions:

1. What regions is human body divided into? 2. What parts is the upper limb divided into? 3. What parts does the lower limb consist of? 4. What girdle connects the upper limb with the trunk? 5. What girdle connects the lower limb with the trunk? 6. What parts is the trunk divided into? 7. What internal organs are located in the trunk?

Exercise 20. Insert the missing words:

1. The _ is divided into several regions. 2. The upper limb is divided into the arm, _, and hand. 3. The upper limb is attached to the body by the _. 4. The lower limb is divided into the _, leg, and foot. 5. The lower limb is attached to the body by the _ . 6. The _ can be divided into the thorax, abdomen, and pelvis. 7. The abdomen is often subdivided superficially into four _. 8. The four-quadrant _ is commonly used by clinicians to describe the location of underlying _ or of a clinical problem such as pain or a tumor.

UNIT IV. SYSTEMS OF THE HUMAN BODY

UNIT 4.1. MUSCULAR-SKELETON SYSTEM
SKELETON

Speaking

1. What are the main parts of the skeleton?
2. Are there any differences between the skeletons of the male and the female?
3. What is the major function of the skeleton?
4. What are the important parts of the musculoskeletal system?
5. What types of dislocations and fractures do you know?

Active Vocabulary

vary	відрізнятися
ulna	ліктьова кістка
fuse	об’єднуватися, з'єднуватися
radius	променева кістка(передпліччя)
vertebral column	хребетний стовп
carpal	зап'ястковий
vertebra (pl. vertebrae)	хребець
metacarpal	п’ястковий
thoracic cage (rib cage)	грудна клітка
digit	палець
cranial vault	склепіння черепа
phalange	фаланга
auditory ossicle	слухова кісточка
pectoral girdle	плечовий пояс
protect	захищати; оберігати; підтримувати
coxa (pl. coxae)	кульша; кульшовийсуглоб
ilium	клубова кістка
ischium	сіднична кістка
pubis	лобкова кістка
costal	реберний
femur	стегнова кістка
sternum	грудина
prominent	виступаючий, такий, що видається над рівнем чогось
floating rib	коливне ребро
tibia	великогомілкова кістка
manubrium	ручка, структура або частина, що нагадує держак
cervical	шийний
scapula	лопатка
lumbar	поперековий
shoulder blade	лопатка
sacral	крижовий

clavicle	ключиця
occygeal	куприковий
collar bone	ключиця
spinal cord	спинний мозок
pelvic girdle	пояс нижньої
sacrum	крижі, крижова кістка
patella	наколінок
xiphoid process	мечоподібний відросток грудини, ксифістернум
fibula	малогомілкова кістка
articulate	з'єднувати; шарнірно сполучати
grasp	схоплювання; міцне стиснення
tarsal bone	заплеснова кістка
humerus	плечова кістка
metatarsal bones	плеснові кістки
cubital joint	ліктьовий суглоб

Exercise 1. Read Active Vocabulary and memorize new words.

Exercise 2. Translate the following words and word-combinations into Ukrainian:

Cranial vault; carpal; sacral; cervical; lumbar; vertebral column; thoracic cage; pectoral girdle; pelvic girdle; spinal cord; shoulder blade; collar bone; metatarsal bone; tarsal bone; ulna; radius; xiphoid process; fuse; coccygeal; vertebra; protect; sacrum; ilium; sternum.

Exercise 3. Read the following words and word-combinations:

Average; decrease; fuse; skull; vertebra; column; vault; auditory ossicle; thoracic; lumbar; support; major; muscle; sternum; xiphoid process; limb; touch; humerus; cubital joint; ulna; radius; carpal bone; girdle; scapula; clavicle; sacrum; coxa; femur; tibia; patella; fibula; articulate; tarsal bones.

Exercise 4. Read and translate the following text:

SKELETON

There are 206 bones in the average adult skeleton, although the actual number varies from person to person and decreases with the age as some bones become fused.

The skeleton is divided into the skull, vertebral (spinal) column, thoracic cage, upper and lower limbs and the girdles that attach the limbs to the body.

The skull is composed of 28 bones. These bones are organized into cranial vault, facial bones, and auditory ossicles.

The vertebral column usually consists of 33-34 bones. They are divided into five regions.

There are 7 cervical vertebrae, 12 thoracic vertebrae, 5 lumbar vertebrae, 5 sacral vertebrae, and 4-5 coccygeal vertebrae. The vertebral column performs some major functions: it supports the weight of the head and trunk, it protects the spinal cord, it provides a site for muscle attachment, and it permits movement of the head and trunk.

The thoracic cage, or rib cage, protects the internal organs within the thorax. It consists of the thoracic vertebrae, the ribs with their associated costal (rib) cartilages, and the sternum (breastbone). Each rib consists of the head, the neck, and the body.

Twelve pairs of ribs attach to the thoracic vertebrae. The sternum, or breastbone, is composed of the manubrium, the body, and the xiphoid process.

The human upper limb is capable of a wide range of movements, including lifting, grasping, and touching. The arm (the portion of the upper limb from the shoulder to the elbow) contains only one bone, the humerus. Between the arm and forearm there is a cubital (elbow) joint. The forearm has 2 bones, the ulna on the medial side of the forearm and the radius on the lateral side of the forearm. The wrist is a relatively short region between the forearm and hand and is composed of 8 carpal bones. The hand consists of five metacarpal bones. The pectoral, or shoulder, girdle attaches the upper limb to the body. It consists of two bones: the scapula, or shoulder blade, and the clavicle, or collar bone.

The lower limb is very similar to that of the upper limb, except the pelvic girdle. It is attached much more firmly the body than is the pectoral girdle. The bones in general are thicker, heavier, and longer than those of the upper limb. The pelvic girdle supports the weight of the body and protects internal organs. The male pelvis usually is more massive than the female pelvis as a result of the greater weight and size of the male. Pelvic girdle is formed by the sacrum and paired bones, called the coxae, or hip bones. The thigh contains a single bone, the femur, which has a prominent rounded head. The femur articulates with the coxa, the tibia, and the patella. The knee joint is a joint located between the femur and the tibia. The leg (the portion of the lower limb between the knee and the ankle) consists of the two bones, the tibia and the fibula. The tibia supports most of the weight of the leg. The fibula doesn't articulate with the femur but has a small proximal head where it articulates with the tibia. The ankle consists of seven tarsal bones. The ankle is relatively much larger than the wrist. The foot consists of five metatarsal bones.

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

З’єднувати; сполучати, шарнірно; палець; фаланга; плечова кістка; відрізнятися; ключиця; дозволяти, давати можливість; реберний; великогомілкова кістка; наколінок; сіднична кістка; малогомілкова кістка; кульша; хребець; шийний; грудина; ребро.

Exercise 6. Complete the following sentences:

1. Approximately 206 bones _ in the adult skeleton. 2. The _ is divided into the skull, vertebral (spinal) column, thoracic cage, upper and lower limbs and the girdles. 3. The skull _ of 28 bones. 4. They are divided into _, facial bones and auditory ossicles. 5. The bones of vertebral column are cervical vertebrae, thoracic vertebrae, _ vertebrae, sacral bone, and coccygeal bone. 6. The vertebral column _ the weight of the head and trunk, protects the spinal cord, and _ movement of the head and trunk. 7. The thoracic cage protects the _ organs. 8. It consists of the thoracic vertebrae, the ribs, and the _ . 9. The upper limb consists of the humerus, _ joint, the ulna, and the radius. 10. The five _ of each hand include one thumb and four fingers. 11. Each digit consists of small long bones called _. 12. Each finger has 3 phalanges, and the thumb _ two ones. 13. The pelvic _ supports the weight of the body. 14. The thigh contains the _. 15. The knee is the _ located between the femur and the tibia. 16. The leg consists of the _ and the fibula. 17. The ankle consists of _ bones. 18. Each _ is formed by the fusion of the

ilium, the ischium, and the pubis. 19. The toes of lower limb have three phalanges each except for the big _, which has two phalanges.

Exercise. 7. Answer the following questions:

1. What parts is the skeleton divided into?
2. What portions does the skull consist of?
3. What is the vertebral column composed of?
4. What are the functions of the vertebral column?
5. What is the major function of the thoracic cage?
6. What does the thoracic cage consist of?
7. What is the upper limb capable of?
8. What bones are in the upper limb?
9. What are the bones of the lower limb?

Exercise 8. Speak on the anatomy of the skeleton:

Vertebral column: cervical vertebrae; thoracic vertebrae; lumbar vertebrae; sacral bone; coccygeal bone.

Thoracic cage: thoracic vertebrae; costal cartilages; sternum (breastbone); manubrium; xiphoid process; ribs.

Upper limb: pectoral girdle; humerus; cubital joint; ulna; radius; carpal bones; metacarpal bones.

Lower limb: pelvic girdle; femur; tibia; patella; fibula; tarsal bones; metatarsal bones.

Exercise 9. Read the following abstract and retell it:

The skeleton consists of the skull, the spine, the ribs, the sternum (breastbone), two limb girdles (the shoulders and pelvis) and their attached limb bones. There are only minor differences between the skeletons of the male and the female: the men's bones tend to be larger and heavier than corresponding women's bones and the women's pelvic cavity is wider to accommodate childbirth.

The skeleton plays an important part in movement. It also supports and protects the internal body organs. The skeleton is not just a movable frame, however; it is an efficient factory, which produces red blood cells from the bone marrow of certain bones and white cells from the marrow of other bones to destroy harmful bacteria. The bones are also a storehouse for minerals – calcium, for example – which can be supplied to other parts of the body. Babies are born with 270 soft bones –about 64 more than an adult; and many of these will fuse together by the age of twenty or twenty-five into the 206 hard, permanent bones.

Exercise 10. Translate the following sentences into English:

1. Скелет дорослої людини складається приблизно з 206 кісток. 2. Скелет складається з черепа, хребетного стовпа, грудної клітки та верхніх і нижніх кінцівок. 3. Склепіння черепа, лицьові кістки та слухові кісточки є кістками черепа. 4. Хребет складається з шийних, грудних, поперекових, крижових хребців та крижової кістки. 5. Хребетний стовп захищає спинний мозок. 6. Грудна клітка підтримує та захищає внутрішні органи. 7. Грудна клітка складається з грудних хребців, ребер, реберних хрящів та грудини. 8. Основна частина грудної кліткии складається з ребер. 9. Кожне ребро має голівку, шийку

та тіло. 10. Грудина – це довгаста кістка всередині грудної клітини. 11. Як правило, хребець складається з тіла, дуги та відростка. 12. Верхня кінцівка складається з плечової кістки, ліктьового суглоба, ліктьової кістки та променевої кістки. 13. Зап'ясток складається з зап’ясткових кісток. 14. Кисть складається з п’яти п’ясткових кісток. 15. Тазовий пояс підтримує вагу тіла та захищає внутрішні органи від пошкоджень. 16. Коліно – це суглоб, розташований між стегном та великою гомілковою кісткою. 17. Гомілка складається з великої гомілкової кістки та малогомілкової кістки.

Exercise 11. Read the following words and try to memorize them:

epiphysis	епіфіз
epiphyseal line	епіфізарна лінія
cartilage	хрящ
compact bone	компактна кісткова тканина
cancellous bone	сітчаста кістка, губчаста кісткова речовина
spongy bone	губчаста кісткова речовина
matrix	матрикс, основа, міжклітинний матеріал
cavity	порожнина
medullary	медулярний, мозковий; серцевинний
sinus	пазуха
approximately	близько, приблизно
marrow	кістковий мозок
periosteum	окістя, надкісниця
dense	щільний, густий
diaphysis	діафіз, середня частина трубчастої кістки.

Exercise 12. Read the following text:

BONE'S STRUCTURE

The skeletal system consists of bones, cartilages, tendons, and ligaments. Because bone is very rigid, it is well adapted to help maintain the shape of the body and protect internal organs.

Cartilages, which are somewhat rigid but more flexible than bones, also provide support. Tendons and ligaments are strong bands of fibrous connective tissue. Tendons attach muscles to the bones, and ligaments attach bones to bones.

Individual bones can be classified according to their shape as long, short, flat, or irregular.

Most of the bones of the upper and lower limbs are long bones. These bones are very strong. They are broad at the ends where they join with other bones, and have large surface areas for muscle attachment. Short bones are approximately as broad as they long. They are nearly cube shaped or round. They are in the wrist and ankle. Flat bones have a relatively thin, flattened shape. The examples of flat bones are some skull bones, ribs, pelvic bones, and the breastbone (sternum).

Irregular bones are ones such as the vertebrae and facial bones with shapes that do not fit into three categories.

Each long bone consists of three major components: the diaphysis; an epiphysis; and the epiphyseal line (or epiphyseal plate in each growing long bone). The diaphysis is long middle region of a long bone composed of compact bone, which is bone matrix.

Each end of a long bone is called an epiphysis. The epiphyses consisting of cancellous bone (sometimes called spongy bone), has many small spaces or cavities within the bone matrix. The outer surface of the epiphyses consists of a layer of compact bone. In addition to the small spaces within cancellous bone and compact bone, some bones contain large cavities. The diaphyses of long bones have a large medullary cavity (some of the skull bones have spaces called sinuses). The medullary cavity and the cavities of the cancellous bone are filled with marrow. Medullary cavity contains yellow bone marrow and spaces in cancellous bone contain red bone marrow. Yellow bone marrow is mostly composed of adipose tissue. Red bone marrow is the site of blood formation. In general, yellow marrow is associated with the long bones of the limbs, and red marrow is associated with the rest of the skeleton. The outer surface of bones consists of a periosteum. The periosteum is a strong, fibrous, vascular membrane that covers the surface of a long bone, except at the ends of the epiphyses. The inner layer consists mostly of a single layer of osteoblasts with a few osteoclasts.

Osteoblasts are bone producing cells, and osteoclasts are cells breaking down bone.

Flat bones usually have no diaphyses or epiphyses. They contain an interior framework of cancellous bone sandwiched between two layers of compact bone. Short and irregular bones have a composition similar to the epiphyses of long bones. They have compact bone surfaces surrounding a cancellous bone center with small spaces that usually filled with marrow. Short and irregular bones have no diaphyses. However, certain regions of these bones (e.g., the processes of irregular bones) have epiphyseal growth plates and therefore have small epiphyses.

Exercise 13. Answer the following questions:

1. What does the skeletal system consist of? 2. What is the major function of the bone? 3. What does the cartilage provide? 4. What are ligaments and tendons? 5. What are their functions? 6. What types of bones do you know? 7. What components does every long bone consist of? 8. What is diaphysis composed of? 9. What does the epiphysis consist of? 10. What is compact bone? 11. What is osteoblast? 12. What is osteoclast? 13. What do the flat bones contain? 14. What are short and irregular bones composed of?

Exercise 14. Match the following terms with their definitions:

1. Cartilage	1. noncellular substance surrounding the cells of connective tissue
2. Ligament	2. dense plate of bone in a bone that is no longer growing, indicating the former site of the epiphyseal plate
3. Tendon	3. similar molecules binding to the same carrier molecule or receptor site
4. Compact bone	4. band of dense connective tissue connecting a muscle to a bone or other structure.
5. Epiphyseal line	5. portion of a bone developed from a secondary ossification center and separated from the remainder of the bone by the epiphyseal plate.
6. Epiphysis	6. band of dense connective tissue connecting two or more bones, cartilages, or other structures.
7. Matrix	7. firm, smooth, nonvascular connective tissue

PART 2. TRAUMAS OF SKELETAL SYSTEM

Active Vocabulary

fracture	перелом
dislocation	вивих, зміщення
sprain	розтягнення, ушкодження зв'язок
strain	розтягнення, деформація
injury	ушкодження, рана, забиття
tearing	розрив, порушення цілосності структури
stretch	розтягування, розтягнення
break	ушкодження, перелом
crack	тріщина, щілина
splint	накладати шину; шина
accompany	супроводжувати
damage	пошкодження; ураження; порушення
severe	сильний, тяжкий
bleeding	кровотеча
victim	жертва, потерпілий
lower back	поперек
torn	розірваний
pull	розтягнення
swelling	опухання, припухлість
bruising	ушкодження, забиття
vehicle	транспортний засіб

Exercise 15. Compose 3-4 sentences using the words of Vocabulary.

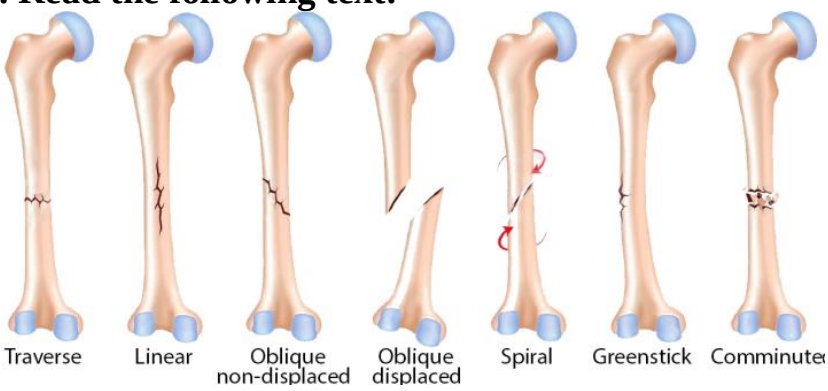
Exercise 16. Translate the following words and word-combinations into Ukrainian:

Swelling; tendon; severe; stretch; strain; internal; fracture; dislocation; bleeding; ligament; pull; painful; injury; cause; accompany; bruising; involve; sprain; tearing; lower back; separate; damage; closed fracture; displace.

Exercise 17. Read the following words:

Fracture; occur; injury; accident; ligament; musculoskeletal; motor-vehicle; call; define; involve; severe; break; damage; victim; sign; lower; either; wound; accompany; fall; position; bruising; accompanied; injury; partial.

Exercise 18. Read the following text:



FRACTURES, DISLOCATIONS, SPRAINS, AND STRAINS

The musculoskeletal system consists of the bones, muscles, ligaments, and tendons. Fractures, dislocations, sprains, and strains are injuries that occur to the musculoskeletal system.

Fractures. Fractures are breaks or cracks in bones. They are defined as either closed or open. Closed fractures leave the skin unbroken. They are more common than open fractures. An open fracture involves an open wound. Open fractures are more serious than closed fractures because of the risks of infection and severe bleeding. Fracture of a large bone can cause severe shock because bones and soft tissue may bleed heavily.

Fractures can be accompanied by internal injuries. For example, victims with fractured ribs can also have injuries to the lungs, kidneys, or liver. Fractures can be caused by motor-vehicle accidents, falls, blows, sports injuries, or bone diseases.

Dislocations. A dislocation is an injury in which a bone is displaced from its normal position at a joint.A dislocation may involve damage to the ligaments around the joints. Dislocations can be caused by falls, sports injuries, motor-vehicle accidents, underlying disease (such as rheumatoid arthritis) and others.

Sprains. A sprain is the partial or complete tearing of ligaments and other tissues at a joint. The more ligaments are torn, the more severe the injury. Sprain most commonly occurs in joints of the ankles and knees. Like dislocations, sprains can be caused by falls, sports injuries, and motor-vehicle accidents.

Strains. A strain is a stretching and tearing of muscle or tendon fibers. It is sometimes called a "muscle pull" or "tear". Strains are often caused by lifting something too heavy. They often occur in the neck or back. Strains of the neck or lower back can be very painful.

The signs of fractures, dislocations, sprains, and strains. The signs of these injuries are very similar. Five common signs of musculoskeletal injuries are pain, swelling, deformity, bruising of the skin, and inability to use the affected part normally.

Exercise 19. Translate the following words and word-combinations into English:

Поперек; розірваний; розрив, порушення цілісності структури; зв’язка; припухлість; розтягнення; пошкодження, забиття; внутрішній; тріщина, щілина; супроводжувати; спричиняти; кровотеча; перелом; сухожилля.

Exercise 20. Translate the text "Fractures, Dislocations, Sprains, and Strains” into Ukrainian.

Exercise 21. Answer the questions:

1. What does the musculoskeletal system consist of? 2. What are fractures, dislocations, sprains and strains? 3. Give the definition to the medical term "fracture". 4. What kinds of fractures do you know? 5. What are the causes of fractures? 6. What is a dislocation? 7. What are the common causes of dislocations? 8. What do you know about sprains? 9. Define the term "strain". 10. What are the causes of strains? 11. What are the common signs of fractures and dislocations?

Exercise 22. Organize the information of the text "Fractures, Dislocations, Sprains, and Strains" in the table:

Injuries	Definition	Causes	Signs
Fracture			
Dislocation			
Sprain			
Strain			

Exercise 23. Read and retell the text:

TYPES OF FRACTURES

In identifying types of fractures, your physician may use some of the terms explained or illustrated below.

Open fracture: The broken bone protrudes from the skin. This may allow entry of bacteria from the environment, which increases the risk of infection.

Simple fracture: A fracture in which the broken bone does not protrude through the skin.

Complete fracture: Fracture in which the bone snaps into two or more parts.

Incomplete fracture: The break is limited to a crack (the bone is not separated into two parts).

Impacted fracture: One fragment of bone is embedded into another fragment of bone.

Pathological fracture: A bone breaks in a person with bones weakened by disease.

Bone cancer or bone disorder such as osteoporosis can result in weakened bones that fractures spontaneously or when only minor stresses are exerted on them. Such breaks are termed pathologic fractures because a principal cause is an underlying disease.

Exercise 24. Read the following text and speak on the purposes of splinting and the basic principles of splinting:

FIRST AID

Sometimes it is difficult to tell whether an injury is a fracture, dislocation, sprain, or strain. Since you cannot be sure which of these a victim might have, always care for it as a fracture. If ambulance car is on the way, do not move the victim. Control any bleeding first. Care for shock, and monitor Airway Breathing Circulation (ABCs). If you are going to transport the victim to a medical facility, follow this general rule: "When in doubt, splint."

Splinting. Splinting is a process of immobilizing a suspected fracture.

Materials that can immobilize a fractured bone and the joints above and below it can be used to splint. (Examples are rolled-up newspapers, magazines, and pieces of wood.) Commercial splints are also available.

The purposes of splinting are:

• To immobilize a possibly fractured part of the body.
• To lessen pain.
• To prevent further damage to soft tissues.
• To reduce the risk of serious bleeding.
• To reduce the possibility of loss of circulation in the injured part.

• To prevent closed fractures from becoming open fractures.

The basic principles of splinting are –

• Splint only if you can do it without causing more pain and discomfort to the victim.

• Splint an injury in the position you find it.

• Apply the splint so that it immobilizes the fractured bone and the joints above and below the fracture.

• Check circulation before and after splinting.

If there are no splinting supplies available, splint the broken part of the body to another part. For example, a broken arm can be splinted to the chest. A fractured leg can be splinted to the other, uninjured leg.

If the injury is a closed fracture, dislocation, sprain, or strain, apply a cold pack. Do not apply a cold pack to an open fracture. This would require you to put pressure on the wound and may cause discomfort to the victim.

Next, elevate the injured area. Do not attempt to elevate a part you suspect is fractured until it has been splinted.

For any of these injuries, care for shock and monitor ABCs.

Exercise 25. Translate the following sentences into English:

Перелом – це пошкодження кістки або хряща кістки. Переломи поділяються на відкриті та закриті. Перелом кістки може викликати сильну кровотечу або шок. При переломі ребер можуть бути пошкоджені внутрішні органи людини, наприклад, легені, нирки, селезінка або печінка. Кажуть, що вивих менш небезпечний у порівнянні з переломом. Я з цим не погоджуюсь. При багатьох вивихах виникають серйозні ускладнення. Основні причини переломів та вивихів – це травми, отримані в результаті дорожньо-транспортних пригод.

Exercise 26. Read the dialogue:

AT THE TRAUMATOLOGIST'S

Traumatologist: What is wrong with you?

Patient: I have a severe pain in my leg.

T.: Let's me examine your leg. How did the injury occur?

P.: I have fallen down.

T.: How long is it since the injury occurred?

P.: Two days.

T.: Does it hurt when I touch here?

P.: Yes, it does.

T.: Where is the pain more acute, here or there?

P.: Here it is.

T.: Bend your leg.

P.: It is very painful.

T.: Could you stand on your injured leg immediately following injury?

P.: No, I couldn't.

T.: I suppose you have a fracture. Do you agree to be hospitalized?

P.: No, I don't.

T.: You will be treated in the out-patient department. It is necessary to X-ray your leg. I'll put a plaster of Paris. I'll give an injection with antitetanic serum. Do massage your leg, train your toes with a little exercise.

P.: When will you remove a plaster of Paris?

T.: I think it will be in a month. You must not engage in hard physical labour for 3 months.

P.: What medicines must I take?

T.: I'll prescribe you some drugs and vitamins for the improvement of your general health condition.

Part 3. MUSCULAR SYSTEM

Active Vocabulary

fiber	волокно
contractile	який стискає, стискувальний; скорочувати(ся)
pectoral muscle	грудний м’яз
brachial	брахіальний, плечовий
smooth	гладкий, непосмугований
refer	мати відношення, стосуватися
locomotion	рух
gluteal	глютеальний, сідничний
deltoid muscle	дельтоподібний м’яз
expression	вираз
posture	статура, постава
triangular	трикутний
propel	рухати
orientation	спрямування
dilate	розширяти(ся)
oblique	косий
constrict	скорочувати
pupil	зіниця
longitudinal	поздовжній
biceps	біцепс, двоголовий м'яз
force	сила, зусилля; нагнітати
abductor	відвідний м’яз
extend	простягати(ся), тягнути(ся)
buttock	сідниця
cross	пересікати(ся), перехрещуватися
move away	відводити

Exercise 27. Translate the following words and word-combinations into Ukrainian:

Contractile; smooth; associated; to be divided into; comprise; weight; locomotion; posture; propel blood through vessels; dilate; trunk; constrict; provide; force; spontaneously; cross; at least; cause; pectoral muscle; to be attached; extend; brachial; refer; buttock; gluteal; triangular; oblique; longitudinal; biceps; abductor.

Exercise 28. Read and translate the following text:

MUSCLES

There are 650 muscles in the human body. The muscles are fibers, characterized by their contractile abilities. The muscle consists of the muscular fibers connected together by connective tissue. Blood vessels and nerves are in the muscle. Muscles contraction and relaxation causes most body movements. The muscles are subdivided into three groups. These groups are the muscles of the trunk, head, and limbs.

As for the structure the muscles are divided into three major parts: skeletal, cardiac, and smooth. Skeletal muscle with its associated connective tissue comprises approximately 40% of the body's weight and is responsible for facial expressions, posture, and many body movements. Its function is controlled by our consciousness. Smooth muscles are in the walls of hollow organs and tubes, in the internal portions of the eyes, in walls of blood vessels, and in other areas. Smooth muscles perform a variety of functions, including propelling urine through the urinary tract, mixing food in the stomach and intestine, dilating and constricting the pupil, and the regulation of blood flow through blood vessels. Cardiac muscles are found only in the heart, and their contractions provide the major force for propelling blood through the circulatory system. Unlike skeletal muscles, smooth and cardiac muscles contract spontaneously.

As for the form of the muscles they can be long, short, and wide. The long muscles form the limbs, the short ones compose the facial part, and the wide muscles form the walls of the body cavities.

Muscles are attached to bones, internal organs, and blood vessels. Most skeletal muscles extend from one bone to another and cross at least one joint. Some muscles of the face, however, are not attached to bone at both ends but they are attached to the skin, which moves when the muscles contract.

Muscles are named according to their location, size, number of heads, or function.

Location. Some muscles are named according to their location. For example, a pectoral (chest) muscle is located in the chest, and a brachial (arm) muscle is located in the arm.

Size. Muscle names may also refer to the size of the muscle. For example, the gluteusmaximus (large) is the largest muscle of the buttock, and the gluteus minimus (small) is the smallest muscle of the gluteal group.

Shape. Some muscles are named according to their shape: the deltoid (triangular) muscle is triangular.

Orientation. Muscles are also named according to the structure of their fibers: an oblique muscle lie oblique to the longitudinal axis of the body.

Number of heads. The number of heads, which a muscle has, may also be used in naming the muscle. A biceps muscle has two heads.

Function. Muscles are also named according to their function. An abductor moves a structure away from the midline.

Exercise 29. Translate the following words and word-combinations into English:

Скорочуватись; скорочувальна здатність; м’язові волокна з’єднуються разом; гладкий м’яз; супутня з’єднувальна тканина; рух; вираз обличчя; розширюватися; спонтанно скорочуватись; на відміну від скелетних м’язів;

простягатися, тягнутися; називатися у відповідності з; грудний м'яз; плечовий м'яз; глютеальний м'яз; дельтоподібний м'яз; біцепс; косий м'яз; поздовжня вісь; у відповідності з напрямком; лежати (знаходитися) під нахилом до; відвідний м'яз.

Exercise 30. Answer the following questions:

1. What does a muscle consist of?
2. What major muscle groups do you know?
3. What are skeletal muscles responsible for?
4. Where are smooth muscles located?
5. What are the functions of smooth muscles?
6. Where is a cardiac muscle?
7. What is its function?
8. Where are long and short muscles?
9. Where are wide muscles located?
10. What muscles' names do you know?

Exercise 31. Complete the following sentences:

1. The muscles of the human body are characterized by _.
2. The muscles consist of the muscular fibers and contain _.
3. Skeletal muscles with their associated connective tissue are responsible for _.
4. Smooth muscles are located in the walls of blood vessels and hollow organs, _ and other body regions.
5. Smooth muscles propel urine through the urinary tract, mix food in the intestine and stomach, _ and perform many other functions.
6. The contractions of cardiac muscles provide the major force for _.
7. Some facial muscles are not attached to bone _.
8. The most muscles are named according to their _.
9. The largest muscle of the buttock is _.
10. The deltoid muscle has _ shape.
11. An oblique muscle lie oblique to the _.
12. The long muscles compose _.
13. The short muscles form the _ part.
14. Muscles are attached to bones, _ , and blood vessels.

Exercise 32. Compose the sentences using the following words and word-combinations:

1. divided / are / smooth / into / and / cardiac / the muscles / skeletal / muscles.
2. of / the skeletal / muscles / functions / are / by / controlled / the nervous system.
3. is / cardiac muscle / in / the heart.
4. contract / and / cardiac / smooth / muscles / spontaneously.
5. skeletal muscles / from / extend / bone / one / to another.
6. cause / muscle contractions / body movements / most .
7. of / some muscles / the face / are attached / to / the skin.
8. a pectoral muscle / located / is / the chest / in .
9. the arm / muscle / is / a brachial / found / in .
10. muscles / various / have / of / number / heads.
11. a biceps / muscle / two / has / heads.

12. skeletal / the trunk / move / the head / and / muscles / the limbs.
13. propel / through / the cardiac muscles / blood / vessels.
14. through / smooth / force / food / muscles / the digestive system.

Exercise 33. Insert the missing words given below:

to produce; are equipped; is called; spinal cord; tendons; internal organs; throughout; smooth; skeletal; weight

1. Muscle is attached to bone by _ and other tissues. 2. Muscles are made up of millions of tiny protein filaments, which work together _ motion in the body. 3. Each of more than 600 muscles is served by nerves, which link the muscle to the brain and _. 4. We _ with three types of muscles. 5. Cardiac muscles, found only in the heart, power the action that pumps blood _ the body. 6. Smooth muscles surround or are part of the_ . 7. Both cardiac and _ muscles are called involuntary muscles, because they cannot be consciously controlled. 8. The third type of muscles _ skeletal muscles. 9. The _ muscles carry out voluntary movements. 10. Skeletal muscles are the body's most abundant tissue, comprising about 23% of a woman's body _ and about 40% of a man's body _.

Exercise 34. Translate the following sentences into English:

1. У тілі людини знаходиться близько 650 м’язів. 2. М’яз складається з м’язових клітин. 3. Кожен м’яз містить кров’яні судини та нерви. 4. М’язи поділяються на три групи: скелетні, гладкі та серцеві м’язи. 5. Скелетні м’язи призводять до руху тулуб, голову та кінцівки. 6. Серцевий м’яз сприяє руху крові по судинам. 7. Гладкі м’язи просувають їжу по травній системі. 8. Серцеві та гладкі мязи скорочуються спонтанно. 9. Мязи прикріплюються до кісток за допомогою сухожилків. 10. Більшість скелетних м’язів простягаються від однієї кістки до іншої. 11. Деякі м’язи обличчя прикріплюються до шкіри, яка приходить у рух тоді, коли скорочуються м’язи. 12. Довгі м’язи знаходяться у кінцівках, короткі м’язи утворюють лицьову частину, а широкі м’язи формують стінки порожнин тіла.

Exercise 35. Make up a dialogue on muscles.

4.2. CIRCULATORY (CARDIOVASCULAR) SYSTEM

Speaking

1. What are the main organs of cardiovascular system?
2. How does blood move through the circulatory system?
3. What does the blood consist of?
4. What are the main functions of blood?
5. What blood types do you know?

Part 1. BLOOD

Active Vocabulary

1. connective tissue	сполучна тканина
2. clot	згусток крові, тромб
3. waste products	відходи, продукти розпаду
4. cell fragments	фрагменти клітин
5. corpuscles	тільця
6. platelet (thrombocyte)	тромбоцити
7. leukocyte (white blood cells)	лейкоцити (білі кров'яні тільця)
8. erythrocyte (red blood cells)	еритроцити (червоні кров'яні тільця)
9. dissolved component	розчинений компонент
10. nutrient	поживна речовина
11. total weight	загальна вага
12. total blood volume	загальний об’єм крові
13. approximately	приблизно
14. enzymes	ферменти
15. fluid balance	баланс рідини
16. blood loss	крововтрата
17. albumin	альбумін
18. globulin	глобулін
19. fibrinogen	фібриноген
20. serum	сироватка

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

Connective tissue; corpuscle; pale yellow fluid; clot-producing; platelet; fluid matrix; remaining fluid; average adult; however; waste products; maintenance; suspended molecules; to protect against; remove; site of infection; slightly; more than half; body’s total weight; total blood volume; approximately; to be classified; corpuscles; platelet; hormone; enzyme; leukocyte; thrombocyte; erythrocyte; plasma; dissolved component; nutrient; formed elements; major category.

Exercise. 2. Read and translate the following text:

BLOOD

Blood is classified as a connective tissue, consisting of cells and cell fragments surrounded by a liquid matrix. The total blood volume in the average adult is approximately 4 to 5 L in females and 5 to 6 L in males. Blood makes up approximately 8% of the body's total weight.

The cells and cell fragments are the formed elements, and the fluid matrix is the plasma. The formed elements of the blood include several types of highly specialized cells and cell fragments. They are grouped into three major categories. Approximately 95% of the volume of the formed elements consists of erythrocytes (red blood cells or corpuscles). The remaining 5% consists of leukocytes (white blood cells or corpuscles) and platelets (cell fragments), which are also called thrombocytes.

Plasma is a pale yellow fluid accounting for slightly more than half the total blood volume and consisting of approximately 92% water and 8% dissolved or suspended molecules. Plasma contains proteins such as albumin, globulin, and fibrinogen. When the proteins that produce clots are removed from the plasma, the remaining fluid is called serum. In addition to the suspended molecules, plasma also contains a number of dissolved components such as salts, nutrients, gases, waste products, hormones, and enzymes. Water enters the plasma from the digestive tract, from interstitial fluids, and as a by-product of metabolism. Excess water is removed from the plasma through the kidneys, lungs, intestinal tract, and skin. Solutes in the plasma come from several sources such as the liver, kidneys, intestines, endocrine glands, and immune tissues such as the spleen.

The functions of the blood can be placed into the categories of transportation, maintenance, and protection. Blood transports gases, nutrients, waste products, and hormones. It is involved in the regulation of homeostasis and the maintenance of pH, body temperature, fluid balance, and electrolyte level. Blood protects against diseases and blood loss.

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

Розчинені компоненти; вага тіла людини; загальнй об’єм крові; утворювати згустки; міжклітинний матеріал; ферменти; сироватка; складатися з; включати кілька типів; поділятися на; червоні кров’яні тільця; кров’яні пластинки; білі кров’яні тільця; поживні речовини; транспортувальна функція; захисна функція; білки; видаляти.

Exercise 4. Complete the following sentences:

1. Blood is a type of _ tissue whose cells are suspended in a liquid intracellular material. 2. Blood consists of a liquid portion called _ and a solid portion. 3. This portion also named as the cellular fraction includes _, _, _. 4. _ are essential for the clotting of blood. 5. _ are the most numerous blood cells. 6. The blood plays an important role in _ homeostasis.

Exercise 5. Answer the following questions:

1. What type of tissue is the blood? 2. What is the total blood volume in an average adult? 3.What does the blood consist of? 4. What is the plasma? 5. What does the plasma contain? 6. What is blood serum? 7. What major categories are the formed elements grouped into? 8. What blood cells are the most numerous? 9. What are the major functions of the blood?

Exercise 6. Read the following terms and try to match them with the Ukrainian equivalents. Memorize the meaning of the term-element “h(a)emo-” from Greek “blood”.

Hemoglobin, hemoconcentration, hemorrhage, hemocyte, hemocytometer, hemodiagnosis, hemogram, hemology, hemomediastinum, hemopathy, hemophobia, hemodynamics.

Крововилив, кровотеча; гематологія; гемодинаміка; гемофобія (патологічна боязнь кровотечі чи виду крові); гемопатія; гемоглобін; гемоцитометр; гемодіагностика (діагноз, що ґрунтується на вивченні крові); гемограма (формула крові); витікання крові у середостіння; гемоконцентрація (згущення крові); клітина крові.

Exercise 7. Pronounce and memorize the words to the theme studied:

Biconcave - подвійноввігнутий; spherical - кулястий, сферичний; stain - забарвлення; release - вивільняти; histamine - гістамін; promote - сприяти, допомагати, підтримувати; inflammation- запалення; heparin - гепарин; prevent - попереджувати, запобігати; worm - черв'як; parasite - паразит; debris ['debrI:] - залишки органічних речовин; plug - пробка.

Exercise 8. Choose the proper terms from the box for the definitions. There are two extra words.

thrombocytes, serum, corpuscles, erythrocytes, lymphocytes, plasma, iron, protein

1. Liquid portion of blood containing water, proteins, salts, nutrients, hormones, vitamins. 2. Tiny cells, which are necessary for blood clotting. 3. These cells are biconcave disks made in the bone marrow, they transport oxygen. 4. Plasma minus the clotting proteins and clotting cells. 5. "Little body" refers to blood cells. 6. This substance is necessary for the synthesis of hemoglobin, is absorbed from small intestines; insufficiency of this substance may result in anemia. thrombocytes, serum, corpuscles, erythrocytes, lymphocytes, plasma, iron, protein.

Exercise 9. Read, translate and study the information from the table.

FORMED ELEMENTS OF BLOOD

CELL TYPE	DESCRIPTION	FUNCTION
Erythrocytes	Biconcave disk; no nucleus; 7-8 μm in diameter	Transports oxygen and carbon dioxide
Leukocyte Neutrophil	Spherical cell; nucleus with two to four lobes connected by thin filaments; cytoplasmic granules stain a light pink or reddish-purple; 12-15 μm in diameter	Phagocytizes microorganisms
Basophil	Spherical cell; nucleus with two indistinct lobes; cytoplasmic granules stain blue-purple; 10-12 μm in diameter	Releases histamine, which promotes inflammation, and heparin, which prevents clot formation
Eosinophil	Spherical cell; nucleus often with two lobes; cytoplasmic granules	Releases chemicals that reduce inflammation; attacks certain worm parasites

	stain orange-red or bright red; 10-12 μm in diameter	
Lymphocyte	Spherical cell with round nucleus; cytoplasm forms a thin ring around the nucleus; 6-8 μm in diameter	Produces antibodies and other chemicals responsible for destroying microorganisms; responsible for allergic reactions, graft rejection, tumor control, and regulation of the immune system
Monocyte	Spherical cell; nucleus round, kidney, or horse-shoe shaped; contains more cytoplasm than does lymphocyte; 10-15 μm in diameter	Phagocytic cell in the blood; leaves the blood and becomes a macrophage, which phagocytizes bacteria, dead cells, cell fragments, and debris within tissues
Platelet	Cell fragments surrounded by a cell membrane and containing granules; 2-5 μm in diameter	Forms platelet plugs; releases chemicals necessary for blood clotting

Exercise 10. Translate the following sentences without using a dictionary:

1. Red blood cells are tiny, biconcave disks that are thin near their centers and thicker around their rims. 2. This special shape is related to the red cell's function of transporting gases. 3. Each red blood cell is about one-third hemoglobin by volume, and this substance is responsible for the color of the blood. 4. The number of red blood cells varies from time to time even in healthy individuals, the normal range for adult males is 4.2 to 5.8 million cells per mm3, and that for adult females is 3.6 to 5.2 million cells per mm. 5. After an infant is born, the red blood cells are produced almost exclusively by the tissue that lines the spaces within the red bone marrow. 6. White blood cells function primarily to control various disease conditions. 7. Normally, five types of white cells can be found in the circulating blood. 8. They are distinguished by their size, the nature of their cytoplasm, the shape of their nucleus, and their staining characteristics. 9. The procedure used to count white blood cells is similar to that used for counting red cells. Normally, there are from 5.000 to 10.000 white cells per mm3 of human blood. 10. Since the total number of white blood cells may change in response to abnormal conditions, white blood cells count is of clinical interest.

Exercise 11. Are these statements true (T), false (F)? Write true sentences.

1. Blood can be separated into solid and liquid portions. **(T/F)**
2. The solid cellular portion is mostly white blood cells. **(T/F)**
3. Red blood cells function to control disease conditions. **(T/F)**
4. The plasma proteins are classified into three major groups: albumins, globulins, and fibrinogens. **(T/F)**
5. Total blood volume does not vary by the sex (male or female). **(T/F)**

PART II. CIRCULATORY (CARDIOVASCULAR) SYSTEM

Active Vocabulary

№	Word	Translation
1.	circulatory	кровоносний, пов'язаний з кровообігом
2.	blood	кров
3.	to mean	означати
4.	artery	артерія
5.	vein	вена
6.	capillary	капіляр
7.	chamber	порожнина (серця)
8.	atrium	передсердя (атріум)
9.	heart	серце
10.	auricle	передсерцеве вушко
11.	ventricle	шлуночок (серця)
12.	valve	клапан (серця)
13.	tricuspid valve	клапан тристулковий (передсерцевошлуночковий правий)
14.	mitral valve	мітральний, двостулковий клапан (передсерцевошлуночковий лівий)
15.	septum	перегородка (серця)
16.	vessel	судина
17.	systole	систола (серця)
18.	diastole	розширення серця
19.	hypertension	гіпертензія
20.	hypotension	гіпотензія
21.	lung	легеня
22.	aorta	аорта
23.	fluid	рідина
24.	plasma	плазма
25.	vascular	судинний
26.	humor	рідина (тканини)
27.	bloodstream	кровообіг
28.	hemoglobin	гемоглобін – пігмент крові людини
29.	carbon dioxide	вуглекислий газ
30.	oxygen	кисень
31.	corpuscle	тільце
32.	naked eye	неозброєне око
33.	continuous circulation	постійна церкуляція

Exercise 1. Read and memorize the given expressions and their Ukrainian equivalents. You will come across these expressions in the following text and they will be useful to understand it better.

1. It can be thought as – це може вважатись
2. The only route of communication – єдиний спосіб сполучення, з’єднання

3. To be supplied with smth. – постачатись чимось
4. To distribute smth. by means of smth. – розподіляти щось шляхом …
5. To form a close net-work – утворювати компактну сітку
6. Gradually joining together – поступово з'єднуючись
7. Too small to be seen – надто малі, щоб бути поміченими
8. To convert food to energy – перетворювати їжу на енергію

Exercise 2. Translate the following words and word-combinations into Ukrainian.

The system of blood circulation; the cardiovascular system; the heart; the arteries; the veins; capillaries; hollow muscle; four chambers; valve separates chambers; route of communication between these two parts of the heart; two isolated pumps; to be supplied with oxygen; to receive blood from the veins; well-oxygenated blood; to distribute blood to the entire body; the lesser circulatory system; the greater circulatory system; the dissolved nourishment; to nourish something; the impurities from the tissues; a close net-work; to join gradually; a red fluid; blood coagulates when it escapes.

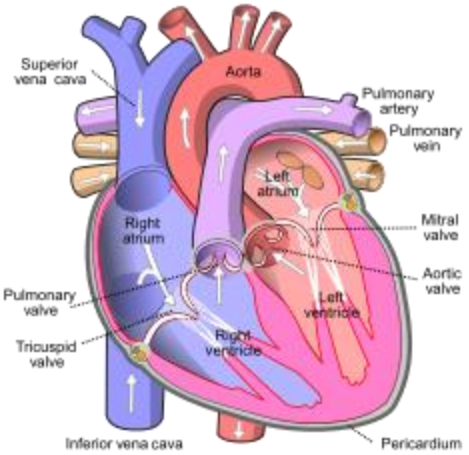
Exercise 3. Match the words with their definitions.

1. Heart	a) a system of organs that includes the heart, blood vessels, and blood which is circulated throughout the entire body of a human
2. aorta	b) two large veins (great vessels) that return deoxygenated blood from the body into the heart.
3. circulatory system	c)a blood vessel that carries blood away from the heart
4. vena cava	d)a blood vessel that carries blood towards the heart
5. pulmonary	e) the organ in your chest that sends the blood around your body
6. valve	f) having to do with the lungs
7. capillary	g) a flap in a bodily system that allows passage of material in one direction but prevents passage in other direction
8. artery	h) upper chamber of the heart that receive blood from the veins and push it down into the ventricles
9. vein	i) the smallest kind of blood vessel in the body

10. atrium	j) the main artery (thick tube carrying blood from the heart) that takes blood to the other parts of the body

Exercise 4. Read and translate the following text.

THE CIRCULATORY (CARDIOVASCULAR) SYSTEM



The cardiovascular system is the system of blood circulation. Hence, by the cardiovascular system is meant the heart, the arteries, the veins, and capillaries of the human body.

Basically, the heart is a hollow muscle located in the thoracic cavity between the lungs. The heart is responsible for the circulation of the blood. It is known that the heart is a pump. But it is an extraordinary pump. It weighs only about a pound but the heart of a healthy 70-kg person pumps about 7200 L of blood each day at rate of 5 L per minute. If the heart loses its ability to pump blood for even a few minutes, the life of the individual is in danger. The heart actually is divided into four chambers. The right heart consists of an upper chamber called an atrium (with the auricle) and a lower chamber called a ventricle. Between these two chambers is a one-way valve, called the tricuspid valve. The left heart has two similar chambers, but the valve that separates its chambers is called the mitral valve. Although the heart is a unit, anatomically and functionally, it can be thought of as two isolated pumps – the "right heart" and the "left heart". Normally the only route of communication between these two parts of the heart is the lung. The contraction of these muscles causes the blood to be pumped.

The right heart receives blood from the veins and pumps it into the lung by way of the lesser circulatory system. In the lung the blood is supplied with oxygen. Then it moves into the left heart. From the left heart the well-oxygenated blood is pumped into a large artery called the aorta, which distributes it to the entire body by means of the greater circulatory system. The blood is returned to the heart by means of the veins. A continuous circulation is thus kept up. The walls of the capillaries are so thin that the dissolved nourishment, which comes from the digestive system, and the oxygen, which comes from the lungs and is contained in the blood, can pass through them into the tissues of the body and so nourish it, while the impurities from the tissues are taken up by the capillaries and are carried away in the blood. The capillaries form a close net-work all over the body, and, gradually joining together and getting larger, they become veins.

The tissue of the heart consists of three layers. The exterior layer is the thin epicardium. The middle layer is the myocardium, the heart muscle itself. The inner lining of the heart is the endocardium, a thin, smooth structure. The pericardium is a fibrous sac that surrounds the heart. In the space between the pericardium and the epicardium there is a small amount of fluid. The heart rate varies depending on activity at any given moment. The control mechanism for the heart rate involves electrical impulses. One of the four chambers of the heart, the right atrium, contains a group of

cells called the sinus node. The sinus node produces electrical impulses that signal the muscle of the heart to contract in the pumping cycle. When a person is at rest, the heart pumps more slowly and at a regular rate, about 60 to 80 beats per minute. When a person runs, climbs stairs, or otherwise exert yourself, the sinus node issues electrical "instructions" to increase the pace of the heart in order to provide the muscles and other tissues with the necessary additional blood and its supply of oxygen. The heart rate may increase up to 200 beats per minute if you exert yourself strenuously. The heart rate may be affected by various factors including tobacco use, caffeine-containing foods, alcohol, and a number of drugs. In addition, the cardiac disorders may produce heart rate problems.

The blood is a red fluid, which coagulates when it escapes from a blood vessel. It consists of colorless fluid, called plasma or serum, and many millions of minute bodies, too small to be seen by the naked eye, which give the blood its color and substance, the corpuscles.

Exercise 5. Put the sentences in the order they appear in the text.

1.	The right heart consists of an upper chamber called an atrium and a lower chamber called a ventricle.	
2.	The capillaries form a close net-work all over the body.	
3.	The blood is returned to the heart by means of the veins.	
4.	The blood is a red fluid, which coagulates when it escapes from a blood vessel.	
5.	The right heart receives blood from the veins and pumps it into the lung	
6.	The heart is a hollow muscle which is divided into four chambers.	
7.	From the left heart the well-oxygenated blood is pumped into a large artery called the aorta.	
8.	Between these two chambers is a one-way valve, called the tricuspid valve.	
9.	The only route of communication between these two parts of the heart is the lung	
10.	The cardiovascular system is meant the heart, the arteries, the veins, and capillaries of the human body.	
11.	The exterior layer is the thin epicardium.	
12.	The control mechanism for the heart rate involves electrical impulses.	
13.	If the heart loses its ability to pump blood for even a few minutes, the life of the individual is in danger.	
14.	When a person is at rest, the heart pumps more slowly and at a regular rate	
15.	It weighs only about a pound but the heart of a healthy 70-kg person pumps about 7200 L of blood each day.	

Exercise 6. Complete the sentences with the words and phrases given below.

Circulatory system carries 1) _____ in blood to all parts of the body. Blood begins its journey in 2) _____, which beats 3) _____ it to the rest of the body. 4)_____ control how blood moves through the heart. Blood picks up oxygen in 5) _____ by traveling through the pulmonary artery. It then leaves the heart through 6) _____, the body's largest artery. Blood flows throughout the body in 7) _____. At the end of arteries are tiny 8) _____. Here, oxygen moves to parts of the body. 9)_____ without oxygen returns to the heart in veins. The largest of these, the vena cava, empties into the heart's right 10) _____. Then the cycle can begin again.

(Valves; blood; to pump; the aorta; the lungs; capillaries; atrium arteries; the heart; oxygen)

Exercise 7. Are these statements true (T), false (F)? Give true sentences.

1. The respiratory system is the system of blood circulation. **(T/F)**
2. The heart is a hollow muscle which is divided into five equal chambers. **(T/F)**
3. The heart of a healthy 70-kg person pumps about 5 L of blood per minute. **(T/F)**
4. The control mechanism for the heart rate involves electrical impulses. **(T/F)**
5. Between upper and lower chambers is a one-way valve, called the tricuspid valve. **(T/F)**
6. The valve that separates chambers is called the artery. **(T/F)**
7. The only route of communication between these two parts of the heart is the brain. **(T/F)**
8. Blood travels through the aorta to the lungs. **(T/F)**
9. Oxygen leaves blood through capillaries. **(T/F)**
10. The vena cava is the largest artery in the body**. (T/F)**
11. Vein is the smallest kind of blood vessel in the body. **(T/F)**
12. The blood is a colorless fluid, which coagulates when it escapes from a blood vessel. **(T/F)**
13. The walls of the capillaries are so thin that the dissolved nourishment, which comes from the circulatory system. **(T/F)**
14. The cardiac disorders don't produce heart rate problems**. (T/F)**
15. The blood is returned to the heart by means of the arteries. **(T/F)**

Exercise 8. Read the text again. Answer these questions.

1. What does circulatory system consist of?
2. How does blood move through the circulatory system?
3. What is heart? What is its function?
4. What is the structure of the right heart?
5. What happens if the heart loses its ability to pump blood for even a few minutes?
6. What is the structure of the left heart?
7. What is the only route of communication between these two parts of the heart?
8. Does blood without oxygen return to the left or right atrium?
9. How many beats does the heart make per minute?
10. What part of heart receives blood from the veins and pumps it into the lung by way of the lesser circulatory system?
11. What is the sinus node? What does it produce?
12. What layers does the heart consist of?

13. Describe the route of the lesser circulatory system.
14. Describe the route of the greater circulatory system.
15. What is the heart rate affected by?
16. How does the dissolved nourishment from the digestive system pass into the tissues of the body?
17. What does blood consist of?

Exercise 9. Insert the missing prepositions (at; from; into; on; per; by; for; of; in; to).

1. The heart actually is divided _four chambers. 2.During physical exercises the amount _ blood pumped per minute increases several times. 3. If the heart loses its ability to pump blood _ even a few minutes, the life of the individual is in danger. 4. The superior vena cava and inferior vena cava carry blood _ the body to the right atrium. 5. The pericardium consists _ fibrous connective tissue. 6. Seven large veins carry blood _ the heart. 7. The heart rate varies depending _ activity _ any given moment. 8. The heart makes from 60 to 72 beats _ minute. 9. _ some months the rate of your heartbeat will average about 83 beats per minute. 10. Blood consists of colorless fluid, called plasma or serum, and many millions of minute bodies, too small to be seen _ the naked eye.

Exercise 10. Make the following sentences negative. Then give the right information.

MODEL: The heart consists of three (four) chambers. The heart doesn't consist of three chambers. It consists of four chambers.

1. The muscular structure of the heart consists of atrioventricular (fibrous) bands. 2. The vascular system has three groups of arteries (vessels). 3. The vessels carrying blood to and from the tissues of the body compose the endocrine (general) system. 4. The heart contracts to pump blood through the vessels of the head (body). 5. The heart of a healthy person pumps about 7200 L of blood each month (day).

Exercise 11. Speak on:

1. The location and weight of heart;
2. The rate of heartbeat;
3. Heart chambers;
4. Layers of the heart.

Exercise 12. Translate the following sentences into English:

Серце знаходиться в грудній порожнині. Частота серцевих скорочень складає приблизно 72 ударів за хвилину. Серце складається з чотирьох камер. Вони розділені клапанами. Нижня камера називається шлуночком, а верхня – передсердям. Між правим шлуночком і правим передсердям знаходиться тристулковий клапан. Між лівим шлуночком і лівим передсердям розташований двостулковий (мітральний) клапан. Перегородка, яка відокремлює лівий шлуночок від правого шлуночка, називається міжшлуночковою перегородкою. Серце нагнітає кров по судинах до всіх частин тіла. Тканина серця складається з трьох шарів – епікарду, міокарду і ендокарду.

Exercise 13. Complete the following dialogues:

A.

– For generations, poets have endowed the human heart with a wide range of emotional abilities. But we (as medical students) must have deep knowledge of

anatomy and physiology of human heart. That is why I would like to ask you some questions if you don't mind. What is a heart?

– _ (muscle)

– Where is the heart located?

– _ (thoracic cavity)

– What is the weight of the heart?

– _ (male – … grams, female – … grams)

– How many litres of blood does the heart pump each day?

– _ (7200 L)

B.

– I know that heart consists of some chambers. What are they?

– _ (atrium, ventricle)

– What is between the right atrium and the right ventricle?

– _ (tricuspid valve)

– What valve separates the left atrium from the left ventricle?

– _ (bicuspid valve)

– What valve separates the left ventricle from the right ventricle?

– _ (interventricular valve)

Exercise 14. Reproduce the similar dialogue.

PART III. CARDIOVASCULAR DISEASES. DRUG THERAPY OPTIONS

Speaking

1. What cardiovascular diseases do you know?
2. Number of cardiovascular diseases is increasing nowadays. What are the main reasons?
3. What should people do to prevent cardiovascular diseases?

Active Vocabulary

№	Word	Translation
1.	to radiate	віддавати
2.	heart attack	серцевий напад
3.	atherosclerosis	атеросклероз
4.	plaque	наліт
5.	clot	згусток
6.	cholesterol	холестерин
7.	myocardial infarction	інфаркт міокарда
8.	hypertension	гіпертензія
9.	stroke	інсульт
10.	ischemic	ішемічний
11.	hemorrhagic	геморагічний
12.	angina	стенокардія
13.	dyspnea	задишка
14.	dizziness	запаморочення
15.	fatigue	втома

16.	sweat	піт
17.	cellular death	клітинна смерть
18.	workload	навантаження
19.	diuretic	сечогінний
20.	obesity	ожиріння

Exercise 15. Translate the following words and word-combinations into Ukrainian.

Numerous disorders of the heart; blood vessels; behavioral risk factors; unhealthy diet; physical inactivity; plaque builds up; the inner walls of the blood vessels; to thicken the arteries; to stop the blood flow; to cause any signs and symptoms; to lead to a medical emergency; to experience any signs and symptoms; to affect artery; the most effective at decreasing cholesterol; to block the blood flow by a blood clot; pain radiating to the arms; survive their first heart attack; reduce high cholesterol levels; to lower blood pressure; to prevent further attacks.

Exercise 16. Read and translate the text.

CARDIOVASCULAR DISEASES AND DRUG THERAPY OPTIONS

Cardiovascular diseases (CVDs) are a group of numerous disorders of the heart and blood vessels. CVDs are the number one cause of death globally. The most important behavioral risk factors of heart disorders are unhealthy diet, physical inactivity, tobacco use and alcohol abuse.

Many of heart problems are related to a process called **atherosclerosis**. Atherosclerosis develops when plaque builds up on the inner walls of the blood vessels that supply the heart or brain. This buildup narrows and thickens the arteries. If a blood clot forms, it can stop the blood flow. Atherosclerosis usually doesn't cause any signs and symptoms until it leads to a medical emergency, such as a heart attack or stroke. However, if signs and symptoms are experienced, they depend on the artery affected and include: angina, dyspnea, arrhythmia, hypertension, fatigue, confusion, dizziness, sudden and severe headache, sleep problems and lack of energy.

In addition to lifestyle changes and low cholesterol diet effective drug therapy options are available. **Statins** are recommended for most patients. They are most effective at decreasing LDL (bad) cholesterol, but also have modest effects on reducing triglycerides (blood fats) and raising HDL (good) cholesterol.

A **heart attack** (a myocardial infarction) occurs when the blood flow to a part of the heart muscle is blocked by a blood clot. Symptoms of a heart attack include pain or discomfort in the center of the chest radiating to the arms, the left shoulder, elbows, lower jaw, or upper back. In addition the person may experience shortness of breath, vomiting, light-headedness, breaking into a cold sweat.

Most patients survive their first heart attack and return to their normal lives. Heart attack treatment involves a variety of drugs. **Anticoagulants** are used to inhibit the formation of blood clots by affecting blood coagulation factors. **Antiplatelet agents** keep blood clots from forming by preventing blood platelets from sticking together. **Beta blockers** decrease the heart rate and cardiac output, which lowers blood pressure. **Combined alpha and beta blockers** are used for those patients experiencing a hypertensive crisis. **Calcium channel blockers** interrupt the movement of calcium into

the cells of the heart and blood vessels, decrease the heart's pumping strength and relax blood vessels. **Cholesterol-lowering medications** (statins) reduce high cholesterol levels. **Digitalis glycosides** increase the force of the heart's contractions, which can be beneficial in heart failure and for irregular heartbeats. **Diuretics** cause the body to excrete excess fluids and sodium through urination. They help to relieve the heart's workload. **Vasodilators** relax blood vessels and increase the supply of blood and oxygen to the heart.

An **ischemic stroke** (the most common type) happens when a blood vessel that feeds the brain is blocked, usually by a blood clot. A **hemorrhagic stroke** occurs when a blood vessel within the brain bursts. The most common symptom of a stroke is sudden weakness or paralysis of the face, arm, or leg, most often on one side of the body. Other symptoms include sudden onset of: numbness of the face, arm, or leg; confusion, difficulty speaking or understanding speech; difficulty seeing with one or both eyes; difficulty walking, dizziness, loss of balance or coordination; severe headache; unconsciousness.

Tissue plasminogen activator (tPA) is a thrombolytic (a "clot-busting" drug) given to break up blood clots if the victim gets to the hospital within 3 hours of the first symptoms of an ischemic stroke. To prevent further attacks of stroke the doctor usually prescribes anticoagulants, antiplatelet medicines, statins, blood pressure medications, and medicines to deal with depression and pain.

Cessation of tobacco use, reduction of salt in the diet, consuming fruits and vegetables, regular physical activity and avoiding harmful use of alcohol generally reduce the risk of cardiovascular diseases.

Exercise 17. Put the sentences in the order they appear in the text.

1.	To prevent further attacks of stroke the doctor usually prescribes anticoagulants, antiplatelet medicines, statins, blood pressure medications, and medicines to deal with depression and pain.	
2.	Beta blockers decrease the heart rate and cardiac output, which lowers blood pressure.	
3.	The most common symptom of a stroke is sudden weakness of the face, arm, or leg, most often on one side of the body.	
4.	Atherosclerosis usually doesn't cause any signs and symptoms until it leads to a medical emergency, such as a heart attack or stroke.	
5.	In addition the person may experience shortness of breath, vomiting, light-headedness, breaking into a cold sweat.	
6.	The most important behavioral risk factors of heart disorders are unhealthy diet, physical inactivity, tobacco use and alcohol abuse.	
7.	Statins are recommended for most patients.	
8.	If a blood clot forms, it can stop the blood flow.	
9.	Cessation of tobacco use, reduction of salt in the diet, consuming fruits and vegetables, regular physical activity and avoiding harmful use of alcohol generally reduce the risk of cardiovascular diseases.	
10.	Most patients survive their first heart attack and return to their normal lives.	

Exercise 18. Match the words from the text with their definitions (a-j).

1. abuse	a) a minute cell occurring in the blood of vertebrates and involved in clotting of the blood
2. buildup	b) disorientation
3. arrhythmia	c) a compound consisting of three fatty acids and glycerol
4. confusion	d) improper or excessive use; misuse
5. triglyceride	e) an oral lipid-lowering medicine
6. platelet	f) an accumulation, as of a material
7. statin	g) abnormal loss of muscle function or of sensation
8. paralysis	h) an irregularity in the force or rhythm of the heartbeat
9. depression	i) dissolution or destruction of a thrombus
10. clot-busting	j) the condition of feeling sad

Exercise 19. Complete the sentences with the words and phrases in the box.

heart digitalis tobacco reduction blood pressure cholesterol survive unconsciousness blood flow shortness of breath

1. The cardiologists advocate the _____ of salt in the diet.
2. A wide variety of medications known as antihypertensive can be bought by prescription to lower _____.
3. The patients who take aspirin to reduce the risk of _____ attack may diminish its action by taking anti-inflammatory drugs at the same time.
4. Mary has just received the telephone call from her cardiologist informing her about extremely high _____ levels.
5. Some heart attacks may be accompanied by _____.
6. A Welsh family known as the physicians of Myddvai collected different herbs and _____ was included in their prescriptions.
7. To _____ in the fight against likely complications of a stroke rehabilitation and family support should be greatly valued.
8. Atherosclerosis and thrombosis interfere with normal _____.
9. Overexertion, insomnia, physical inactivity, tobacco use and alcohol abuse may result in dyspnea known as _____.
10. The habit of smoking nicotine-rich leaves of _____ leads commonly to cardiovascular diseases.

Exercise 20. Are these statements true (T), false (F)? Write true sentences.

1. Cardiovascular diseases are a group of numerous disorders of the stomach and bowels. **(T/F)**
2. If a blood clot forms, it improves the blood flow. **(T/F)**
3. To prevent further attacks of stroke the doctor usually prescribes anticoagulants. **(T/F)**
4. The most important behavioral risk factors of heart disorders are unhealthy diet, physical inactivity, tobacco use and alcohol abuse. **(T/F)**
5. Tissue plasminogen activator is given if the victim gets to the hospital within 5 hours of the first symptoms of a hemorrhagic stroke. **(T/F)**
6. Most patients do not survive their first heart attack and die. **(T/F)**

7. Diuretics cause the body to retain fluids and sodium. **(T/F)**

8. A hemorrhagic stroke occurs when a blood vessel within the brain bursts. **(T/F)**

9. Statins are most effective at decreasing HDL (good) cholesterol. **(T/F)**

10. Atherosclerosis develops when plaque builds up on the inner walls of the blood vessels that supply the heart or brain. **(T/F)**

Exercise 21. Read the text again. Answer these questions.

1. What is number one cause of death globally?

2. What are the most important behavioural risk factors of cardiovascular disorders?

3. How can the human health be affected by atherosclerosis?

4. What therapeutic action do statins produce?

5. When does a myocardial infarction occur?

6. What drug options are available today for the treatment of heart attacks?

7. What prognosis does a cardiologist usually make after the patient suffers his first heart attack?

8. What type of a stroke is the most common? When does it develop?

9. What medications are prescribed to prevent further attacks of stroke?

10. What general recommendations are given to the patients to reduce the risk of cardiovascular diseases?

Exercise 22. Read the following text. Write down unknown medical terms and translate them into Ukrainian. Retell the text:

MYOCARDIAL INFARCTION

Myocardial infarction is a synonym for heart attack. Myo means “muscle”, kardia means “heart”, an infarct is an area of tissue that has died because of oxygen starvation. Myocardial infarction results from a prolonged lack of blood flow to a portion of the cardiac muscle resulting in a lack of oxygen and cellular death. Myocardial infarctions vary with the amount of cardiac muscle affected and the part of the heart that is affected. If blood supply to cardiac muscle is reestablished within 20 minutes, no permanent damage occurs. If the lack of oxygen lasts longer, cell death results. However, within 30 to 60 seconds after blockage of a coronary blood vessel, functional changes are obvious. The electrical properties of the cardiac muscle are altered, and the ability of the cardiac muscle to function properly is lost. The most common cause of myocardial infarction apparently is the formation of a thrombus that blocks a coronary artery. Coronary arteries narrowed by atherosclerotic lesions provide one of the conditions that increase the chances for myocardial infarctions. The emergency signs and symptoms of myocardial infarction are the following: intense, prolonged chest pain, often described as a feeling of heavy pressure; pain may extend beyond the chest to the left shoulder and arm, back, and even teeth and jaw; prolonged pain in upper abdomen; shortness of breath, fainting episode; and nausea, vomiting, and intense sweating. Heart attacks are the leading cause of death for both men and women worldwide. Important risk factors are previous cardiovascular disease, older age, tobacco smoking, high blood levels of certain lipids (triglycerides, low-density lipoprotein) and low levels of high density lipoprotein (HDL), diabetes, high blood pressure, obesity, chronic kidney disease, heart failure, excessive alcohol consumption, the abuse of certain drugs, and chronic high stress levels.

Exercise 23. Complete the following dialogues:

A.

- Where is the blood entering the right side of the heart returning from?
- _ (tissues).
- What has the blood entering the right side of the heart been delivered by?
- _ (veins).
- What is the right atrium?
- _ (the receiving chamber).
- What atrium is the low-pressure pump?
- _ (the right atrium).
- What valve does the right atrium move the blood into the right ventricle through?
- _ (the tricuspid valve).

B.

- _?
- The pumping action moves the blood from the lungs to the left atrium.
- _? - The left atrium pumps the blood into the left ventricle.
- _?
- The left atrium pumps the blood into the left ventricle through the mitral valve.
- _?
- The left ventricle sends the oxygen-enriched blood into the aorta.
- _?
- Aorta is the principal artery of the human body that subdivides and delivers the blood to the body's tissues, including the brain, organs, and extremities.

Exercise 24. Compose the similar dialogues.

Exercise 25. Memorize the following words and word combinations and make up sentences with them.

1. Sharp pain гострий біль;
2. rheumatism ['ru:mqtIzm] ревматизм;
3. stitch pain колющий біль;
4. to ascend staircase підійматися сходами;
5. to tire стомлюватися;
6. disturbance порушення.

Exercise 26. Read and translate the following dialogue:

AT THE CARDIOLOGIST'S

Cardiologist: What do you complain of?

Patient: My heart often troubles me.

C.: Is your pain cutting or dull?

P.: I have a stitch pain in my heart.

C.: Do you have any difficulty in breathing?

P.: Yes, I do. I have breathlessness when ascending a staircase or walking quickly.

C.: What else troubles you?

P.: My temperature is not constant. It is rising by the evening. I often have a general malaise and get tired after some physical exertion.

C.: When did you notice these disturbances? When have the pains in your heart become constant?

P.: These disturbances appeared some years ago. My pains have become constant this year.

C.: What diseases did you suffer from in the past?

P.: In my childhood I often had quinsy but then my tonsils were removed. During some years ago I am ill with rheumatism. **C.:** Do you have a pain in your joints?

P.: Yes, I do. My hands and legs become periodically swollen and painful.

C.: Were you treated at a hospital?

P.: Yes, I was. Last year I was hospitalized and treated at the hospital. My diagnosis was rheumatism.

C.: Did you have any improvement after the treatment in the hospital?

P.: Yes, I did. Last summer I was treated at the sanatorium too and I felt well.

C.: Now strip to the waist, please. I'll examine you.

(After examination)

C.: You are seriously ill. Your main disease is rheumatism and that's why you must periodically be treated at a hospital. But at present you have to make electrocardiogram and to come to me. I'll administer you the treatment for your heart. I advise you to avoid intensive physical exertion. You should not be tired. Your diet has to be nourishing and containing many vitamins but it is limit in salt. Walk in the fresh air as much as possible.

Exercise 27. Reproduce the similar dialogue.

Exercise 28. What facts can you present to your group about:

The circulatory system; organs of the circulatory system; the heart; blood; cardiovascular diseases; drug therapy options.

UNIT 4.3.1. LIMPHATIC SYSTEM

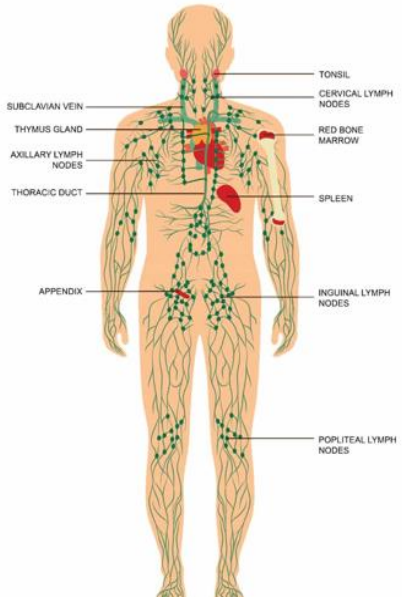
Speaking

1. What does the lymphatic system consist of?
2. What are the main functions of the lymphatic system?
3. What is the difference between the blood and lymphatic capillaries?

Active vocabulary

lymphatic vessels	лімфатичні судини
node	вузол
duct	протока
thoracic duct	грудна протока
tissue fluid	тканинна рідина
protein	protein
bloodstream	кровотік, кровоносне русло
foreign substances	сторонні речовини
valves	клапани
backflow	зворотний потік
subclavian	підключичний
phagocytosis	фагоцитоз
impurities	домішки
tonsils	мигдалини
thymus	вилочкова залоза
infancy	дитинство
puberty	статеве дозрівання, змужнілість
to shrink	скорочуватися
worn-out	зношений, застарілий
connective tissue	сполучна тканина
to cleanse	очистити

LYMPHATIC SYSTEM AND LYMPHOID TISSUE



The lymphatic system consists of capillaries, nodes, ducts and lymphatic vessels, spread through the whole body.

About 2 liters of lymph fill the lymphatic vessels. The lymphatic capillaries drain away excess tissue fluid that does not return to the blood capillaries. Then, they are to absorb protein from the tissue fluid and return it to the bloodstream. Before the lymph reaches the veins, it flows through a series of filters, called lymph nodes, where bacteria and other foreign substances are destroyed.

Lymphatic capillaries made of endothelium allow for easy passage of soluble materials and water. The lymphatic capillary begins blindly and the other end of it communicates with the larger lymphatic vessel.

The lymphatic vessels are thin-walled and delicate, they have the valves to prevent backflow in the same way. The lymphatic vessels include superficial and deep sets.

They accompany the similar veins. The lymphatic vessels are named according to their location.

The two terminal vessels are the right lymphatic duct and the thoracic duct. The right lymphatic duct receives the lymph from the right side of the head, neck, thorax and the right arm and empties into the right subclavian vein.

The rest of the body is drained by the thoracic duct, which is larger than the right lymphatic duct, and it empties into the left subclavian vein.

Lymph is moved by compression of the lymphatic vessels as skeletal muscles contract during movement. The lymph nodes are made of lymphatic tissue, which is characterized by removal of impurities (carbon particles, cancer cells, pathogenic organisms, dead blood cells through filtration and phagocytosis and production of antibodies (substances in the blood that aid in combating infection) or attacking od foreign invaders directly. The lymph nodes are small, rounded masses covered with fibrous connective capsule, they have the hilus (the exit) for lymph vessels carrying the lymph out of the node.

The nodes are the filters of lymph. Another lymphoid masses are tonsils. They are designed to filter tissue fluid. The thymus is located in the upper thorax beneath the sternum. It has been considered to be a part of the lymphatic system. The thymus plays a key role in the development of the immune system before birth and during the first few months of infancy.

The thymus is most active during early life. After puberty, the tissue undergoes changes, it shrinks in size and is replaced by connective tissue.

The spleen is an organ designed to filter the blood. It's located in the abdominal cavity under the diaphragm, it is soft with a purplish colour. It's a flattened organ of about 12,5 to 16 cm long and 5to 7,5 cm wide. The spleen has an unusually large blood supply. The function of the spleen are listed below:

1. Cleansing the blood by filtration and phagocytosis.
2. Destroying old worn-out red blood cells.
3. Producing red blood cells before birth.
4. Serving as a storage of blood.

Exercise 1. Find English equivalents in the text.

Дозволяють легко просочуватись розчинним компонентам і воді; лімфатичні і кровоносні капіляри; всмоктують білки з тканинної рідини; з'єднують із більшими лімфатичними судинами; права лімфатична протока; грудинна протока; лімфатичний капіляр з одного боку сліпий (закритий; рухається під тиском; вузли; мигдалини; за грудиною; зменшується у розмірі; очищають кров.

Exercise 2. Answer the following questions.

1. What is lymph?
2. Can you characterize the lymphatic capillary?
3. What are nodes?
4. What are their functions?
5. What can you say about the lymphatic vessels?
6. What are the two main lymphatic ducts?
7. What is the thymus and what are its functions?

8. What organ is the spleen? Can people live without the spleen?
9. What are the functions of the spleen?

Exercise 3. Write out the following clinical terms into your vocabulary and learn them.

lymphangitis	лімфангіт
septicemia	зараження крові, сепсис
elephantiasis	слоновість, слонова хвороба
lymphadenitis	лімфаденіт
lymphadenopathy	лімфаденопатія
infectious mononucleosis	інфекційний мононуклеоз
splenomegaly	збільшення селезінки
lymphoma	лімфома

Exercise 4. Read and translate the text. Put questions to the text.

Disorders of Lymphatic System and Lymphatic Tissue

There are many different disorders of the lymphatic system.

In inflammation of the lymphatic vessels called lymphangitis, red streaks can be seen extending along the extremity. Septicemia or blood poisoning may occur because of streptococci.

Elephantiasis is a great enlargement of the lower extremities resulting from blockage of lymphatic vessels with tiny parasites carried by insects (flies or mosquitoes). The disease is common in Asia and in some of the Pacific islands. No cure is known.

Lymphadenitis is the inflammation of lymphatic nodes, they become larger and tender. This condition reflects the body's attempt to combat an infection.

Cervical lymphadenitis is a symptom of measles, scarlet fever, septic sore throat, diphtheria.

Lymphadenopathy is the disease of lymph nodes. Splenomegaly is enlargement of the spleen, accompanies acute infections, such as scarlet fever, typhoid fever, syphilis.

Hodgkin's disease is the malignant disease with enlargement of lymph nodes, commonly occurs in young men. The nodes in the neck, armpit, groin and thorax enlarge. Chemotherapy and radiotherapy have been used with good results.

Any tumor benign or malignant occurring in the lymphoid tissue is called lymphoma. Lymphosarcoma is a malignant tumor. It is a very rare disease. Early surgery is the only possible cure.

UNIT 4.3.2. IMMUNE SYSTEM

Speaking.

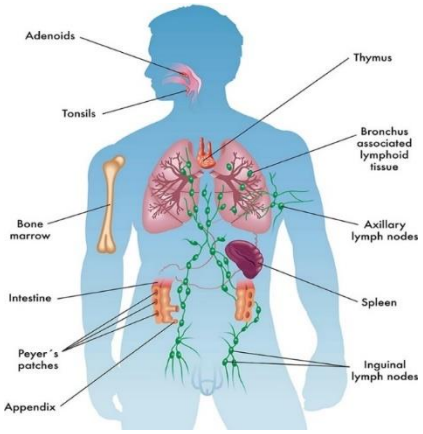
1. Why is the immune system one of the most important systems in the human body?
2. What is the function of the immune system?
3. What is immunity?
4. What types of immunity do you know?
5. What is your attitude towards vaccinations (COVID-19 Vaccination)?
6. What are the main parts of the immune system?

Active Vocabulary

underactive	слабоактивний, недостатньо активний
overactive	надмірно (гіпер) активний
fungi	грибки
abnormal cells	аномальні клітини
to expose	викривати, піддавати
exposure	контакт, незахищенність
bone marrow	кістковий мозок
thymus gland	вилочкова залоза
mature	зрілий
bloodstream	кровотік, кровоносне русло
lymph nodes	лімфатичні вузли
immune cells	клітини імунної системи
mucous membranes	слизові оболоноки
foreign substance	стороння речовина
cell-mediated	клітинно-опосередкований (клітинний)
humoral	гуморальний
to engulf	поглинати
autoimmune diseases	аутоімунні захворювання
immunodeficiency	імунодефіцит
multiple sclerosis	розсіяний склероз

WHAT IS THE IMMUNE SYSTEM?

The immune system defends the body from infection. It is made up of a complex network of cells, chemicals, tissues and organs. An underactive or overactive immune system can cause health issues.



The immune system's job is to protect the body from infection. It recognises invaders such as bacteria, viruses and fungi as well as abnormal cells. It mounts an immune response to help the body fight the invasion.

When harmful microbes (tiny particles) enter and invade the body, the body produces white blood cells to fight the infection. The white blood cells identify the microbe, produce antibodies to fight it, and help other immune responses to occur. They also 'remember' the attack.

This is how vaccinations work. Vaccines expose the immune system to a dead or weakened microbe or to proteins from a microbe, so that the body is able to recognise and respond very quickly to any future exposure to the same microbe.

The immune system involves many parts of the body. Each part plays a role in recognising foreign microbes, communicating with other parts of the body, and working to fight the infection.

Parts of the immune system are:

- skin – the first line of defence;
- bone marrow – helps produce immune cells;
- the thymus, a gland in the upper chest where some immune cells mature;
- lymphatic system, a network of tiny vessels which allows immune cells to travel between tissues and the bloodstream. The lymphatic system contains lymphocytes (white blood cells; mostly T cells and B cells), which try to recognise any bacteria, viruses or other foreign substances in the body and fight them. They are carried in a milky fluid called lymph;
- lymph nodes, small lumps in the groin, armpit, around the neck and elsewhere that help the lymphatic system to communicate. They can become swollen when the body mounts an immune response;
- the spleen, an organ under the ribs on the left that processes information from the blood;
- mucous membranes, like the lining of the inside of the mouth.

Human body has many mechanisms that defend the person against infectious organisms. The skin and gastrointestinal tract are the first lines of defense.

The human organism has a specific capacity of resistance against infection called immunity. There are two general categories of immune mechanisms: humoral and cell-mediated.

Humoral immunity is based on certain body proteins called antibodies, which are found dissolved in the blood and other body fluids. The antibodies are made by plasma cells, which are derived from certain white blood cells called B lymphocytes (or B cells). The antibodies are produced in response to exposure to a foreign substance. Any foreign substance that enters the body and causes the manufacture of antibodies is called an antigen.

Cell-mediated immunity is based on the actions of phagocytes and other white blood cells. Phagocytes are cells that can dissolve or engulf and destroy viruses, bacteria, fungi, and cells foreign to the body. White blood cells that are involved in this

defense are a type of lymphocyte called T cells because they are derived from the thymus gland.

Overactivity of the immune system is related to disorders such as allergies and autoimmune diseases.

Allergies involve an immune response to something considered harmless in most people, such as pollen or a certain food.

Autoimmune diseases, such as multiple sclerosis and rheumatoid arthritis, occur when the immune system attacks normal components of the body.

Underactivity of the immune system, or immunodeficiency, can increase the risk of infection. You may be born with an immunodeficiency (known as primary immunodeficiency, PID), or acquire it from a medical treatment or another disease (known as secondary immunodeficiency).

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

Dissolved; thymus gland; harmful microbes; tiny particles; gastrointestinal tract; cell-mediated; fungi; engulf; in response to; foreign substance; majority; abnormal cells; invaders; defense; exposure, nature; immune; immune response; lymphoid; hormone; thymus; antigen; spleen; humoral; certain; plasma; cell; lymphocyte; phagocyte; engulf; virus; fungi; healthy diet; immunodeficiency.

Exercise 2. Translate the following words and word-combinations into English: Захист; поглинати; знищувати, ліквідувати, аномальні клітини, анулювати; розчинений; стримувати; тимус, вилочкова (зобна) залоза; клітинноопосередкована; лімфатичні вузли, контакт з джерелом зараження; здібність до опору; слизові оболоноки, аутоімунні захворювання, грунтуватися на; кровоносне русло, вражати організм людини.

Exercise 3. Insert the missing words:

1. The immune system is probably the most important _ in the human body. 2. It is a complex of organs, all of which work together to clear _ from the body. 3. The organs of the immune system are called _ organs. 4. The major parts of immune system are the _, spleen, lymph system, bone marrow, white blood cells, antibodies, and hormones. 5. Human body has many mechanisms that _ the person against infectious organisms. 6. The skin and gastrointestinal tract are the first lines of _. 7. The human organism has a specific capacity of resistance against infection called _ 8. There are two general categories of immune mechanisms: _ and cell-mediated.

Exercise 4. Answer the following questions:

1. What is the immune system?
2. What organs does the immune system consist of?
3. What is the main goal of the immune system?
4. What are the first lines of defense of the person against infectious organisms?
5. What categories of immune mechanisms do you know?
6. What is humoral immunity based on?
7. What is cell-mediated immunity based on?
8. What are the types of organisms that cause infectious disease?

Exercise 5. Match the following terms with their definitions:

1. Antibody	a) Cell possessing the property of ingesting bacteria, foreign particles, and other cells.
2. Antibody-mediated immunity	b) Resistance to infectious disease and harmful substances.
3. Humoral immunity	c) Immunity due to antibodies.
4. Immunity	d Immunity due to B cells and the production of antibodies.
5. Phagocyte	e) Protein found in the plasma that is responsible for humoral immunity; binds specifically to antigen.

Exercise 6. Insert the missing prepositions (for, into, from, of):

1. The majority _ organisms that can invade the human body do not produce disease, but some do. 2. The basic types _ organisms that cause infectious disease are bacteria, viruses, fungi, protozoa, and helminths. 3. Possible help _ the immune system is a healthy diet, with lots of natural sources of vitamins A, C and E, zinc, iron, and vitamin B6. 4. In active artificial immunity an antigen is introduced _ an individual to stimulate his/her immune system. 5. Active natural immunity results _ natural exposure to an antigen.

Exercise 7. Speak on the immune system.

Exercise 8. Read the following text and compose detailed plan to it:

IMMUNITY

There are four ways to acquire specific immunity: active natural, active artificial, passive natural, and passive artificial. Natural and artificial refer to the method of exposure. Natural exposure implies that contact with antigen or antibody (protein found in the plasma is responsible for humoral immunity) occurrs as part of everyday living and was not deliberate. Artificial exposure, also called immunization, is a deliberate introduction of antigen or antibody into the body.

"Active" and "passive" describe whose immune system is responding to the antigen (antigens are large molecules that stimulate a specific immune system response). When the individual is exposed to the antigen (either naturally or artificially), there can be a specific immune system response, which is called active immunity because the individual's own immune system is the cause of the immunity. Passive immunity occurs when another person or animal develops immunity and the immunity is transferred to a nonimmune individual.

Active natural immunity results from natural exposure to an antigen. Because the individual is not immune during the first exposure, he/she usually develops the symptoms of the disease. Interestingly, exposure to an antigen does not always produce symptoms. In active artificial immunity an antigen is deliberately introduced into an individual to stimulate his/her immune system. This process is vaccination, and the introduced antigen is vaccine. Injection of the vaccine is the usual mode of administration (tetanus toxoid, diphtheria, and whooping cough), although ingestion (Sabin poliomyelitis vaccine) is sometimes used.

Passive natural immunity results from transfer of antibodies from a mother to her fetus or baby. Achieving passive artificial immunity usually begins with vaccinating an animal such as a horse. After the animal's immune system responds to the antigen,

antibodies are removed from the animal and are injected into the individual requiring immunity.

Exercise 9. Translate the following abstract without using dictionary:

Immunity can be natural or artificial, innate or acquired, and active or passive. Active natural (contact with infection): develops slowly, is long term, and antigen specific. Active artificial (immunization): develops slowly, lasts for several years, and is specific to the antigen for which the immunization was given. Passive natural (transplacental = mother to child): develops immediately, is temporary, and affects all antigens to which the mother has immunity. Passive artificial (injection of gamma globulin): develops immediately, is temporary, and affects all antigens to which the donor has immunity.

PART 2. DISORDERS OF THE IMMUNE SYSTEM

Exercise 10. Read the following text, entitle it, and discuss obtained information with your fellow-student:

Disorders in the immune system can cause various diseases. Immunodeficiency diseases occur when the immune system is less active than normal, resulting in recurring and life-threatening infections. Immunodeficiency can either be the result of a genetic disease, such as severe combined immunodeficiency, or be produced by pharmaceuticals or an infection, such as the acquired immune deficiency syndrome (AIDS) that is caused by the retrovirus HIV. In contrast, autoimmune diseases result from a hyperactive immune system attacking normal tissues as if they were foreign organisms.

Common autoimmune diseases include rheumatoid arthritis, diabetes mellitus I, and lupus erythematosus. These critical roles of immunology in human health and disease are areas of intense scientific study.

Both immune cells and foreign molecules enter the lymph nodes via blood vessels or lymphatic vessels. All immune cells exit the lymphatic system and eventually return to the bloodstream. Once in the bloodstream, lymphocytes are transported to tissues throughout the body, where they act as sentries on the lookout for foreign antigens.

We are all born with a genetically based natural defense system. The skin is the most important organ of our natural defense system. An injury is a gateway for germs to enter the body. This, or the presence of a foreign object within the body, causes the immune system to act, getting rid of the invaders, while the skin takes care of the wound. When this process does not take place, it results in an infection. Another sign of the functioning of the immune system is when we get a rash or a bump on the skin after a mosquito bites.

When you have a vaccination, your immune system is given a copy of a specific disease, so that if the system comes across the disease again, the memory cells in the immune system will know exactly what action to take, likewise, if you have had a disease before, they know what to do in the event of reinvasion.

Exercise 11. Make up a dialogue on the immune system.

Exercise 12. Translate the following sentences into English:

1. Лімфатичні вузли, селезінка, червоний кістковий мозок і загруднинна залоза об'єднуються в імунну систему. 2. Імунна система забезпечує захист організму від генетично чужорідних клітин та речовин. 3. Імунітет – це спосіб захисту організму від інфекційних і неінфекційних агентів та речовин, які мають ознаки чужорідної генетичної інформації. 4. Залежно від 35 механізмів, які формують несприйнятливість організму до патогенних факторів, виділяють такі основні види імунітету: природний та штучний, активний та пасивний. 5. Імунна система включає всі органи, в яких відбувається утворення і диференціація клітин, що здійснюють захисні реакції організму. 6. Найважливіші клітини імунної системи – це лімфоцити, які поділяються на Т-лімфоцити і В-лімфоцити.

Exercise 13. Read and translate the following text:

AIDS (Acquired Immunodeficiency Syndrome)

Acquired Immunodeficiency Syndrome (AIDS) is an immune deficient state caused by human immunodeficiency virus (HIV). AIDS was first reported in 1981. HIV is transmitted from an infected to a noninfected person by transfer of body fluids (e.g., blood, semen, vaginal secretions, 37 breast milk) containing the virus. The major methods of transmission are sexual contact, contaminated needles used by intravenous drug users, and blood products. Once infected with HIV, most people have no symptoms and no indication that they are infected. However infected individuals are able to transmit the virus to others. The signs and symptoms of AIDS are the following: persisted unexplained fatigue, soaking night sweats, shaking chill or fever lasting for several weeks, unexplained weight loss, swelling of lymph nodes which persists more than 3 months, chronic diarrhea, headaches, persistent dry cough and shortness of breath, white spots or unusual blemishes on the tongue or in the mouth, difficulties with speech, memory, concentration, or coordination. If your immune system is healthy, white blood cells and antibodies help to fight against microscopic germs to keep you free from disease. When a foreign organism enters the body, it is attacked and destroyed. This response is coordinated by T-cell lymphocytes. Most persons with AIDS develop pneumonia or a skin cancer. Approximately a third develops nervous system diseases, which include viral, fungal, or bacterial infections that cause meningitis (inflammation of the meninges), encephalitis, or myelitis (inflammation of the spinal cord). Other diseases of nervous system that occur in association with AIDS include parasitic cysts in the brain, abnormal growth of lymphoid tumors in the nervous system, and progressive form of dementia. AIDS is a worldwide pandemic. At the beginning of 1996, scientists determined that more than 20 million people worldwide were infected with HIV and that more than 4.5 million people had AIDS. The WHO estimated that by the year 2000, more than 40 million people worldwide had been HIV-positive. There are three main types of medications for HIV and AIDS. They are antiviral drugs, immune system boosters, and medications to help prevent or treat opportunistic infections. But the effectiveness of standard treatments is limited by the state of immunodeficiency. Researches on treatment are very active and new medications are being tested. The best way to fight AIDS is through education,

awareness, and avoiding behaviors that may transmit HIV. Learning the facts about HIV and AIDS is the best protection.

Exercise 14. Translate the following words and word-combinations into English: Плямочка, ділянка ураження; умовно-патогенний; грибковий; неоплазма, новоутворення, пухлина; реімунізація, ревакцинація; заражати, інфікувати; контакт з джерелом зараження; зберігати, утримувати, продовжувати; обізнаність, знання; потовиділення; мікроорганізм; мозкова оболонка; недоумство.

Exercise 15. Insert the missing words:

1. AIDS is an immune _ state caused by HIV. 2. HIV is transmitted by blood, semen, vaginal secretions, _ milk containing the virus. 3. The methods of transmission are sexual contact, contaminated needles used by _ drug users, and blood products. 4. Most people with AIDS have no _ and no indication that they are infected. 5. The symptoms of AIDS are the following: unexplained _, soaking night _, shaking chill or _, weight loss, swelling of lymph nodes, dry _, shortness of breath and others. 6. AIDS can _ to various nervous system diseases as meningitis, _, or myelitis. 7. Scientists estimated that more than 20 million people worldwide _ with HIV. 8. Researches on _ are very active, and new medications are being _.

Exercise 16. Answer the following questions:

1. What is AIDS?
2. How is HIV transmitted?
3. What are the signs and symptoms of AIDS?
4. What helps to fight against microscopic germs if the human immune system is healthy?
5. What diseases can AIDS lead to?
6. What are the medications for AIDS?
7. What is the best prevention of AIDS?

Exercise 17. Speak on the causes and the signs of AIDS.

Exercise 18. Make up the dialogue on the AIDS. You may begin some of your questions with the following phrases:

Could you tell me … Do you happen to know… Is it true that … I know that … I'd like to know if … Would you explain why (how, where, what …)?

Exercise 19. Put the questions on the following text and answer them:

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS or Aids) is a collection of symptoms and infections resulting from the specific damage to the immune system caused by the human immunodeficiency virus (HIV). The late stage of the condition leaves individuals prone to opportunistic infections and tumors. Although treatments for AIDS and HIV exist to slow the virus's progression, there is no known cure.

HIV is transmitted through direct contact of a mucous membrane or the bloodstream with a bodily fluid containing HIV, such as blood, semen, vaginal fluid, and breast milk. This transmission can come in the form of sex, blood transfusion,

contaminated hypodermic needles, exchange between mother and baby during pregnancy, childbirth, or breastfeeding, or other exposure to one of the above bodily fluids.

Most researchers believe that HIV originated in Africa during the twentieth century; it is now a pandemic, with an estimated 38.6 million people now living with the disease worldwide. The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimate that AIDS has killed more than 25 million people since it was first recognized on June 5, 1981, making it one of the most destructive epidemics in recorded history.

In 2005 alone, AIDS claimed an estimated 2.4–3.3 million lives, of which more than 570,000 were children. A third of these deaths are occurring in sub-Saharan Africa, retarding economic growth and destroying human capital. Antiretroviral treatment reduces both the mortality and the morbidity of HIV infection, but routine access to antiretroviral medication is not available in all countries. HIV/AIDS stigma is more severe than that associated with other life-threatening conditions and extends beyond the disease itself.

4.4. RESPIRATORY SYSTEM

Part A

Speaking

1. What does respiratory system consist of?
2. What is respiration?
3. What respiratory diseases do you know?

Active Vocabulary

English	Ukrainian
1. alveolus	альвеола
2. breathing	дихання
3. bronchiole	бронхіола
4. bronchus	бронх
5. diaphragm	діафрагма
6. larynx	гортань
7. lung	легеня
8. mediastinum	середостіння
9. pharynx	глотка
10. pleura	плевра
11. respiration	дихання
12. trachea	трахея
13. ventilation	вентиляція
14. nasal cavity	носова порожнина
15. inhalation	вдихання
16. exhalation	видихання
17. lobe	частка
18. bronchial tree	бронхіальне дерево

Exercise 1. Read the following word combinations and translate them. Make up your own sentences with them.

To breath with lungs; pulmonary ventilation; nasal cavity; vocal organ; air movement; gas exchanges; respiratory rates; diffusion of gases; the preservation of life; interruption of breathing; to transport oxygen to the cells; by the circulating blood; to filter, to warm and to moisten air; subdivide again and again; to be covered with the membrane; tiny air sacs; cells and tissues; rhythm of respiration; allergy-causing things;

Exercise 2. Read and translate the text.

WHAT IS THE RESPIRATORY SYSTEM?

The respiratory system is the organs and other parts of your body involved in breathing. Breathing is of vital importance for the preservation of life. Any interruption of breathing for long time may cause death.

Respiration is the process when oxygen is obtained from the environment and transported to the cells, and carbon dioxide is exchanged from the cells.

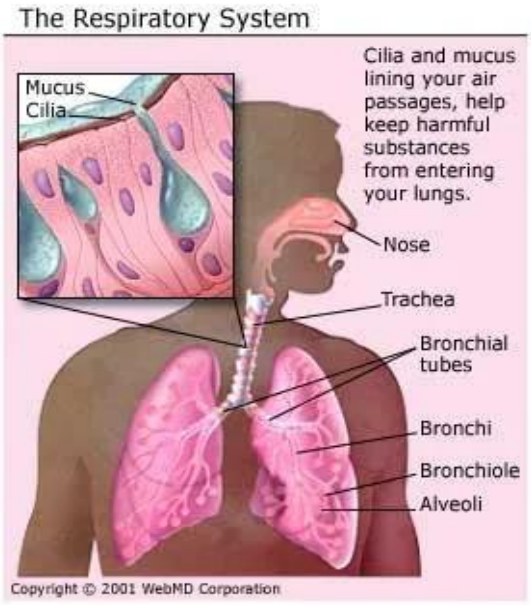
Respiration includes three phases:

1. Pulmonary ventilation is normally accomplished by inspiration and expiration.

2. The diffusion of gases includes the passage of oxygen from air sacs into the blood and carbon dioxide out of the blood.

3. The transport of oxygen and carbon dioxide by the circulating blood.

PARTS OF THE RESPIRATORY SYSTEM



Respiratory system includes:

- Nose and the nasal cavity
- Mouth
- Throat (pharynx)
- Voice box (larynx)
- Windpipe (trachea)
- Diaphragm
- Lungs
- Bronchial tubes/bronchi
- Bronchioles
- Air sacs (alveoli)
- Capillaries

Nasal cavities filter, warm and moisten air, which we inhale. The pharynx (throat) carries air into the respiratory track and food into the digestive track. The larynx (voice organ) contains vocal cords. The trachea is the windpipe. The bronchi are the continuations of the trachea, they are two in number; they enter the lungs and then subdivide again and again making the bronchial tree. The smallest subdivisions of the bronchi are bronchioles. The lungs are covered with the membrane called pleura. The pleura not only encloses the lung but also lines the chest walls. Mediastinum is the space for heart, great blood vessels, esophagus, trachea, and lymph nodes; it is located between the lungs. The lungs consist of lobes, which subdivide into lobules. The tiny air sacs in the lungs are called alveoli.

The respiratory control centers, located in the medulla and pons of the brain stem, regulate the process of respiration. Respiration is regulated so that the level of oxygen, carbon dioxide, and acid are kept within certain limits. The control centers regulate the rate, depth, and rhythm of respiration.

How Do We Breathe?

Breathing starts when you inhale air into your nose or mouth. It travels down the back of your throat and into your windpipe, which is divided into air passages called bronchial tubes.

For your lungs to perform their best, these airways need to be open. They should be free from inflammation or swelling and extra mucus.

As the bronchial tubes pass through your lungs, they divide into smaller air passages called bronchioles. The bronchioles end in tiny balloon-like air sacs called alveoli. Your body has about 600 million alveoli.

The alveoli are surrounded by a mesh of tiny blood vessels called capillaries. Here, oxygen from inhaled air passes into your blood.

After absorbing oxygen, blood goes to your heart. Your heart then pumps it through your body to the cells of your tissues and organs.

As the cells use the oxygen, they make carbon dioxide that goes into your blood. Your blood then carries the carbon dioxide back to your lungs, where it's removed from your body when you exhale.

Inhalation and Exhalation

Inhalation and exhalation are how your body brings in oxygen and gets rid of carbon dioxide. The process gets help from a large dome-shaped muscle under your lungs called the diaphragm.

When you breathe in, your diaphragm pulls downward, creating a vacuum that causes a rush of air into your lungs.

The opposite happens with exhalation: Your diaphragm relaxes upward, pushing on your lungs, allowing them to deflate.

How Does the Respiratory System Clean the Air?

Your respiratory system has built-in methods to keep harmful things in the air from entering your lungs.

Hairs in your nose help filter out large particles. Tiny hairs, called cilia, along your air passages move in a sweeping motion to keep the passages clean. But if you breathe in harmful things like cigarette smoke, the cilia can stop working. This can lead to health problems like bronchitis.

Cells in your trachea and bronchial tubes make mucus that keeps air passages moist and helps keep things like dust, bacteria and viruses, and allergy-causing things out of your lungs.

Mucus can bring up things that reach deeper into your lungs. You then cough out or swallow them.

Exercise 3. Describe three phases of respiration.

Exercise 4. Match the words from the text with their definitions (a-h).

1. Respiratory	a) the act of breathing out;
2. inspiration	b) the act of forcing air in and out of the lungs of a person who cannot breathe easily on their own, using a special machine:
3. nasal	c) the act of breathing in;
4. alveolus	d) of or related to the nose;
5. lung	e) the muscle that separates the chest from the lower part of the body:
6. ventilation	f) one of the many very small air bags in the lungs, with thin walls that allow oxygen to enter the blood;
7. diaphragm	g) thin membrane covering each lung that folds back to make a lining for the chest cavity:
8. pleura	h) two organs in the chest with which people and some animals breathe:
9. trachea	i) relating to breathing:
10. expiration	j) windpipe

Exercise 5. Complete the following sentences with the words given below and translate them:

1. A patient has difficulty in … . 2. When one breathes normally not all … opened. 3. The respiratory system consists of nose, pharynx, larynx, trachea and … .4. Each bronchus leads to a separate … . 5. When one …, the external intercostal muscles contract and lift the ribs. 6. … passes from the blood into the lungs and is breathed out. 7. The tonsils are masses of ….

(breathes *in; lung; bronchi; alveoli; breathing; lymphatic tissue; carbonic acid gas (carbon dioxide).*

Exercise 6. Are these statements true (T), false (F)? Correct the false statements.

1. The respiratory system is the organs and other parts of your body involved indigestion. **(T/F)**

2. Breathing is of vital importance for the preservation of life. **(T/F)**

3. Respiration is the process when carbon dioxide is obtained from the environment and transported to the cells. **(T/F)**

4. Larynx filters, warms and moistens air, which we inhale. **(T/F)**

5. Your body has about 6000 alveoli. **(T/F)**

6. The alveoli are surrounded by the tiny blood vessels called pulmonary arteries. **(T/F)**

7. Inhalation is the process when your body gets rid of carbon dioxide. **(T/F)**

8. When you breathe in your diaphragm relaxes upward, pushing on your lungs, allowing them to deflate. **(T/F)**

9. Your respiratory system has built-in methods to keep harmful things in the air from entering your lungs. **(T/F)**

10. Cells in your nasal cavity make mucus that keeps air passages moist and helps keep things like dust, bacteria and viruses, and allergy-causing things out of your lungs. **(T/F).**

Exercise 7. Answer the following questions.

1. What does the term respiration mean?
2. What does the respiratory system consist of?
3. What is the function of the nasal cavities?
4. What does the pharynx do?
5. What contains vocal cords?
6. What makes the bronchial tree?
7. What are the smallest subdivisions of the bronchi?
8. What is the function of the pleura?
9. What is the mediastinum? Where is it located?
10. What processes does the physiology of respiration include?
11. What do lungs consist of?
12. What is the difference between inspiration (inhalation) and expiration (exhalation)?
13. Where are respiratory control centers located and what is their function?

Exercise 8. What facts can you present to your group about:

- The process of respiration

- Phases of respiration
- Structure of the respiratory system
- Inhalation and Exhalation
- How the Respiratory System Cleans the Air

Exercise 9. Read the text, translate it and.

LUNGS

The lungs are the main organs of the respiratory system. There are two lungs in the human body located in the lateral cavities of the chest. The lungs are separated from each other by the mediastinum. The lungs are covered with the pleura. They are conical in shape. Each lung has the base, apex, two borders and three surfaces.

The lung has the apex extending upward 3 – 4 centimeters (cm) above the level of the first rib.

The base of the lung is located in the convex surface of the diaphragm.

The posterior borders of the lungs are on each side of the spinal column. The anterior border is thin and overlaps the pericardium.

The weight of the lungs varies according to many conditions. In the adult male the weight of the lungs is about 1,350 gr. The right lung is about 15% heavier than the left one. The vital capacity of the lungs is 3.5 – 4 liters in the male and it is 3 – 3.5 liters in the female.

The right lung consisting of three lobes is heavier than the left one because the latter consists only of two lobes. The lower lobe of the left lung is larger than the upper one.

In infants the lungs are of a pale rosy color, but later they become darker.

The structure of the lung consists of an external serous coat, the visceral layer of the pleura, a subserous elastic tissue and the parenchyma or proper substance of the lungs.

Exercise 10. Answer the following questions.

1. What are the main organs of respiratory system and where are they located?
2. What are lungs covered with?
3. Are they oval in shape?
4. What is located in the convex surface of the diaphragm?
5. What is the weight of the lungs?
6. Do all people have the same capacity of the lungs?
7. People of all ages have the lungs of pale rosy color, do they?
8. What is the structure of the lung?

Exercise 11. Translate the following sentences.

1. Ваше серце і легені потрібно перевірити. 2. Зробіть повторну електрокардіограму. 3. Вам необхідно терміново зробити аналізи крові та сечі. 4. Підіть до терапевта і він перевірить ваше серце та легені. 5. Вашому другу потрібне стаціонарне лікування. 6.Вас будуть лікувати у пульмонологічному відділенні.

Exercise 12. Read the dialogue and dramatize it.

Doctor: I suppose you have pneumonia. I'll put you on a sick leave and prescribe you some treatment.

Patient: What must I do?

D: Listen to me attentively. Take these drugs. This mixture is for your cough. These tablets are for your headache. These drops are for the heart trouble. Take these drugs three times a day.

P: Must I stay in bed?

D: Yes, you must. Apply cups and mustard plasters every other day before going to bed. Drink hot tea with raspberry jam. Gargle your throat several times a day. You must take analyses of blood and urine. Your lungs should be X-rayed. Besides it's necessary to take an electrocardiogram.

P: Well, doctor. I'll fulfill all prescriptions.

Part II

RESPIRATORY SYSTEM DISEASES

Speaking

1. What respiratory diseases do you know?
2. Have you ever had any respiratory disease?
3. What symptoms did you have?
4. What did you do? Did you consult the doctor?

Exercise 13. Read, translate and learn the words, paying attention to the pronunciation.

English	Latin/Greek	Ukrainian
auscultation	auscultatio	Аускультація (вислуховування)
bronchoscope	bronchoscopium	бронхоскоп
mucus	mucilago	слиз
hypoxia	hypoxia	гіпоксія
pneumonia	pneumonia	пневмонія
bronchial asthma	asthma bronchialis	бронхіальна астма
allergic reaction	reaction allergica	алергічний прояв
smell	odor	запах
cough	tussis	кашель
attack	attacus	напад
spasm	spasmus	спазм
failure	dysfunctio	дисфункція
rhinitis	rhinitis	риніт, (нежить)

Exercise 14. You are a therapist and receive clinical patients. Make up a dialogue between a doctor and a patient who suffers from influenza. Use the phrases below.

To examine; don't move your shoulders; strip to the waist; take your clothes off; unbutton your outerwear; breathe deeply; breathe deeper; hold your breath; breathe in; breathe out; turn your back on me; cough, please; cover your mouth, when coughing; dress; to be painful to breathe; to be more painful to cough; to run a temperature; to cough up blood; to give up smoking; to avoid catching cold; to cause asthma attack; to listen to one's lungs.

Common diseases of the respiratory system include:

- **Asthma.** Your airways narrow and make too much mucus.
- **Bronchiectasis.** Inflammation and infection make your bronchial walls thicker.

- **Chronic obstructive pulmonary disease (COPD).** This long-term condition gets worse over time. It includes bronchitis and emphysema.
- **Pneumonia.** An infection causes inflammation in your alveoli. They might fill up with fluid or pus.
- **Tuberculosis.** A bacterium causes this dangerous infection. It usually affects your lungs but might also involve your kidney, spine, or brain.
- **Lung cancer.** Cells in your lung change and grow into a tumor. This often happens because of smoking or other chemicals you've breathed in.
- **Cystic fibrosis.** This disease is caused by a problem in your genes and gets worse over time. It causes lung infections that don't go away.
- **Pleural effusion.** Too much fluid builds up between the tissues that line your lungs and chest.
- **Idiopathic pulmonary fibrosis.** Your lung tissue becomes scarred and can't work the way it should.
- **Sarcoidosis.** Tiny clumps of inflammatory cells called granulomas form, often in your lungs and lymph nodes.

Exercise 15. Read and translate the following text:

RESPIRATORY DISORDERS

If bacteria, viruses, or fungi enter the lungs and become established there, they can cause several diseases, classifying from common illnesses such as cold and flu to more serious illnesses such as pneumonia, bronchitis, and tuberculosis.

Bronchitis. When the mucous membranes that line the main air passageways of the lungs become inflamed, the condition is called bronchitis. Virtually everyone has bronchitis at some time.

In most cases, this ailment is the result of viral infections similar to those that cause the cold. The infection spreads to the bronchi, producing the deep cough that, in turn, tends to bring up the yellowish gray sputum from the lungs. The other symptoms are soreness and feeling of constriction in the chest, breathlessness, chill, and slight fever.

Because bronchitis most commonly is the result of a viral infection, the physician probably will be able to do relatively little to hasten the recovery. Rest, drinking extra liquids, and cough medicine are the cornerstones of treatment of bronchitis. The person must avoid other irritants to the airways, such as tobacco smoke. The person must remember that the act of coughing also is irritating to the trachea and bronchi.

If a person has repeated attacks of bronchitis, he/she may be able to trace the occurrence of the conditions in which he/she lives. Cold, damp environments combined with excessive air pollution can make a person more susceptible to bronchitis.

Pneumonia. Pneumonia is an inflammation of the tissues of the lungs. There are many different kinds of pneumonia. The major subtypes are community-acquired pneumonia, hospital-acquired pneumonia, and aspiration pneumonia. The causes of pneumonia are different. Among them are bacteria; influenza and other viruses; and chemical irritants.

The symptoms vary depending on the kind of pneumonia. Cough that produces bloody sputum, breathlessness, pain in the chest, chill, high fever are the major signs and symptoms of pneumonia.

The physician will listen to the chest to detect distortions in the breathing that suggest the presence of the infection. Chest X-rays also may be obtained to identify the location and extent of the infection. A sample of patient's sputum may be tested to identify the infecting agent. Blood test may also be conducted.

The treatment depends on the cause and severity of the patient's symptoms. It may include some antibiotics. Hospitalization may be necessary in severe cases.

Exercise 16. Translate the following words and word-combinations into English:

Озноб; мокротиння; мазок; позалікарняний; виводити; відхилення; біль, болісність; захворювання, недуга; запалюватися; наявність; слідкувати; стиснення; жар, лихоманка, підвищена температура; вологість; слизова оболонка; бронхіт; запалення легенів; задишка.

Exercise 17. Complete the following sentences:

1. Pneumonia is an inflammation of the tissues of the _____. 2. There are many different _____ of pneumonia. 3. The major subtypes of pneumonia are _____ pneumonia, hospital-acquired pneumonia, and aspiration pneumonia. 4. The physician will listen to the chest to detect _____ in the breathing that suggest the presence of the infection. 5. A _____ of patient's sputum may be tested to identify the infecting agent. 6. The treatment depends on the cause and _____ of the patient's symptoms. 7. When the mucous membranes that line the main air passageways of the lungs become _____, the condition is called bronchitis. 8. In most cases, this _____ is the result of viral infections similar to those that cause the cold. 9. The infection spreads to the bronchi, producing the deep cough that, in turn, tends to _____ up the yellowish gray sputum from the lungs. 12. The other symptoms are soreness and feeling of constriction in the chest, breathlessness, _____, and slight fever.

Exercise 18. Combine corresponding parts into sentences, paying attention to the meaning of the sentences:

1. Acute bronchitis is usually caused by viruses or bacteria and _____. 2. Acute bronchitis is characterized by cough and sputum (phlegm) production and symptoms related to the obstruction of the airways by the inflamed airways and the phlegm, such as _____. 3. _____ will often reveal decreased intensity of breath sounds, wheeze and prolonged expiration. 4. To treat acute bronchitis, caused by a bacterial infection, or as a precaution, _____. 5. The fever, fatigue, and malaise may last only a few days, _____.

A. a physical examination; B. shortness of breath and wheezing; C. antibiotics may be given; D. may last several days or weeks; E. but the wet cough may last up to several weeks.

Exercise 19. Answer the following questions:

1. What infections of the respiratory tract do you know? 2. What is bronchitis? 3. What is the cause of bronchitis? 4. What are the signs of bronchitis? 5. What is the treatment for bronchitis? 6. What is pneumonia? 7. What subtypes of pneumonia do you know? 8. What is the cause of pneumonia? 9. What are the symptoms of pneumonia? 10. What tests may help to determine pneumonia? 11. What does the treatment of pneumonia include?

Exercise 20. Insert the prepositions:

A respiratory infection such as that caused _ the influenza virus or bacterium may cause bronchioles (small airways in the lungs) to become inflamed and to secrete an excessive amount _ mucus. Bronchiolitis is common, especially during the winter, _ children younger 2 years, but it can occur in young adults under special circumstances. It usually is caused by a viral infection, often contracted _ someone in the infant's household. In infants or families with a history _allergies or _ infants with recurring bronchiolitis, and allergic reaction may be the cause of the respiratory disorders. Ex. 16. Write out key words of the text "Respiratory Disorders".

Exercise 21. Read and translate

Diagnosis and treatments for respiratory and lung disorders

Treatments for lung and breathing disorders will depend on the severity and sometimes root cause of the disease. Our team of specialists will work closely with you to develop an individualized treatment plan.

Asthma: The most common treatment for asthma is rescue and controller inhalers, but other treatments and medications can be used. Doctors also recommend patients identify and reduce asthma triggers. Common triggers include allergies, viruses, exercise, cold weather and fumes. Patients are also often taught skills to monitor and manage their asthma.

Chronic Cough: Some of the tests that may be used to diagnose the cause of a chronic cough may include a chest X-ray and other radiology tests, breathing tests, pH monitoring, swallow tests and upper GI endoscopy if reflux is associated with the cough. The treatment of chronic cough is usually directed at its cause. Our specialists can help determine your best options for treatment.

Chronic Obstructive Pulmonary Disease (COPD): The most common cause of COPD is smoking, although breathing in pollutants, dust or chemicals can also be the cause. For smokers, smoking cessation can help prevent the disease or keep it from getting worse. COPD can also be treated with inhalers, medications, oxygen therapy and pulmonary rehab. In severe cases, surgery may be an option.

Lung Cancer: Lung cancer is diagnosed with a tissue sample or biopsy to determine the kind of cancer. The diagnosis is most commonly made by bronchoscopy or needle biopsy. Treatment of lung cancer depends on the type of cancer, the stage, the location and whether the cancer has spread. Treatment may include surgery, chemotherapy and/or radiation.

Lung Nodules: Lung nodules are often found when tests are being done for another reason. Diagnostic tests include:

- Bronchoscopy
- Electromagnetic navigation bronchoscopy
- PET scan/CT scan
- Needle biopsy through the chest wall
- Surgical lung biopsy

Pulmonary Hypertension: A series of tests may be needed to diagnosis pulmonary hypertension such as:

- Pulmonary function tests
- Chest X-rays, lung perfusion scans and other film studies

- Six-minute walk test
- Blood tests
- ECG (EKG)
- Echocardiogram

There is no cure but there are treatment options to try to reduce the symptoms, slow the progression and improve quality of life. If pulmonary hypertension is the side effect of another illness, treatment focuses on the primary cause. If pulmonary hypertension is the primary cause, medications can be used.

Shortness of Breath: Diagnostic tests may include pulmonary function tests, chest X-ray, EKG, echocardiogram, bronchoscopy, blood tests or chest CT scan. Treatment for shortness of breath depends on the underlying cause and severity.

Pulmonary Rehabilitation: Pulmonary rehab is for people with chronic breathing conditions that limit quality of life. Gundersen exercise physiologists and respiratory therapists help you set goals, establish a safe exercise routine and learn how to exercise at home. To learn if you are a good candidate for pulmonary rehab, talk with your primary care provider. You'll need a referral to participate. While most health insurance covers pulmonary rehab, you should also check with your health insurance carrier before you begin.

Tobacco Cessation: Smoking is a leading cause of preventable respiratory and lung disease. Quitting smoking is the most important thing you can do to live a longer, healthier life.

Exercise 22. Are these statements true (T), false (F)? Correct the false statements.

1. Asthma is a chronic heart condition. **(T) / (F)**
2. Bronchitis is a respiratory infection that causes a hacking cough and produces phlegm. **(T) / (F)**
3. Inhalation and inhaler are noun forms. **(T) / (F)**
4. Some individuals with pneumonia will experience a cold, a fever, shaking chills, and cough with sputum production. **(T) / (F)**
5. Tuberculosis cannot be treated successfully with antibiotics. **(T) / (F)**
6. The most common cause of emphysema is cigarette smoking. **(T) / (F)**
7. People with chronic obstructive pulmonary disease (COPD) experience wheezing and shortness of breath. **(T) / (F)**
8. Pneumothorax refers to a collapsed lung. **(T) / (F)**
9. A person with bronchitis may experience fatigue, shortness of breath, and itchiness. **(T) / (F)**
10. The most common forms of COPD are asthma and tuberculosis. **(T) / (F)**
11. Pleurisy is a blood clot in the lung, and a pulmonary embolism is fluid in the lung. **(T) / (F)**
12. Allergens such as pet dander, dust mites, molds, and pollen can trigger asthma. **(T) / (F)**

Exercise 23. Read the following text, write out key words of it, and retell the text:

COUGH

A cough is a normal protective reflex, designed to defend the respiratory system against irritants. However, a forceful cough can be painful and bothersome. Some of these coughs need the physician's attention. Others respond to simple self-care and the right medicine.

What causes a cough? Here are some typical irritations that cause coughing:

Infections, such as cold and flu;

Environmental irritants, such as cigarette smoke, smog, dust, home aerosol sprays, and cold and dry air;

Asthma, which inflames and constricts the air passages;

Gastroesophageal reflux – the backup of stomach acid into the esophagus when a person lies down;

Medications, such as inhaled corticosteroids or certain medications prescribed for high blood pressure and heart disease.

Coughing itself. Sometimes there is no medical explanation for a cough. Some people cough to release nervous tension, gain attention, or express anger. Whatever the reason, one cough can irritate the person's throat and lead to another, setting up a vicious cycle.

A cough begins when an irritant reaches one of the cough receptors in the nose, throat, or chest. The receptor sends a message to the cough center in the brain, signaling the body to cough. After a person inhales, the epiglottis and vocal cords close tightly, trapping air within the lungs. The abdominal and chest muscles contract forcefully, pushing against the diaphragm. Finally, the vocal cords and epiglottis open suddenly, allowing trapped air to explode outward.

Exercise 24. Choose the correct answer from a, b, and c.

1. _____ "She was shouting at the top of her lungs" means:

a. *she was speaking very loudly*

b*. the top of her lungs is in a lot of pain*

c. *her lungs had collapsed*

2. _____ "To get something off your chest" means:

a. *to remove the heavy pressure on your chest*

b*. to let someone know that something has been annoying or bothering you for a long time*

c. *to be very angry and anxious*

3. _____ Another word for pertussis is:

a. hacking cough b. persistent cough c. whooping cough

4. _____ If someone is experiencing shallow breathing, they are:

a. *breathing heavily*

b. *wheezing*

c*. breathing in small amounts of air*

5. _____ If a patient complains of shortness of breath, wheezing, and fatigue, he or she might have:

a*. pleurisy* ***b****. bronchitis* ***c.*** *tuberculosis*

6. _____ Emphysema is a common problem in:

a. children with cystic fibrosis

b. asthmatics

c. smokers

7. _____ Dyspnea is another word for:

a. wheezing

b. shortness of breath

c. puffs

8. _____ A hacking cough is:

a. a loud, repeated, painful cough

b. a dry cough

c. a cough that produces a lot of phlegm

10. _____ The patient complained that she was having shaking chills, a high fever, some chest pain, and that she was coughing with sputum. This could indicate she has:

a. a collapsed lung

b. pneumonia

c. bronchitis

Exercise 25. Now that you have read sentences describing language regarding the chest, lung, and respiratory system, assess your understanding by doing the exercises below.

Choose the answer that correctly completes each sentence below.

1. _____ A bronchodilator:

a) treats croup

b) is prescribed for chronic bronchitis

c) supplies supplemental oxygen

2. _____ Patients with pneumonia may:

a) feel a sharp pain in the chest when they take deep breaths

b) feel a mild pain when they take shallow breaths

c) have labored breathing

3. _____ Thick, sticky mucous secretions caused by the flu or a cold can be reduced by:

a) wheezing

b) taking an expectorant

c) chest percussions

4. _____ A collapsed lung can be caused by:

a*) a stabbing and gunshot wounds only*

b) lung diseases only

c) lung diseases and physical injury such as a broken rib cage, a stabbing, or a gunshot wound

5. _____ Dyspnea refers to:

a*) labored breathing*

b) shortness of breath

c) exhalation

6. _____ An early sign of COPD includes:

a) emphysema

b) shortness of breath with exertion

c) shortness of breath without exertion

7. _____ A chronic infection:
a) is sudden and lasts a short time
b) recurs often
c) is sudden and lasts a long time
8. _____ Pertussis is:
a) an infection of the respiratory system
b) an inflammation of the bronchial tubes
c) another word for wheezing
9. _____ Bronchial tubes refer to:
a) nasal passages
b) air passages
c) the windpipe
10. _____ An example of chronic obstructive pulmonary disease is:
a) walking pneumonia
b) asthma
c) emphysema
11. _____ Pertussis is another term for:
a) hacking cough
b) wheezing
c) whooping cough
12. _____ Children with croup:
a) are having an asthma attack
b) produce a loud, barking sound
c) have suffered a collapsed lung
13. _____ Expectorate means to:
a) swallow
b) take a deep breath
c) spit up
14. _____ Asthma can cause the bronchial tubes to:
a) become clogged
b) get inflamed and irritated
c) collapse
15. _____ A treatment for emphysema is:
a) moist air
b) smoking cessation
c) lack of oxygen

Exercise 26. Indicate whether each sentence below is true (T) or false (F).

1. Chest percussion is a treatment for asthma. **(T) / (F)**
2. A person who has tuberculosis will wheeze. **(T) / (F)**
3. Irritants and pollutants can cause chronic bronchitis. **(T) / (F)**
4. Pneumonia is an infection and inflammation of the lung caused by cigarette smoke. **(T) / (F)**
5. If a child is suffering from croup, the vocal chords are affected, and the child's voice will be hoarse and produce a loud, barking sound. **(T) / (F)**
6. Bacteria, viruses, and fungi cause asthma. **(T) / (F)**

7. The word “asthmatic” is both a noun and an adjective. **(T) / (F)**

8. Whooping cough is not a contagious disease. **(T) / (F)**

9. Symptoms of COPD include a persistent cold, nausea, and shallow breathing. **(T) / (F)**

10. The word “exhausted” is both an adjective and a noun. **(T) / (F)**

Exercise 27. An important part of communication is the ability to write about what you read, to write correctly, and to spell correctly. In the exercises below, write your understanding of the meaning of the bolded words.

1. Describe in writing what **asthma, emphysema**, and **chronic bronchitis** are.

_____
_____
_____
_____

2. Describe in writing what **croup** and **whooping cough** are.

_____
_____
_____
_____
_____

3. Describe in writing what **cystic fibrosis**, t**uberculosis**, and **pneumonia** are.

_____
_____
_____
_____
_____
_____
_____

4.5. DIGESTIVE SYSTEM

Speaking

1. What are the main parts of the digestive system?
2. What are possible problems that can occur in the digestive system?
3. How can we prevent digestive system disorders?

Active Vocabulary

1. stomach	шлунок
2. gallbladder	жовчний міхур
3. digestive	травний
4. chew	жувати; пережовувати
5. pharynx	глотка
6. accessory	допоміжний, додатковий
7. mucous	слизовий
8. reduce	зменшувати
9. release	виділяти
10. enzyme	фермент
11. colon	ободова кишка
12. indigestive	неперетравлений
13. vermiform	червоподібний
14. ingest	поглинати, проковтнути
15. pancreas	підшлункова
16. propel	проштовхувати
17. saliva	слина
18. esophagus	стравохід
19. dilate	розширювати
20. semi-liquid	напіврідкий
21. duodenum	дванадцятипала кишка
22. jejunum	порожня кишка
23. ileum	клубова кишка
24. caecum (cecum)	сліпа кишка
25. rectum	пряма кишка
26. feces	кал, фекалії, екскременти
27. appendix	відросток
28. masticate	жувати
29. undigested	неперетравлений
30. intestines	кишківник
31. palate	піднебіння
32. to attach	прикріплювати

Exercise 1. Read and translate the following words and word-combinations:

The oral cavity; small and large intestines; muscular contractions; the alimentary tract; the soft and hard palates; salivary glands; esophagus; the upper abdomen; a semi-liquid mixture; to release acid and enzymes; a thin-walled tube; the abdominal and pelvic cavities; the major site of absorption; the attached vermiform appendix.

Exercise 2. Match the words from the text with their definitions (a-h).

1. stomach	a) a small tube-shaped part that is joined to the intestines on the right side of the body and has no use in humans
2. liver	b) an organ in the body that produces insulin (a chemical substance that controls the amount of sugar in the blood) and substances that help to digest food
3. pancreas	c) the tube-like passage from the mouth, through the stomach and to the anus, through which food travels during digestion
4. gallbladder	d) any substance that people, plants or animals need in order to live and grow
5. digestive tract	e) glands that produce saliva and release it into the mouth
6. tongue	f) a small, pear-shaped organ located under your liver that stores and releases bile
7. salivary glands	g) a large organ in the body that cleans the blood and produces bile
8. abdominal	h) the large, soft piece of flesh in the mouth that you can move, and is used for tasting, speaking, etc.
9. appendix	i) an organ in the body where food is digested, or the soft front part of your body just below the chest
10. nutrients	j) in, forming, or relating to the abdomen

Exercise 3. Complete the following sentences using words from exercise 2.

1. She had her _____out (medically removed) last summer.
2. This exercise works your _____muscles.
3. The tip of the _____is sensitive to salt and sweet stimuli and the back of the _____ is sensitive to bitter stimuli.
4. She has a very delicate _____and doesn't eat spicy food.
5. A healthy diet should provide all your essential _____.
6. The food we eat is propelled through the _____by muscular contractions.
7. _____ is responsible for the amount of sugar in the blood.
8. Symptoms of the disease include an enlarged spleen or _____.

Exercise 4. Read the following text:

DIGESTIVE SYSTEM

The digestive system consists of many parts. They are the oral cavity, esophagus, stomach, small and large intestines, the liver, the pancreas, gallbladder and others.

The food we eat is propelled through the digestive tract by muscular contractions. The digestive tract is also called the alimentary tract or alimentary canal. The term gastrointestinal tract technically only refers to the stomach and intestines but is often used as a synonym of the digestive tract.

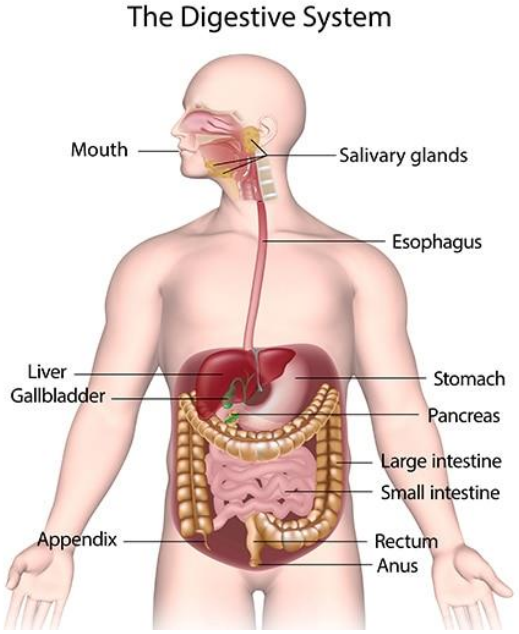
The first division of the digestive tract is the mouth, or oral cavity. Important structures of the oral cavity are the teeth, the tongue, the soft and hard palates, and

salivary glands. Digestion begins when the person chews the food. The food is broken into smaller pieces by the teeth and is mixed with saliva secreted by the salivary glands.

From the mouth food passes through the pharynx to the esophagus. The major accessory structures of the pharynx and the esophagus are mucous glands.

The esophagus opens into the stomach. It rests in the upper abdomen. It is a dilated portion of the digestive tract. The stomach receives food from esophagus, and its mixing action reduces the food to a semi-liquid mixture. The stomach walls contain many glands from which acid and enzymes are released into the stomach and mixed with ingested food.

The stomach opens into the small intestine. The small intestine is a thin-walled tube approximately 6.5 meters long. It is located in the lower and central portions of the abdominal and pelvic cavities. It is composed of the duodenum, jejunum, and ileum. The first segment of the small intestine is the duodenum. The major accessory structures in this segment of the digestive tract are the liver, the gallbladder, and the pancreas. The next segment of the small intestine is the jejunum. Small glands exist along its length, and it is the major site of absorption. The last segment of the small intestine is the ileum, which is similar to the jejunum except that fewer digestive enzymes and more mucus are secreted and less absorption occurs in the ileum.



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The last section of the digestive tract the large intestine. It is divided into cecum, colon, and rectum. Its major accessory glands secrete mucus. It absorbs water and salts and concentrates indigested food into feces. The first segment is the cecum, with attached vermiform appendix. The cecum followed by colon and rectum. The rectum joints the anal canal, which ends at the anus.

The functions of the digestive system to ingest food, masticate the food, propel food through the digestive tract, add secretions to the food and digest the food; and absorb water, electrolytes, and other nutrients from the digested food. Once these useful substances are absorbed, they are transported through the circulatory system to cells where they are used. Undigested matter is moved out of the digestive tract and excreted through the anus. The processes of propulsion, secretion, and absorption are regulated by nervous and hormonal mechanisms.

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

Глотка; стравохід; шлунок; підшлункова залоза; товстий кишечник; жовчний міхур; сліпа кишка; пряма кишка; товста кишка; порожня кишка; клубова кишка; дванадцятипала кишка; зуби; язик; тверде піднебіння; слинні залози; знаходитися у нижній частині черевної порожнини; напіврідка суміш; тонкостінна трубка; проходити уздовж; переноситись по кровоносній системі.

Exercise 6. Are these statements true (T), false (F)? Correct the false statements.

1. The food we eat is propelled through the digestive tract by process of exhalation. **(T) / (F)**
2. The last segment of the small intestine is the duodenum. **(T) / (F)**
3. The stomach opens into the large intestine. **(T) / (F)**
4. The first section of the digestive tract is the large intestine **(T) / (F)**
5. The small intestine is a thin-walled tube approximately 1 meter long. **(T)/(F)**
6. Small glands exist along the length of the jejunum, and it is the major site of absorption. **(T) / (F)**
7. The only function of the digestive system is to ingest food. **(T) / (F)**
8. Undigested matter isn't moved out of the digestive tract. **(T) / (F)**
9. The appendix is followed by colon and rectum. **(T) / (F)**
10. Small intestine is divided into cecum, colon, and rectum. **(T) / (F)**
11. The pancreas is a short thin gland lying under and behind the stomach. **(T)/ (F)**

Exercise 7. Answer the following questions:

1. What does the digestive system consist of?
2. What is the food propelled through the digestive tract by?
3. What is the first division of the digestive tract?
4. What are there in the oral cavity?
5. Where does the food pass from the mouth?
6. What is the esophagus?
7. What is the function of the stomach?
8. What parts is the small intestine composed of?
9. What are the major accessory structures in the first segment of the small intestine?
10. What is the functional difference between ileum and jejunum?
11. What portions is large intestine divided into?
12. What are the major functions of the digestive system?

Exercise 8. Read the following text and compose 3-4 short dialogues:

PORTIONS OF THE DIGESTIVE SYSTEM

PHARYNX

The pharynx consists of three parts: the nasopharynx, the oropharynx, and laryngopharynx. Normally, only the oropharynx and laryngopharynx transmit food. The oropharynx communicates with the nasopharynx superiorly, the larynx and laryngopharynx inferiorly, and mouth anteriorly. The laryngopharynx extends from the oropharynx to the esophagus and is posterior to the larynx. The posterior walls of the oropharynx and laryngopharynx consist of three muscles, the superior, middle, and inferior pharyngeal constrictions, which are arranged like three stacked flower pots, one inside the other. The oropharynx and the laryngopharynx are lined with moist, stratified squamous epithelium, and the nasopharynx is lined with ciliated pseudostratified epithelium.

ESOPHAGUS

The esophagus is that portion of the digestive tube that extends between the pharynx and the stomach. It is approximately 20-25 cm long and lies in the

mediastinum. The esophagus transports food from the pharynx to the stomach. It has thick walls consisting of the four tunics common to the digestive tract: mucosa, submucosa, muscularis, and adventitia.

SMALL INTESTINE

The small intestine consists of three portions: the duodenum, the jejunum, and the ileum. The entire small intestine is approximately 6.5 m long; the duodenum is approximately 25 cm long (the term duodenum means 12, suggesting that is 12 inches long); the jejunum, constituting approximately two fifths of the total length of the small intestine, is approximately 2.5 m long, and the ileum, constituting three fifths of the small intestine, is approximately 3.5 m long. Two major glands, the liver and pancreas, are associated with the duodenum.

GALLBLADDER

The gallbladder is a saclike structure on the inferior surface of the liver that is approximately 8 cm long and 4 cm wide. Three layers form the gallbladder wall: an inner mucosa folded into rugae that allow the gallbladder to expand; a muscularis of smooth muscle that allows the gallbladder to contract; and outer covering of connective tissue. The gallbladder is connected to the common bile duct by the cystic duct.

PANCREAS

The pancreas is a complex organ composed of both endocrine and exocrine tissues that perform several functions. The pancreas consists of a head, a body, and a tail, which extends to the spleen. The endocrine portion of the pancreas consists of pancreatic islets (islets of Langerhans). The islet cells produce insulin and glucagons, which are very important in controlling blood levels of nutrients such as glucose and amino acids, and somatostatin, which regulates insulin secretion. The exocrine portion of the pancreas consists of acini (grapes), which produce digestive enzymes. The acini connect to a duct system that forms the pancreatic duct, which empties into the duodenum.

LARGE INTESTINE

The large intestine consists of the cecum, colon, rectum, and anal canal. The cecum is the proximal end of the large intestine and is the portion where the large and small intestines meet. The colon consists of four portions. The mucosal lining of the large intestine consists of simple columnar epithelium. It has numerous straight tubular glands. The rectum is a straight, muscular tube. It begins at the termination of the sigmoid colon and ends at the anal canal. The last 2 to 3 cm of the digestive tract is the anal canal. It begins at the inferior end of the rectum and ends at the anus. The smooth muscle layer of the anal canal forms the internal anal sphincter and external anal sphincter.

Exercise 9. Retell the text "Portions of the digestive system". The following expressions may be helpful:

… is a part of the digestive system. It consists of … . … is located .. . Its function is to … .

Exercise 10. Insert the missing words given below:

THE ALIMENTARY TRACT

The alimentary tract is a musculomembraneous canal about 8.5 meters in length. It 1)_____ from the oral cavity to the anus. It consists of the mouth, pharynx,

2)_____, stomach, small intestine, and large intestine. The liver with gallbladder and 3)_____ are the large glands of the alimentary tract.

The first division of the alimentary tract is formed by the mouth. Important structures of the mouth are the 4)_____ and the tongue, which is the organ of taste. The soft and hard 5)_____ and the salivary glands are also in the oral cavity.

From the mouth food passes through the 6)_____ to the esophagus and then to the stomach.

The stomach is a dilated portion of the alimentary canal. It is in the upper part of the abdomen under the diaphragm. It measures about 21-25 cm in length.

The small intestine is a thin-walled muscular tube about 6.5 meters long. It is located in the lower and central parts of the 7)_____ and pelvic cavities. The small intestine is composed of the duodenum, jejunum, and ileum.

The large intestine is about 1.5 meters long. It is divided into caecum, 8)_____, and rectum.

The liver is the largest 9)_____ in the human body. It is in the right upper part of the abdominal cavity under the diaphragm. The gallbladder is a hollow 10)_____ lying on the lower surface of the liver.

The pancreas is a long thin gland lying under and behind the stomach.

palates; esophagus; gland; pharynx; teeth; colon; pancreas; extends; abdominal; sac.

Exercise 11. Answer the following questions:

What organ or the part of the digestive tract is located:

1) in the lower and central portions of the abdominal and pelvic cavities?

2) in the right upper part of the abdominal cavity under the diaphragm?

3) in the abdominal cavity under and behind the stomach?

4) within the abdominal cavity on the lower surface of the liver?

Exercise 12. Speak on the structure and functions of the digestive system. The following expressions may be helpful:

Digestive system consists of … .

Important structures of … are … .

The first /second /last segment of alimentary canal is … .

Food passes through … to … .

Small / Large intestine is divided into /includes /consists of … .

The main function of … is to … .

Exercise 13. Read and reproduce the following dialogue:

At the Gastroenterologist's

Gastroenterologist: What do you complain of?

Patient: I often have a severe pain in my abdomen.

G.: In what part of abdomen do you feel the pain?

P.: In the upper part. Here it is.

G.: What is the character of the pain? Is your pain acute or dull?

P.: It is dull. But sometimes I have colics in my stomach.

G.: Is your pain constant or periodic?

P.: I feel it just after meals.

G.: Do you take any medicines when you feel the pain?

P.: Yes, I do. I take some medicines and my pain disappears.
G.: When did the abdominal pain appear? Where does the pain radiate to?
P.: The pain appeared some months ago. It often radiates to the back.
G.: Do you have a feeling of heaviness?
P.: Yes, I do.
G.: What else troubles you?
P.: Sometimes I have nausea or vomiting.
G.: Do you obtain relief after vomiting?
P.: Yes, I do.
G.: Now undress, please. I'll examine you. Show me your tongue, please. Your tongue is thickly coated. Lie down on the couch. I'll palpate your abdomen. The abdomen is symmetrically enlarged. Show me where the pain is. Is it painful when I press here?
P.: Yes, it is.
G.: That's all. Dress yourself and sit down here. Listen to me attentively. First you have to make roentgenography of your abdomen and your gastric juice analysis. Then come to me and I'll prescribe you the treatment. Keep to a diet. Don't eat sour and salt meals. Avoid the physical exertion and emotional overstrain.
P.: Thank you. I'll fulfill all your administrations.

Part B. GASTROINTESTINAL DISEASES. DRUG THERAPY OPTIONS

Speaking

1. What organs may be damaged by gastrointestinal diseases?
2. What gastrointestinal diseases do you know?
3. Have you ever suffered from gastrointestinal disorders?

Active Vocabulary

1. gastrointestinal tract (GI)	шлунково-кишкового тракту (ШКТ)
2. gastritis	гастрит
3. peptic ulcer	виразкова хвороба
4. stomach cancer	рак шлунку
5. ulcerative colitis	виразковий коліт
6. excessive	надмірний
7. anti-inflammatory	протизапальний
8. insufficiency	неефективність
9. gastroenterologist	гастроентеролог
10. nausea	нудота
11. bloating	вздуття живота
12. heartburn	печія
13. weight loss	втрата ваги
14. release	виділення, (звільнення)
15. constipation	закреп
16. fatigue	втома
17. cramps	судоми
18. bleeding	кровотеча
19. flare-ups	спалахи (загострення)
20. viral hepatitis	вірусний гепатит

Exercise 14. Translate into Ukrainian:

The digestive tract disorders; to range from mild to serious; excessive alcohol use; to contribute significantly; to deal with the diagnosis and treatment; irritation or erosion of the lining of the stomach; to form cancer cells; painful sores; symptoms of gastric dysfunction; to neutralize gastric juice; to be broken down into small particles; potent therapy; to require prescription medicines; to restrict consumption of something.

Exercise 15. Read the text.

GASTROINTESTINAL DISEASES AND DRUG THERAPY OPTIONS

A digestive disease is any disorder that occurs in the digestive tract, which is sometimes called the gastrointestinal (GI) tract. The digestive tract is made up of the mouth, throat, esophagus, stomach, small and large intestines, liver, pancreas, and the gallbladder. In digestion, food and drink are broken down into small particles (nutrients) that the body can absorb and use for energy, growth and cell repair.

Digestive diseases may range from mild to serious. Some common problems include gastritis, peptic ulcer, stomach cancer, ulcerative colitis. Excessive alcohol use, stress, aspirin and other anti-inflammatory medications, infections, and vitamin insufficiency may contribute significantly to their development. A gastroenterologist is a physician who deals with the diagnosis and treatment of the digestive disorders.

Gastritis is an inflammation, irritation or erosion of the lining of the stomach. **Peptic ulcer** disease refers to painful sores in the gastric mucosa or duodenum. **Stomach cancer** occurs when cancer cells form in the mucous membrane of the stomach. The common symptoms of gastric dysfunction may include nausea, vomiting, abdominal pain, bloating, indigestion, heartburn, loss of appetite, weight loss, and black and tarry stools. To relieve and remove gastric discomfort it is generally recommended to advise of taking ***antacids*** to neutralize gastric juice, ***proton pump inhibitors*** or ***H-2 blockers*** to reduce the release of stomach acid, ***antibiotics*** to kill bacteria, ***vitamin*** shots to replenish ***B-12*** in the body. Stomach cancer is treated by surgery, ***chemotherapy*** and ***radiation***. Some side effects can be observed after this potent therapy, such as pain, fatigue, mouth, gum and throat sores, nausea and vomiting, constipation or diarrhea, skin irritation, weight changes, hair loss, kidney and bladder problems, anemia, impairment of blood clotting process, increased risk of infection.

Ulcerative colitis is inflammatory bowel disease. It affects the lining of the large intestine and results in the appearance of painful and bleeding sores or ulcers. The main symptoms are abdominal pain, cramps, diarrhea, bleeding from the rectum, joint pain, and eye problems. If the symptoms are mild, the patient may need only over-the-counter medication for diarrhea. Many people require prescription medicines, such as ***aminosalicylates*** and ***steroids*** to reduce the body's immune response, to stop symptoms and prevent flare-ups.

The incidence of gastrointestinal diseases such as cholera, typhoid, dysentery, viral hepatitis (A and E virus) can be substantially reduced by providing clean water and food to the population. Restricting consumption of tobacco and nonsteroidal anti-inflammatory drugs, diminishing alcohol intake and improving blood banks would prevent many acute and chronic liver diseases.

Exercise 16. Put the sentences in the order they appear in the text.

1.	Stomach cancer is treated by surgery, chemotherapy and radiation.	
2.	If the symptoms are mild, the patient may need only over-the-counter medication for diarrhea.	
3.	Peptic ulcer disease refers to painful sores in the gastric mucosa or duodenum.	
4.	Restricting consumption of tobacco and nonsteroidal anti-inflammatory drugs, diminishing alcohol intake and improving blood banks would prevent many acute and chronic liver diseases.	
5.	To relieve and remove gastric discomfort it is generally recommended to advise of taking antacids.	
6.	In digestion, food and drink are broken down into small particles (nutrients) that the body can absorb and use for energy, growth and cell repair.	
7.	A gastroenterologist is a physician who deals with the diagnosis and treatment of the digestive disorders.	
8.	A digestive disease is any disorder that occurs in the digestive tract, which is sometimes called the gastrointestinal (GI) tract.	
9.	Some common problems include gastritis, peptic ulcer, stomach cancer, ulcerative colitis.	
10.	Digestive diseases may range from mild to serious.	

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Exercise 17. Match the words from the text with their definitions (a-j).

1. nutrient	a) a destruction or wearing away of a surface by friction, pressure, ulceration or trauma
2. aspirin	b) said of feces that are black and glutinous
3. insufficiency	c) abnormally decreased function of the organ
4. erosion	d) a biochemical substance used by the body that must be supplied in adequate amounts from foods consumed
5. sore	e) any agent that neutralizes acidity, as of the gastric juice or any other secretion
6. tarry	f) a medicine that relieves pain and reduces fever
7. antacid	g) any type of painful lesion or ulcer of the skin or mucous membrane
8. chemotherapy	h) a group of drugs that includes the corticosteroids, similar to hormones produced by the adrenal glands, and used to relieve inflammation and itching
9. over-the-counter	i) a medication that may be bought without a physician's prescription
10. steroids	j) drug therapy option to kill cancer cells

Exercise 18. Complete the sentences with the words and phrases in the box.

digestive diseases cell repair stomach cancer ulcerative colitis proton pump inhibitors antibiotics vitamin shots_____prescription medicines aminosalicylates nonsteroidal anti-inflammatory drugs

1. Pharmacy mustn't sell steroids to its customer without a physician's prescription as they are _____.

2. _____ are a group of effective and generally safe medicines prescribed to treat heartburn and heal gastric ulcers by reducing the amount of acid produced by the patient's stomach.

3. More and more doctors recommend their patients _____ because of their better absorption.

4. There are common symptoms associated with _____: nausea and vomiting, abdominal pain, bloating, indigestion, heartburn, loss of appetite, weight loss.

5. _____ are effective in our struggle against Helicobacter Pylori.

6. Prophylaxis and early diagnosis lower the risk of contracting _____.

7. If the doctor establishes bleeding sores and redness of the surface of the colon, he will carry out additional investigations to confirm _____.

8. Intensive stem cell research will enable the scientists to succeed in _____ and replacement.

9. Gastritis may be followed by peptic ulcer unless the patient stops taking _____ that cause irritation of the stomach lining.

10. After the patient had been diagnosed with the inflammatory bowel disease the gastroenterologist wrote out a prescription for _____ to treat and prevent flare-ups.

Exercise 19. Are these statements true (T), false (F)? Write true sentences.

1. A digestive disease is any disorder that occurs in the urinary tract. **(T/F)**

2. Digestive diseases always cause severe symptoms. **(T/F)**

3. Gastritis is an inflammation, irritation or erosion of the lining of the stomach. **(T/F)**

4. Peptic ulcer disease is established when there are bleeding sores in the mucosa of the colon. **(T/F)**

5. Black and tarry stools may indicate gastric bleeding. **(T/F)**

6. Antacids neutralize gastric juice but proton pump inhibitors or H-2 blockers reduce its secretion. **(T/F)**

7. Vitamins given in injections are not easily absorbed. **(T/F)**

8. Chemotherapy includes highly potent drugs that kill cancerous cells. **(T/F)**

9. If the symptoms of ulcerative colitis are serious, the patient may need only over-the-counter medications for diarrhea. **(T/F)**

10. The incidence of gastrointestinal diseases can be substantially reduced by providing clean water and food to the population, restricting consumption of tobacco and nonsteroidal anti-inflammatory drugs, diminishing alcohol intake and improving blood banks. **(T/F)**

Exercise 20. Read the text again. Answer these questions.

1. What organs of the digestive tract can be damaged by gastrointestinal diseases?

2. Why do people need nutrients?

3. What lifestyle and medical factors may contribute significantly to the development of gastrointestinal diseases?

4. What does a gastroenterologist deal with?

5. When is gastritis (peptic ulcer, stomach cancer) diagnosed?

6. What are the most frequent complaints of the patients suffering from gastric dysfunction?

7. What classes of medications can improve the symptoms of gastric problems and promote recovery?

8. What side effects can chemotherapy and radiation provoke?

9. What prescription medicines are recommended to treat ulcerative colitis? What action do they produce?

10. What measures can reduce the incidence of gastrointestinal diseases globally?

Exercise 21. A) Complete the text with the given below words.
B) Read and translate the text.

STOMACH

The stomach stores and 1) _____ the ingested food. The major function of the stomach is to prepare the food chemically and 2) _____ so it can be received in the small intestine for further digestion and absorption into the 3) _____.

The stomach is an 4) _____ segment of the digestive tract. It is located in the left superior portion of the abdomen. Its shape and 5) _____ vary from person to person. The region of the stomach around the cardiac opening is the cardiac region. The stomach 6) _____ the fundus (upper part), the body (middle part), and the antrum (lower distal part).

The largest 7) _____ of the stomach is the body, which turns to the right. The walls of the stomach consist of various 8) _____ of powerful muscles. The mechanical activity of these muscles breaks the food into smaller and smaller pieces. The glands of the stomach 9) _____ gastric juice. This juice contains pepsins (digestive enzymes) and hydrochloric acid. Pepsin converts 10) _____ into smaller substances. Hydrochloric acid is necessary for the correct action of pepsin. Food leaves the stomach in two11) _____. The 12) _____ portion of the stomach contracts first, pushing the more liquid material into 13)_____ intestine. The more solid food leaves later, primarily by the action of the 14) _____ in the lower part of the stomach. The partially processed food then travels through the pyloric canal into the first portion of small intestine, the 15) _____.

(size; muscles; proteins; blood; phases enlarged; duodenum; secrete; upper; portion; small; consists of; layers; mechanically; mixes)

C) Answer the following questions:

1. What is the stomach?
2. What is the major function of the stomach?
3. Where is the stomach located?
4. What does the stomach consist of?
5. What is the largest portion of the stomach?
6. What do the walls of the stomach consist of?
7. What secretes the gastric juice?
8. What substances does the gastric juice contain?

9. What substances are absorbed in the stomach?

D) Translate into English:

1. Шлунок – найбільш розширений відділ травного каналу. 2. Він розташований між стравоходом і дванадцятипалою кишкою, у верхньому відділі черевної порожнини. 3. Форма та розміри шлунка коливаються у різних людей. 4. Це залежить від його функціонального стану, від віку та статі. 5. По краях шлунка одна його стінка переходить в іншу, утворюючи малу кривизну шлунка. 6. Стінки шлунка складаються з трьох оболонок: серозної, м'язової та слизової.

Exercise 22. What facts can you present to your group about:

Structure of the digestive tract, gastritis, peptic ulcer, stomach cancer, common gastric symptoms; drug therapy options.

UNIT 4.6. ENDOCRINE SYSTEM

Speaking

1. What are some important pasrts of the endocrine system?
2. What endocrine glands do you know?
2. What are the main functions of endocrine glands?
3. What are the major functons of hormones and hormonal problems?

ACTIVE VOCABULARY

hormone	гормон
maintain homeostasis	підтримувати гомеостаз
adrenal gland	наднирник
pituitary gland	гіпофіз
thyroid gland	щитоподібдна залоза
parathyroid gland	паращитоподібна залоза
ovaries	яєчники
testicles	яєчка
markedly affect (to influence)	помітно впливати
gonadal gland	статева залоза
pineal gland	шишкоподібна залоза, епіфіз
thymus gland	вилочкова залоза
mammary glands	молочні залози
salivary glands	слинні залози
sweat glands	потові залози
lacrimal glands	слізні залози
bloodstream	кровотік
proteins	білки
amino acids	амінокислоти
derivatives	похідні
glycoproteins	глікопротеїни
lipids	ліпіди
fatty acids	жирні кислоти
steroids	стероїди
glandular activity	діяльність залоз

Exercise 1. Read active vocabulary and memorize new words.

Exercise 2. Translate the following words and word-combinations into Ukrainian:

Target organ; response; stimuli; adrenaline; separate glands; enable; secrete the insulin; burst; lacrimal gland; sweat gland; external body surface; bloodstream; produce; glandular; pancreas; adrenal; pituitary; thyroid; parathyroid.

Exercise 3. Read the following words and word-combinations:

Protein; lipid; amino acid; hormone; glycoprotein; polypeptide; breathe; usual; although; either; affect; mechanism; release; amount of sugar; certain; particular hormone; insulin; to separate; separate glands; via.

Exercise 4. Read and translate the following text:

Structure of Endocrine System

The endocrine system consists of cells, tissues, and organs that produce hormones or other chemical substances. The organs of endocrine system act together to control body activities and maintain homeostasis. In most people, the pancreas, the adrenal, pituitary, thyroid, and parathyroid glands, and ovaries or testicles work in tandem. The endocrine system regulates various functions of a human organism.

It functions as a control system for the human body. Unlike other organs and body parts that enable to move, breathe, eat, or sense the world around us, the endocrine system influences the body's processes. Along with nervous system, it coordinates the body's activities and responses to usual and unusual events.

Although both the endocrine system and the nervous system regulate the activities of structures in the body, they do so in different ways. These two systems cannot be separated completely either anatomically or functionally. For example, some hormones secreted by endocrine glands affect the nervous system and markedly influence its activity.

The key mechanism of the endocrine system is the hormone. Different types of endocrine hormones are secreted by different glands (pituitary gland, thyroid gland, parathyroid gland, pancreas, adrenal glands, gonads: ovaries and testicles, pineal gland, and thymus gland). Most of these hormones are released into the bloodstream so that they can deliver instructions to various organs and tissues. The pancreas, for example, secretes the insulin hormone, which enables the body to regulate the amount of sugar in the bloodstream. In response to stress or other stimuli, the adrenal glands secrete adrenaline, which produces a sudden and remarkable burst of energy.

Similarly, the pituitary, thyroid, parathyroid, and gonadal glands influence certain body functions. Glands, which send the chemical substances into ducts leading to external body surfaces, are called exocrine glands. They are mammary, salivary, lacrimal and sweat glands.

A hormone is an organic substance with a special molecular structure secreted by definite cells that has an effect on the function of another cells. Although hormones circulate throughout the body via the bloodstream, each hormone influences on only certain organs (target organs) or tissues.

So, several types of chemicals are produced by cells and act as chemical messengers, but not all of them are hormones.

Hormones are proteins, glycoproteins, polypeptides, derivatives of amino acids, or lipids (steroids or derivatives of fatty acids).

As a rule, the greater the amount of a particular hormone in the bloodstream, the greater activity of the target organ. Some hormones (such as several of those produced by the pituitary gland) control other glandular activity, but virtually every system in the body is subject to the influence of the hormones, either directly or indirectly.

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

Адреналін, епінефрин; залозовий, такий, що стосується залози; гіпофіз; щитоподібна залоза; прищитоподібна залоза; підшлункова залоза; надниркова залоза; здійснювати вплив, впливати; подразники, стимули; шишкоподібна

залоза; загруднинна залоза, тимус; гормони, що виробляються ендокринними залозами; жирні кислоти.

Exercise 6. Answer the following questions:

1. What does the endocrine system consist of? 2. What is the function of endocrine system? 3. What glands of external secretion do you know? 4. What glands are the glands of internal secretion? 5. What is a hormone? 6. Where do the hormones circulate?

Exercise 7. Read the following abstract and say what it deals with:

Pituitary gland is at the base of the brain. Thyroid gland is located on either side of the trachea below the thyroid cartilage. Parathyroid glands are located on the dorsal side of the thyroid gland. Pancreas is behind the stomach. The adrenal glands are situated one on top of each kidney.

Exercise 8. Choose the correct terms (parathyroid gland; thyroid gland; adrenal glands; endocrine gland; pancreas; exocrine gland; pituitary gland) for the following definitions:

1. Gland that releases its secretion internally into a body fluid.
2. A gland that releases its secretion to the outside through a duct.
3. A set of glands located near the surface of the thyroid gland.
4. This is a largest gland of the human body.
5. This gland is located in the neck and consists of two lobes. Its hormones are thyroxine and calcitonin.
6. These glands are located atop the kidneys. Each gland consists of a medulla and a cortex.
7. This gland is attached to the base of the brain, has an anterior lobe and a posterior lobe. Most its secretion are controlled by the hypothalamus. Its hormones are growth hormone, thyroid-stimulating hormones, and some others.

Exercise 9. Choose the correct answer:

A mother consulted the doctor about her son who had grown up in height about 18 cm during the summer. On examination: height – 190 cm, weight – 68 kg. What endocrine gland's hypersecretion may cause this condition? (thyroid gland, epiphysis, adrenal gland, pituitary gland, pancreas)

Exercise 10. Give a summary of the text "Endocrine System".

PART II

Exercise 11. Pronounce and memorize the words to the theme studied:

secretory activity	секреторна діяльність
extension	подовження, зв'язка
band	смуга, зона
vascular	судинний
triiodothyronine	трийодтиронін
tetraiodothyronine	тетрайодтиронін
thyroxine	тироксин (гормон щитоподібної залози)
parietal	парієтальний, пристінковий

peritoneum	очеревина
adrenal cortex	кора надниркової залози
adrenal medulla	мозкова речовина надниркової залози
pancreatic islet (Langerhans islet)	панкреатичний острівець, острівець Лангерганса
norepinephrine	норепінефрин, норадреналін
circulatory system	система кровообігу, кровотворна система
glucagon	гіперглікемічний гормон підшлункової залози, глюкагон
immature cell	незріла клітина

Exercise 12. Read the following words and word-combinations:

Hypophysis; antidiuretic; hypothalamus; molecule; initiate protein synthesis; embryonic; capsule; mesoderm; elongate; enzyme.

Exercise 13 . Read translate the following text:

ENDOCRINE GLANDS

The pituitary gland, or hypophysis, is known to secrete some major hormones (e. g. antidiuretic hormone, growth hormone, thyroid-stimulating hormone, adrenocorticotropic hormone, lipotropins, prolactin) that directly regulate numerous body functions and the secretory activity of several other endocrine glands. The hypothalamus of the brain regulates the secretory activity of the pituitary gland, and, in turn, the activity of the hypothalamus is influenced by the central nervous system, and by the emotional state of the individual. The hypothalamus and pituitary gland are the major sites in which the two regulatory systems of the body (the nervous and endocrine systems) interact. Indeed, a major portion of the pituitary gland (the posterior pituitary) is an extension of the hypothalamus. As for pituitary gland, it is roughly 1 cm in diameter and weighs 0.5 to 1 g. The pituitary gland is located inferior to the hypothalamus. It is divided functionally into two parts (posterior pituitary gland and anterior pituitary gland).The thyroid gland is composed of two lobes connected by a narrow band of thyroid tissue. The lobes are lateral to the upper portion of the trachea just inferior to the larynx.

The thyroid gland is one of the largest endocrine glands with a weight of approximately 20 g. It is highly vascular and appears redder than its surrounding tissues. The thyroid hormones include both triiodothyronine (T3) and tetraiodothyronine (T4); T4 is also called thyroxine. These substances constitute the major secretory products of the thyroid gland, with 10% T3 and 90% T4. Thyroid hormones bind with intracellular receptor molecules and initiate new protein synthesis.

The adrenal glands are near the top of each kidney. Like kidneys, they lie posterior to the parietal peritoneum and are surrounded by adipose tissue. They are enclosed by a connective tissue capsule and receive a well-developed blood supply. The adrenal glands are composed of an inner medulla and an outer cortex, which are derived from two separate embryonic tissues. Unlike most glands of the body, which develop from epithelial tissue, the adrenal cortex is derived from mesoderm. The adrenal medulla is a component of the autonomic nervous system and secretes two types of hormones: epinephrine (adrenaline), 80%, and norepinephrine (noradrenaline), 20%. The adrenal

cortex secretes three hormone types: mineralocorticosteroids, glucocorticoids, and sex hormones. All are similar in structure in that they are steroids, highly specialized lipids that are derived from cholesterol.

The pancreas lies behind the peritoneum between stomach and the duodenum. It is elongated structure approximately 15 cm long. It weighs 85 to 100 g. The head of the pancreas lies near the duodenum, and its body and tail extend toward the spleen. The pancreas plays a key part in the digestive process, producing enzymes essential to the digestion of food. The pancreas is both an exocrine gland and endocrine gland. The endocrine portion, consisting of pancreatic islets (islets of Langerhans), produces hormones that enter the circulatory system. Each islet is composed of alpha cells (20%), which secrete glucagons, beta cells (75%), which secrete insulin, and other cell types (5%). The remaining cells are either immature cells of questionable function or delta cells, which secrete somatostatin.

Exercise 14. Insert the missing words:

1. The _ secretes at least nine hormones that regulate numerous body functions and other endocrine glands.
2. The hypothalamus _ pituitary gland activity through neurohormones.
3. The _ is just inferior to the larynx.
4. Thyroid hormones increase the rate of glucose, fat, and protein metabolism in many tissues, thus increasing body _.
5. Normal growth of many tissues is dependent on _ hormones.
6. The adrenal glands are near the superior pole of each_.
7. The adrenal cortex is derived from _.
8. Norepinephrine stimulates cardiac muscle and causes constriction of most peripheral _ vessels.
9. The adrenal _ hormones prepare the body for physical activity.
10. The pancreas is located along the small _ and the stomach.
11. It is both an _ and endocrine gland.
12. The endocrine portion of pancreas _ the pancreatic islets.

Exercise 15. Answer the following questions:

1. What hormones of the pituitary gland do you know?
2. What is the major function of the pituitary gland?
3. Where is the pituitary gland located?
4. What is the thyroid gland composed of?
5. What thyroid hormones do you know?
6. What do thyroid hormones initiate?
7. Where are the adrenal glands located?
8. What are the adrenal glands composed of?
9. What hormones does the adrenal cortex secrete?
10. What does the pancreas consist of?
11. What is the major function of the pancreas?

Exercise 16. Pick up correct statements (true or false choice):

1. As a group, endocrine glands are concerned with the regulation of metabolic processes.
2. Exocrine glands secrete hormones.

3. Hormone is carried to its target cells by body fluid.
4. Endocrine glands do not secrete hormones that affect target cells possessing specific receptors.

Exercise 17. Retell the text "Endocrine Glands".

Part 3

Exercise 18. Read the following text, make up a plan, and speak on the functions of hormones:

FUNCTIONS OF HORMONES

The secretory products of endocrine glands are hormones. Traditionally a hormone is defined as a substance that is produced in minute amounts by a collection of cells, is secreted into the interstitial spaces, enters the circulatory system on which it is transported some distance, and acts on specific tissues called target tissues at another site in the body to influence the tissues' activity.

The hormones produced by the pancreas enable the body to break down (metabolize) the food you eat. They regulate the body's use of glucose, a simple form of sugar that is an energy source for much of the daily activities of all human cells. Three hormones are produced by the pancreas. The first is insulin, which is produced when the concentration of glucose in the blood increases. This normally occurs shortly after a person eats a meal. Muscle and fat cells are stimulated by insulin to absorb the glucose they need as fuel for their activities. The second pancreatic hormone is glucagon. When needed, it breaks down the glycogen stored as fuel into the bloodstream. In effect, this raises the concentration of sugar in the blood. The third hormone produced by the pancreas, somatostatin, is a factor in regulating the production and release of both insulin and glucagon.

When secreted into the bloodstream adrenal medulla hormones increase cardiac output, blood flow to skeletal muscles and heart, and release of glucose and fatty acids into blood. The cortex produces a group of hormones called corticosteroids, of which there are three kinds. One kind is the sex hormones. They affect sexual development and reproduction. Another kind includes glucocorticoids. They influence the conversion of starchy foods into glycogen in the liver. The third kind is the mineralocorticosteroids. They control the body's use of minerals, sodium and potassium.

The hormones of the adrenal gland affect virtually every system in the human body to some degree. The thyroid gland helps set the rate at which the body functions. It responds to instructions from the pituitary gland to secreting the hormone thyroxine, whose actions control the rate of chemical activity in the body. Such activities vary directly with the quantity of thyroxine present: the more hormones circulating in the bloodstream, the greater the speed at which chemical reactions occur.

As you know the pituitary gland (hypophysis) consists of two parts, the front (anterior) lobe and the posterior lobe. The anterior lobe produces six distinct hormones, including prolactin to stimulate the production of breast milk and growth hormone to regulate the body's physical growth.

The other four hormones influence other parts of the endocrine system, stimulating activities in the thyroid gland, ovaries, testicles, and adrenal glands. The

posterior lobe produces two hormones: oxytocin and antidiuretic hormone. Oxytocin prompts contractions during childbirth and stimulates the breast to release milk during breastfeeding. Antidiuretic hormone acts on the kidneys to control urine output.

Exercise 19. Try to organize obtained information in the form of the following table:

Gland	Location	Hormones produced by gland	Function of the gland or hormone

Exercise 20. Speak on the some endocrine glands using obtained data. You may use the following expressions:

The endocrine system consists of _. The _ gland is one of the endocrine glands. It is located _. The _ glands secrete the following hormones _. These hormones play a key part in _.

Exercise 21. Read and translate the following text:

THYROID GLAND

The thyroid gland is one of the endocrine glands, which make hormones to regulate physiological functions in the human body. The thyroid gland manufactures thyroid hormone, which regulates the rate at which the body carries on its necessary functions.

The thyroid gland is located in the middle of the lower neck, below the larynx (voice box) and just above your clavicles (collarbones). It is shaped like a "bow tie," having two halves (lobes): a right lobe and a left lobe joined by an "isthmus".

The thyroid gland contains numerous follicles, which are small spheres with their walls composed of a single layer of cuboidal epithelial cells. The center, or lumen, of each thyroid follicle is filled with a protein called thyroglobulin to which thyroid hormones are bound. The thyroglobulin stores large amounts of thyroid hormone.

Between the follicles a delicate network of loose connective tissue contains numerous capillaries. Scattered parafollicular cells are found between the follicles and among the cells that comprise the wall of the follicle. Calcitonin is secreted from the parafollicular cells and plays a role in reducing the concentration of calcium in the body fluids when calcium levels become elevated.

Diseases of the thyroid gland are very common. The most common diseases are caused by an over- or under-active glands. These conditions are called hyperthyroidism (e.g., Grave's disease) and hypothyroidism. Sometimes the thyroid gland can become enlarged from over-activity (as in Grave's disease) or from under-activity (as in hypothyroidism). An enlarged thyroid gland is often called a "goiter."

Patients may develop "lumps" or "masses" in their thyroid gland. They may appear gradually or very rapidly. Patients who had radiation therapy to the head or neck are more prone to develop thyroid malignancy.

Exercise 22. Compose your own dialogue on the endocrine system.

Exercise 23. Read the definitions and fill in blanks with proper term elements given below:

1. Endo_ is the branch of medicine dealing with endocrine glands and internal secretion of the body.
2. Endo_ is abnormal condition when endocrine glands fail to perform their functions.
3. Endo_ is a method of treatment, which includes the using of some hormones. 4. Endo_ is inflammation of the endothelial membrane lining the cavities of the heart. 5. Endo_ is the use of a specific often flexible instruments in medical examination.

A. ***_scopy***; B. ***_crinology***; C. ***_carditis***; D. ***_crinopathology;*** E. ***_crinotherapy***.

Exercise 24. Skim through the following text and entitle it:

Although the stated differences between the endocrine and nervous systems are generally true, exceptions do exist (e.g., some endocrine responses are more rapid than some neural responses, and some endocrine responses have a shorter duration than some neural responses).

The endocrine system was believed to be relatively independent and different from the nervous system, but a relationship between these systems is now recognized. In fact, the two systems cannot be separated completely either anatomically or functionally. Some neurons secrete into the circulatory system regulatory chemicals called neurohormones, which function like hormones. Other neurons directly innervate endocrine glands and influence their secretory activity.

Conversely, some hormones secreted by endocrine glands affect the nervous system and markedly influence its activity. Several types of chemicals are produced by cells and act as chemical messengers, but not all of them are hormones. Intercellular chemical messengers act as signals that allow one cell type to communicate with other cell types. The signals coordinate and regulate the activities of the many cells that comprise the body. Terms such as hormones, neurohormones, neuromodulators are used to classify these substances. Although many intercellular chemical messengers consistently fit one specific definition, others do not.

Exercise 25. Translate the following sentences into English:

1. Залози внутрішньої секреції виділяють гормони. 2. Вони надходять у кров і беруть участь у гуморальній регуляції функцій різних систем організмулюдини. 3. Залози, які мають протоки, називають залозами зовнішньої секреції, або екзокринними залозами. 4. Залози, які не мають вивідних проток – це залози внутрішньої секреції, або ендокринні залози. 5. Продукти їхньої діяльності потрапляють у серцево-судинну або лімфатичну систему. 6. Щитоподібна залоза – непарний орган масою 20-50 г. Залоза розташована в передній ділянці шиї. 7. Прищитоподібні залози парні. Загальна маса залоз становить у середньому близько 1 г. 8. Надниркова залоза – парний ендокринний орган. Маса залози 12-13 г, довжина 5 см, ширина 3 см. 9. Кора надниркових залоз (adrenal cortex) виробляє кортикостероїди. Мозкова речовина надниркової залози (adrenal medulla) виробляє адреналін і норадреналін. Ці гормони мобілізують захисні сили організму.

Part 4. HORMONAL PROBLEMS

VOCABULARY

growth hormone	гормон росту
hypothalamus	гіпоталамус
somatomedin	соматомедін, інсулиноподібний фактор росту
lack	нестача, відсутність
stature	зріст; статура
obesity	ожиріння
retard	уповільнювати; затримувати
giantism	гігантизм
acromegaly	акромегалія, синдром Тінеля
diuretic	діуретик; сечогінний засіб; сечогінний
dilute	зниженої концентрації; розбавляти
diabetes insipidus	нецукровий діабет
removal	видалення
diabetes mellitus	цукровий діабет
hyperthyroidism	базедова хвороба, гипертиреоідизм, зоб дифузний тиреотоксичний
goiter	зоб
iodine	йод
consumption	споживання
disturbance	порушення, розлад, патологічне відхілення
aldosteronoma	альдостеронома
release	вивільнення (речовини)
supplement	додаток
fail	слабшати, перестати діяти
hyperglycemia	гіперглікемія
detect	виявляти

Exercise 26. Compose 2-3- sentences using the words of VOCABULARY.

Exercise 27. Translate the following words and word-combinations into Ukrainian:

Disturbance; fail; goiter; stature; release; lack; obesity; remain; consumption; intricate; aldosteronoma; supplement; detect.

Exercise 28. Read the following words and word-combinations:

Pituitary gland; associated; hypothalamus; chronic; dwarfism; dilute urine; diabetes; sign; frequency; diarrhea; iodine; thyroxine; aldosteronoma, congenital adrenal hyperplasia; tachycardia; insulin; require.

Exercise 29. Read the following text:

HORMONAL PROBLEMS

Because of the complexity of the endocrine system, many problems, great or small, can result from a malfunction.

Pituitary gland disorders. Growth hormone (GH) stimulates growth in most tissues and is one of the major regulators of metabolism. Several pathological conditions are associated with abnormal GH secretion. In general, the causes for

hypersecretion or hyposecretion of GH involve tumors in the hypothalamus or the pituitary, the synthesis of structurally abnormal GH, the inability of the liver to produce somatomedins, or the lack of receptor molecules in the target cells. Chronic hyposecretion of GH in infants and children leads to dwarfism in which the stature is short because of delayed bone growth; however, the bones usually have a normal shape. Other symptoms that result from the lack of GH include mild obesity and retarded development of the adult reproductive functions. Chronic hypersecretion of GH leads to one of two conditions (giantism and acromegaly).

Treatment for chronic hypersecretion of GH often involves surgical removal or irradiation of a GHproducing tumor. The inability to secrete antidiuretic hormone (ADH) leads to the production of a large volume of dilute urine. This condition is called diabetes insipidus.

The most common thyroid disorders are hyperthyroidism and hypothyroidism. Hyperthyroidism occurs when the thyroid gland produces excessive amounts of thyroid hormone. The signs of this disorder are the following: weight loss despite increased appetite, increased heart rate and blood pressure, nervousness, swelling at the base of the neck (goiter), increases in the frequency of bowel movements, sometimes diarrhea, and muscle weakness. Three types of treatment are available: a liquid form of radioactive iodine, an antithyroid medication, and surgery.

An underactive thyroid gland causes hypothyroidism. This disorder can occur in either sex and at any age. However middle-aged women are most commonly affected. The key treatment is daily consumption of thyroid hormone. Physicians generally prescribe a synthetic thyroxine. The individual must continue this treatment for the rest of his or her life.

The hormones of the adrenal glands affect virtually every system in the body to some degree. Their effects are complex. Disturbances can occur in this intricate system, leading to such disorders as Addison's disease, aldosteronoma, congenital adrenal hyperplasia and others.

Symptoms result from the release of large amounts of epinephrine and norepinephrine and include weight loss, darkening of the skin, sweating, nervousness, and tachycardia. Treatment requires daily doses of steroid tablets and salt supplements.

Sometimes the pancreas' balanced system of control fails. The amount of glucose in the bloodstream increases. The result is hyperglycemia. This condition is easily diagnosed by measuring the concentration of glucose in the blood. If it is high enough, some glucose will spill into the urine, where it can be detected easily. When the body's cells are unable to use the glucose in the bloodstream because of a lack of insulin activity (absence of enough hormone or resistance to the hormone), diabetes mellitus results. It is very serious disease but modern medications have made possible the effective management of diabetes mellitus.

Exercise 30. Translate the following words and word-combinations into English:

Залишатися, знаходитися; уповільнювати, затримувати; гігантизм; причина; акромегалія, синдром Тінеля; пухлина; порушення, розлад, патологічне відхилення; базедова хвороба; сечогінний засіб; слабшати; гормон росту; слабкість; цукровий діабет.

Exercise 31. Insert the missing words or word-combinations:

1. _ hormone (GH) stimulates growth in most tissues. 2. Several pathological conditions are associated with abnormal GH _. 3. They are _ and hyposecretion. 4.The causes for hypersecretion or hyposecretion _ tumors in the hypothalamus or the pituitary, the synthesis of structurally abnormal GH, the inability of the liver to produce somatomedins and others. 5. Chronic hyposecretion of GH in infants and children leads to _. 6. Treatment for chronic hypersecretion of GH often _ surgical removal or irradiation of a GH-producing tumor. 7. Hyperthyroidism _ when the thyroid gland produces excessive amounts of thyroid hormone. 8. The signs of this disorder are the following: weight loss despite increased appetite, increased heart rate and blood pressure, nervousness, _ at the base of the neck and others. 9. An underactive _ gland causes hypothyroidism. 10. The key treatment is daily _ of thyroid hormone.

Exercise 32. Answer the following questions:

1. What does GH stimulate? 2. What are the causes for hypersecretion or hyposecretion of GH? 3. What does the treatment for chronic hypersecretion of GH involve? 4. What thyroid disorders do you know? 5. What are the signs of hyperthyroidism? 6. What does the treatment for hyperthyroidism include? 7. What is the cause for hypothyroidism? 8. What is key treatment? 9. What disorders of adrenal glands do you know? 10. What are the symptoms of adrenal glands disorders? 11.What are the causes of the pancreas disorders?

Exercise 33. Speak on:

- pituitary gland disorders;
- thyroid disorders;
- adrenal glands disorders;
- pancreas disorders.

Exercise 34. Compose your own dialogue on hormonal problems.

UNIT 4.7. NERVOUS SYSTEM

Speaking

1. Why is the nervous sytem so important to bodily fucntion?
2. What are the major divisions of the nervous system?
3. What are the main parts of the central nervous system (CNS)?
4. What does the peripheral nervous system (PNS) consists of?
5. What is the function of the brain? What regions of the brain do you know?
6. Give the examples of nervous system disorders.

Active Vocabulary

neuron	нейрон
branching	розгалуження, гілкування
axon	аксон, провідна частина нервової клітини, відросток нервової клітини
dendrite	дендрит, відросток нервової клітини, що розгалуджується
synapse	синапс
spinal cord	спинний мозок
meninges	мозкові оболонки
dura mater	тверда мозкова оболонка
arachnoid	павутинна оболонка (мозку)
pia mater	м'яка мозкова оболонка
innermost	той, що знаходиться глубоко усередині; внутрішній
relay	передавати
afferent	аферентний
efferent	еферентний, відцентровий
forth	вперед, далі
distribution	розподіл
brainstem (brain stem)	стовбур головного мозку
hypothalamus	гіпоталамус
blood supply	кровопостачання
critical	важливий, суттєвий, необхідний
signal	сигнал
output	об'єм
consume	вживати, поглинати, споживати
action potential	потенціал дії
viscera	внутрішні органи

Exercise 1. Read Active Vocabulary and memorize new words.

Exercise 2. Read the following words and word-combinations paying attention to their pronunciation and translate them:

Neuron; branching fiber; chemical; peripheral; spinal cord; vertebrae; meninges; liquid; numerous; sources; primarily; potential; muscle; blood flow; sweating.

Exercise 3. Read and translate the following text:

TEXT 1. NERVOUS SYSTEM

The nervous system is the human's information center and control system. The basic unit in the system is the nerve cell, called neuron. A neuron consists of a cell body, one major branching fiber (axon), and numerous smaller branching fibers (dendrites). Each neuron is connected to other neurons by synapses on the axons and dendrites. A neuron receives chemical signals from other neurons through the synapses. All of these incoming signals are combined as an electrical signal within the neuron, and it may or may not send an outgoing chemical signal down its axon to another set of synapses. The nervous system can be divided into central nervous system (CNS) and peripheral nervous system (PNS).

The CNS processes information, initiates responses, and integrates mental processes. The central nervous system consists of the brain and the spinal cord. The brain is protected by the skull, and the spinal cord is protected by the vertebrae. Three connective tissue layers (the meninges) surround and protect the brain and spinal cord. They are dura mater (outermost), arachnoid (middle), and pia mater (innermost). In addition, a liquid called cerebrospinal fluid, between the arachnoid and pia mater, protects the brain and spinal cord from injury.

The peripheral nervous system (PNS) consists of cranial part, consisting of 12 pairs of nerves, and spinal part, consisting of 31 pairs of nerves. The PNS collects information from numerous sources both inside and on the surface of the individual and relays it by way of afferent fibers to the central nervous system. Efferent fibers in the PNS relay information from the CNS to various parts of the body, primarily to muscles and glands. Peripheral nerves run from the spinal cord to all parts of the body.

The parts of this system are named for the four spinal regions from which they branch: neck (cervical), chest (thoracic), lower back (lumbar), and pelvis (sacral). The spinal cord acts as a central communication network to transmit signals back and forth between the brain and peripheral nervous system. Two subdivisions comprise the PNS: the afferent, or sensory, division and the efferent, or motor, division. Afferent neurons carry action potentials from the periphery to the CNS, and efferent neurons carry action potentials from the CNS to the periphery.

The efferent neurons belong to either the somatomotor (somatic) nervous system, which supplies skeletal muscles, or to the autonomic nervous system (ANS), which supplies smooth muscles, cardiac muscle, and glands. The ANS regulates the activities of viscera such as the heart, blood vessels, digestive organs and reproductive organs. This system controls distribution of blood flow, regulation of blood pressure, heartbeat, sweating, and body temperature.

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

Дендрит; стовбур головного мозку; аксон; включати; синапс; поглинати; аферентний; внутрішні органи; мозкова оболонка; спинний мозок; павутинна оболонка (мозку); м'яка мозкова оболонка; тверда мозкова оболонка.

Exercise 5. Answer the following questions:

1. What is the nervous system of the human?

2. What is the major unit of this system?
3. What does a neuron consist of?
4. How is neuron connected to other neurons?
5. What is the function of a neuron?
6. What parts is the nervous system divided into?
7. What does the CNS consist of?
8. Where are the brain and spinal cord located?
9. What meninges do you know?
10. What is cerebrospinal fluid?
11. What parts is the PNS composed of?
12. What neurons does the PNS consist of?
13. What is the function of PNS?
14. What is the function of the spinal cord?
15. What is the major function of the ANS?

Exercise 6. Insert the missing words:

1. The nervous system is the information center and _____ system.
2. The basic _____ is the neuron.
3. A neuron _____ a cell body, axon, and dendrites.
4. A neuron _____ chemical signals from other neurons through the _____.
5. Neuron sends an outgoing _____ signal to another synapses.
6. The nervous system is divided into _____nervous system and _____nervous system.
7. The central nervous system consists of the brain and the _____ .
8. The meninges surround and _____ the brain and spinal cord.
9. They are dura mater,_____ , and pia mater.
10. The peripheral nervous system _____ cranial part and spinal part.
11. It is composed of afferent and _____ neurons.
12. The peripheral nervous system collects information from numerous sources and _____ it to the central nervous system.
13. The autonomic nervous system _____ smooth muscle, cardiac muscle, and glands.
14. It regulates the _____ of the heart, blood vessels, digestive organs and reproductive organs.
15. The somatic nervous system transmits action potentials from _____ to skeletal muscles.

Exercise 7. Try to organize the information of the text in table:

Parts of the nervous system	**Structure**	**Function**
CNS		
PNS		

Exercise 8. 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.

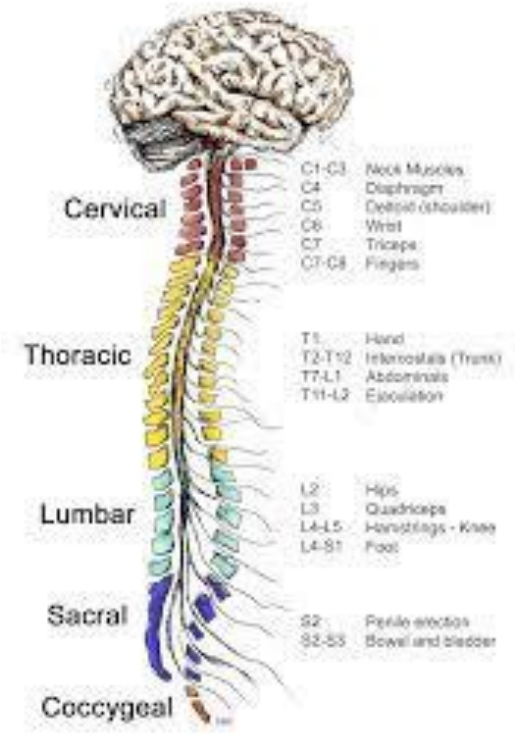
Exercise 9. Speak on the structure and functions of nervous system.

Exercise 10. Compose the dialogue on nervous system.

Exercise 11. Find in the dictionary unknown medical terms from the text "Spinal Cord" and memorize them.

Exercise 12. Read the following text and retell it:

TEXT 2. SPINAL CORD



The spinal cord is extremely important to the overall function of the nervous system. It is the communication link between the brain and the peripheral nervous system inferior to the head, integrating incoming information and producing responses through reflex mechanisms.

The spinal cord extends from the foramen magnum to the level of the second lumbar vertebra. It is shorter than the vertebral column because it does not grow as rapidly as the vertebral column during embryonic development. It is composed of cervical, thoracic, lumbar, and sacral segments, which are named according to the area of the vertebral column from which their nerves enter and exit. Because the spinal cord is shorter than the vertebral column, the nerves do not always exit the vertebral column at the same level that they exit the spinal cord. Thirty-one pairs of the spinal nerves exit the spinal cord and pass out of the vertebral column through the intervertebral foramina.

The spinal cord is not uniform in diameter throughout its length. There is a general decrease in diameter superiorly to inferiorly, and there are two enlargements where

nerves supplying the limbs enter and leave the cord. The cervical enlargement in the inferior cervical region corresponds to the location at which nerves that supply the upper limbs enter or exit the cord, and the lumbosacral enlargement in the inferior thoracic and superior lumbar regions is the site at which the nerves that supply the lower limbs enter or exit. Immediately inferior to the lumbar enlargement the spinal cord tapers to form a cone-like region called the conus medullaris. Its tip is at the level of the second lumbar vertebra and is the inferior end of the spinal cord. A connective tissue filament, the filum terminale, extends inferiorly from the apex of the conus medullaris to the coccyx and functions to anchor the cord to the coccyx.

The nerves supplying the legs and other inferior structures of the body (L2 to S5) exit the lumbar enlargement and conus medullaris, course inferiorly through the vertebral canal, and exit through the intervertebral foramina from L2 to S5. The conus medullaris and the numerous nerves extending inferiorly from it resemble a horse's tail and are therefore called the cauda equina.

NOTE: S – sacral L – lumbar

PART 2
BRAIN
ACTIVE VOCABULARY

brain	головний мозок
vault	склепіння
cerebrum	великий мозок
midbrain	середній мозок
pons	міст
medulla oblongata	довгастий мозок
thalamus	таламус
affect	впливати
add up	відповідати
convey	передавати
hemisphere	півкуля
conscious	свідомий
cerebellum	мозочок
linking	зв’язок
bit	шматочок; частина, невелика кількість
core	серцевина; ядро
atop	поверх; над
cerebral cortex	кора головного мозку

Exercise 13. Read ACTIVE VOCABULARY and memorize the following words.

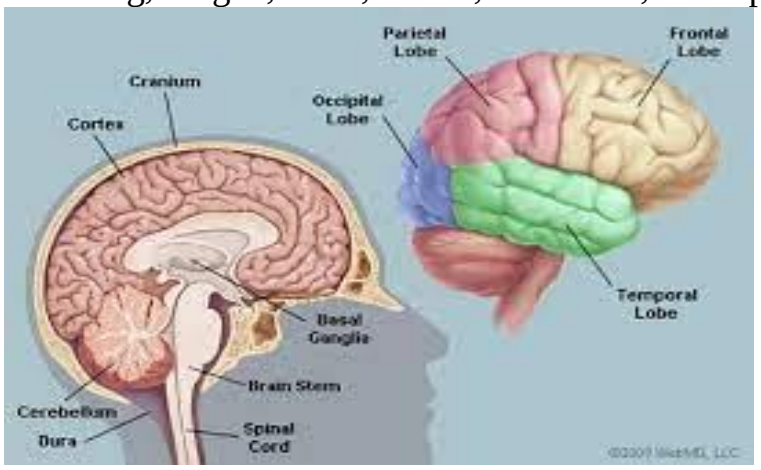
Exercise 14. Compose 5-8- sentences using the words of VOCABULARY.

Exercise 15. Translate the following words into Ukrainian:

Affect; hemisphere; vault; cortex; cerebrum; relay; linking; pons; convey; cerebellum; bit; midbrain; core.

Exercise 16. Read the following words and word-combinations and translate them:

Region; hypothalamus; medulla oblongata; analyze; function; signal; vital; breathing; tongue; mass; divide; conscious; hemisphere; beneath; area.



Exercise 17. Read and translate the following text:

BRAIN

The brain is the part of the CNS located within the cranial vault. The major regions of the adult brain are the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum. The brain works to analyze bits of information before transmitting these messages throughout the body. These messages affect functions such as coordination, learning, memory, emotion, and thought.

The scientists determined the brain was composed of approximately 100 billion neurons, their connections, and supporting cells, which add up to approximately 3 pounds of tissue. This dense network of interconnected neurons is organized to convey all the control signals necessary for individual activities.

The brain is connected to the spinal cord by the brain stem, which is composed of the medulla, the pons, and midbrain. The brain stem controls many of the vital functions, such as breathing and circulation of blood. Cranial nerves exit from the brain stem to control muscles of the face, eyes, tongue, ears, and throat. They also convey sensations from these parts back to the brain.

The cerebrum consists of thick masses of nerve tissue. It is divided into two sides (cerebral hemispheres). Conscious functions such as speech, memory, and vision are controlled in the cerebral hemispheres. Specific areas within these hemispheres are responsible for certain functions, such as speech and the control of muscles in particular parts of the body. In general, control of the muscles of the right side of the body is in the left hemisphere of the brain, and muscles of the left side of the body are controlled by the right hemisphere of the brain. The linking of higher brain functions with cerebral areas is a very active field of research.

The other major portion of the brain, the cerebellum, is located beneath the cerebral hemispheres. It helps control the coordination. At the core of the brain, atop the brain stem, there are other key areas, including thalamus and hypothalamus. The hypothalamus is an endocrine regulatory center that affects sleep and appetite. The thalamus is a collection of nerve cells whose function is the transmission of many of the sensations. In addition, the centers under the cortex play critical roles in relaying messages between different areas of the brain.

Exercise 18. Translate the following words and word-combinations into English:

Півкуля; ядро; відповідати; середній мозок; кора головного мозку; довгастий мозок; свідомий; зв'язок; поверх, над; передавати, транслювати; склепіння черепа; міст; невелика кількість; мозочок; впливати; головний мозок; центральна нервова система; головні ділянки; набір нервових клітин; передача відчуттів; дослідження; нервова тканина; м'яз; тканина; аналізувати.

Exercise 19. Answer the following questions:

1. Where is the brain located?
2. What regions of the brain do you know?
3. What is the function of the brain?
4. What is the brain stem composed of?
5. What parts is the cerebrum divided into?
6. Where is the cerebellum located?
7. Where are thalamus and hypothalamus located?

Exercise 20. Insert the prepositions:

Thalamus and hypothalamus are two important parts _ the brain. Thalamus is a mass of grey matter forming the lateral walls of the diencephalon (the part of the brain between the brainstem and the cerebrum), which is involved _ the transmission of some sensations. It monitors the stimuli we receive _ suppressing some and increasing others. Hypothalamus is the part of the brain that forms the bottom _ the third ventricle and regulates many basic body functions, such as sleep, appetite, temperature, and some emotions. The received stimuli impulses are recognized, summarized and analyzed _ the central part of the nervous system (brain). Then they sent out _ a form of specific orders _ different parts and organs of the human body. The investigations determined some areas _ the brain, which control vision, hearing, movements, and emotions.

Exercise 21. Match the following words with their definitions:

1. Dura mater	A. The upper, main and the largest part of the brain consisting of two equal hemispheres and controlling conscious and voluntary processes
2. Cerebrum	B. The outer layer over most of the cerebrum, the so-called "grey matter" of the brain
3. Cerebral cortex	C. Top of the section of the brain behind and below the cerebrum; it consists of two lateral lobes and a middle lobe and functions as the coordinating center for muscular movements and maintains balance
4. Cerebellum.	D. A piece of connecting tissue, the bridge of white matter at the base of the brain, containing neural connections between the cerebrum and cerebellum
5. Pons	E. The upper layer, the outmost of the three membranes, which surrounds the brain and spinal cord

Exercise 22 . Give a summary of the text "Brain".

Exercise 23. Compose short dialogues using the following model.

MODEL:

Student A: What regions does the brain consist of?

Student B: The brain consists of the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum.

Student A: What did I ask the student B?

Student C: You asked him/her what regions the brain consisted of.

Student A: What did the student B answer?

Student D: He/She answered the brain consisted of the cerebrum, the thalamus and hypothalamus, midbrain, pons, medulla oblongata, and cerebellum.

– What does the brain stem control?

– What do the cranial nerves convey?

Exercise 24. Read and translate the text, divide it into logical parts and entitle them:

HUMAN BRAIN AND ITS FUNCTIONS

Most brains exhibit a substantial distinction between the grey matter and white matter. Grey matter consists primarily of the cell bodies of the neurons, while white matter is comprised mostly of the fibers (axons) which connect neurons. The axons are surrounded by a fatty insulating sheath called myelin, giving the white matter its distinctive color. The outer layer of the brain is gray matter called cerebral cortex. Deep in the brain, compartments of white matter, gray matter and spaces filled with cerebrospinal fluid are found.

The brain innervates the head through cranial nerves, and it communicates with the spinal cord, which innervates the body through spinal nerves. Nervous fibers transmitting signals from the brain are called efferent fibers. The fibers transmitting signals to the brain are called afferent (or sensory) fibers. Nerves can be afferent, efferent or mixed (i.e., containing both types of fibers).

The brain is the site of reason and intelligence, which include such components as cognition, perception, attention, memory and emotion. The brain is also responsible for control of posture and movements. It makes possible cognitive, motor and other forms of learning. The brain can perform a variety of functions automatically, without the need for conscious awareness, such as coordination of sensory systems, walking, and homeostatic body functions such as heart rate, blood pressure, fluid balance, and body temperature.

Many functions are controlled by coordinated activity of the brain and spinal cord. Moreover, some behaviors such as simple reflexes and basic locomotion, can be executed under spinal cord control alone.

The study of the brain is known as neuroscience, a field of biology aimed at understanding the functions of the brain at every level, from the molecular up to the psychological. There is also a branch of psychology that deals with the anatomy and physiology of the brain, known as biological psychology. This field of study focuses on each individual part of the brain and how it affects behavior.

Exercise 25. Give a brief summary of the text "Human Brain and its Functions"

Exercise 26. 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 27. Translate the following sentences into English:

1. Головний мозок міститься у порожнині черепа.
2. Середня маса головного мозку становить 1100-1800 г.
3. Довгастий мозок і міст є частинами мозкового стовбура.
4. У довгастому мозку біла речовина розташована на поверхні, а в середині міститься сіра речовина.
5. Передня та задня частини мосту утворені сірою і білою речовинами.
6. Довгастий мозок і міст виконують рефлекторну та провідну функції.
7. Мозочок розташований позаду від довгастого мозку та мосту. Він складається із сірої та білої речовини.
8. На поверхні мозочка сіра речовина утворює кору мозочка.

Exercise 28. Speak on the structure and functions of the brain.

Part 3. DISORDERS OF NERVOUS SYSTEM

VOCABULARY

vulnerable	уразливий
stroke	інсульт, порушення мозкового кровообігу
seizure	напад, епілепсія
neuralgia	невралгія
consciousness	свідомість
impair	погіршувати, ослаблювати, знижувати
excitation	активізація, збудження
inhibition	стримання, гальмування
disrupt	порушити
grand malseizure	великий (судорожний) епілептичний напад
rigidity	ригідність, заціпеніліcть, негнучкість
identify	встановлювати
reduce	послаблювати, знижувати, скорочувати,
improve	поліпшувати
avoid	уникати, застерігати
lack	брак, відсутність

Exercise 1. Read and translate the following words:

Vulnerable; supply; degeneration; meningitis; encephalitis; poliomyelitis; viral; variety; neuralgia; seizure; partial; consciousness; impair; amount; excitation; disrupt; rigidity; convulsion; chemical; identify; hemorrhage; nevertheless; adequate.

Exercise 2. Read and translate the following text:

DISORDERS OF NERVOUS SYSTEM

The central nervous system is vulnerable to a wide variety of disorders. They are strokes, Alzheimer's disease, Parkinson's disease, meningitis, encephalitis, poliomyelitis (polio), neuralgias and seizure. The causes of these disorders include interruption of the blood supply to the brain, degeneration of nerve cells, head injury, tumor of the brain, viral infection and others.

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. One of them is grand mal seizure.

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. 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. Some medicines can improve management of epileptic seizures in 25 percent of people with seizure disorders. 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 3. Read and translate the following definitions:

Seizure is a sudden attack often including convulsions; this symptom, if recurrent, often is referred to as a seizure disorder or as epilepsy. Grand mal is generalized convulsion accompanied by loss of consciousness. Neuralgia is sharp pain along the course of a nerve. Cognitive: pertaining to the mental process of thought, including perception, reasoning, intuition, and memory. Convulsion is a sudden attack usually characterized by loss of consciousness and severe, rhythmic contractions of some or all voluntary muscles. It is the most often a manifestation of a seizure disorder.

Exercise 4. Answer the following questions:

1. What causes strokes? 2. What diseases concerning degeneration of nerve cells do you know? 3. What are the causes of meningitis and encephalitis? 4. What is poliomyelitis? 5. What are cognitive disorders? 6. What is neuralgia?

Exercise 5. Speak on the different causes of disorders of nervous system.

Exercise 6. Translate the following sentences into English:

1. Існує величезна кількість захворювань центральної нервової системи. 2. Причинами захворювань можуть бути дегенерація нервових клітин, вірусна інфекція, метаболічне порушення функцій нирок, захворювання печінки, травма або пухлина мозку. 3. Епілепсія єрезультатом підвищеної активізації або надмірного стримування роботи мозку. 4. Ознаками епілепсії є втрата свідомості, конвульсії і короткочасний глибокий сон. 5. Медичні препарати можуть зменшити ступінь захворювання, але не вилікувати його. 6. Людина, що страждає на епілепсією, повинна вести здоровий спосіб життя.

Exercise 7. Read and translate the following text:

INFECTIONS

Encephalitis is an inflammation of the brain most often caused by a virus and less often by bacteria or other agents. A large variety of symptoms may result, including fever, paralysis, come, or even death. Myelitis is an inflammation of the spinal cord with causes and symptoms similar to those for encephalitis. Meningitis is the inflammation of the meninges. It may be viral induced but is more often bacterial. Symptoms include neck stiffness, headache, and fever. In severe cases meningitis may cause paralysis, come, or death. Rabies is a viral disease transmitted by the bite of an infected mammal. The rabies virus infects the brain, salivary glands, muscles, and connective tissue. The virus also infects the brain and results in abnormal excitability, aggression, and in later stages, paralysis and death.

Exercise 8. Read and memorize the following words:

deterioration	погіршення
exposure	вплив

gradual	поступовий
disintegration	роздрібнення, роздвоєння
irritability	роздратованість
modify	зм'якшувати; ослаблювати
behavior	поведінка
psychotic	психотичний
interfere	заважати, бути перешкодою
numbness	нечутливість, оніміння
sheath	оболонка
suspect	вважати
recur	повторюватися, відбуватися знову
spasticity	спастика, спастичність
stiffness	нерухливість; жорсткість
hallucination	галюцинація
tremor	тремтіння, тремор

Exercise 9. Translate the following words into Ukrainian:

Transmitter; malfunction; feature; cause; interfere; increasing; shake; degree; numbness; walking;
disintegration; irritability; sheath; gradual; stiffness; suspect; hallucination; exposure; psychotic;
deterioration; recur.

Exercise 10. Read and translate the following text:

DEGENERATIVE DISORDERS

The brain, spinal cord, and peripheral nerves consist of billions of nerve cells. Each of these cells is a complex electrical and chemical transmitter that carries signals to make the muscles move and to relay information throughout the nervous system. If a few cells die or malfunction, the person will notice any change. When there is progressive deterioration in any part of the nervous system, the person gradually will lose some ability to function. This loss can involve mental ability, muscular movement, muscular control, or impaired coordination. Compared with many other diseases, the degenerative disorders are less well understood.

Alzheimer's Disease. This disease is due to a degeneration of brain cells. It gradually produces abnormalities in certain areas of the brain. The brain cells of persons with Alzheimer's disease have characteristic features that were first described in 1907 by Alios Alzheimer. The cause of Alzheimer's disease, however, is unknown. Among the several possible causes are genetic factors, toxic exposures, abnormal protein production, viruses, and neurochemical abnormalities. The symptoms of Alzheimer's disease are gradual loss of memory and inability to learn new information, growing tendency to repeat oneself, slow disintegration of personality, increasing irritability, and depression. No effective treatment exists. Some medications modify the symptoms of the disease. Occasionally, mild sedatives, antidepressants, or antipsychotic medications may be necessary to control behavior.

Parkinson's disease was first described by Englishman James Parkinson in 1817. It is progressive degeneration of nerve cells in the part of the brain that controls muscle

movements. The signs and symptoms of Parkinson's disease are shaking at rest (rest tremor), stiffness or rigidity of limbs, slow, soft, monotone voice, and difficulty in maintaining balance. The cause of this disease remains unknown. Parkinson's disease ordinarily starts in middle or late life and develops very slowly. Many individuals with Parkinson's disease have depression. Some degree of mental deterioration occurs in about one-third of those persons with Parkinson's disease. In the later stages, auditory and visual hallucinations may develop. In early stages of the illness, the person may not require therapy. Medication normally is introduced at a time when Parkinson's disease interferes with daily activities. The main goal of treatment is to reverse the problems with walking, movement, and tremors.

Multiple sclerosis is characterized by numbness, weakness, or paralysis in one or more limbs, impaired vision with pain during movement in one eye, tremor, lack of coordination, and rapid, involuntary eye movement. Its cause is unknown, but medical research is very active. The presence of a virus, in either immune cells or sheath-producing cells, is one suspected cause. Attacks ordinarily recur and the symptoms may increase in severity. Many persons with multiple sclerosis are ambulatory, and many are employed even after having multiple sclerosis for 20 years. There is no cure for multiple sclerosis. Medications vary depending on the symptoms. Baclofen is sometimes useful for suppressing muscle spasticity. For severe attacks, corticosteroid drugs may be prescribed to reduce inflammation and provide temporary relief.

Exercise 11. Translate the following words and word-combinations into English:

Погіршення; нечутливість, оніміння; психотичний; дія; заважати, стояти на заваді; припускати; галюцинація; спастика, спастичність; повторюватися, відбуватися знову; розділення, роздвоєння; поведінка; поступовий; пом'якшувати, послаблювати; дратувати.

Exercise 12. Answer the following questions:

1. What cases can the person lose some ability to function in? 2. What is Alzheimer's disease? 3. What are the causes of Alzheimer's disease? 4. What symptoms of this disease do you know? 5. What is the goal of medications in Alzheimer's disease? 6. When was Parkinson's disease described? 7. What is Parkinson's disease? 8. What are the signs of this disease? 9. What is the cause of Parkinson's disease? 10. When is medication normally introduced? 11. What is multiple sclerosis characterized by? 12. What are the suspected causes of multiple sclerosis?

Exercise 13. Do you agree or disagree with the following statements:

1. The particular behavioral characteristics of Alzheimer's disease depend on which area of the brain is most affected by the disease process. 2. Alzheimer's disease is extremely rare in middle age. 3. Alzheimer's disease is generally an acute condition and often requires emergency treatment. 4. Parkinson's disease ordinarily starts in young people and develops very quickly. 5. Although much research has been done on Parkinson's disease, the cause remains unknown. 6. Multiple sclerosis is a disease of the central nervous system. 7. Multiple sclerosis has a wide variety of symptoms because of the way it affect the central nervous system.

Exercise 14. Translate the following sentences into English:

1. Якщо велика кількість клітин головного мозку або периферичної нервової системи відмирають, то людина може помітити суттєві зміни в стані свого здоров'я. 2. У порівнянні з іншими захворюваннями, дегенеративні захворювання вивчені менше. 3. При захворюванні Альцгеймера виникає дегенерація клітин мозку. 4. Причинами цього захворювання можуть бути генетичні чинники, патологічне продукування протеїнів та інфекційні захворювання. 5.Поступова втрата пам'яті, нездатність запам'ятовувати нову інформацію, депресія і підвищена дратівливість є ознаками цього захворювання. 6. Захворювання Паркінсона – це дегенерація нервових клітин в будь-якій частині головного мозку. 7. Це захворювання, як правило, починається в середньому або літньому віці. 8. Розсіяний склероз характеризується паралічем кінцівок, погіршенням зору і слуху, тремором і частим кліпанням очима.

Exercise 15. Speak on causes, symptoms and signs, and treatment of:

- Alzheimer's Disease;
- Parkinson's Disease;
- Multiple Sclerosis.

Exercise 16. Write the summary of the text "Degenerative Disorders.

Unit 4.8. URINARY SYSTEM

Speaking

1. What is the function of the urinary system?
2. What are the major organs of the urinary system?
3. What kidneys disorders do you know?

Active Vocabulary

bladder	сечовий міхур
ureter	сечовід
urethra	уретра, сечівник
excretion	виділення
bean	біб
fist	кулак
renal	нирковий
urine	сеча
urination	сечовипускання
capsule	капсула, оболонка
fat pad	жирове тіло
fascia	фасція
cortex	кора
medulla	мозок
hilum, hilus	хілус, ворота
calyx (pl. calyces)	ниркова чашка
to narrow	звужуватись

Exercise 1. Read Active Vocabulary and memorize new words.

Exercise 2. Compose 2-3- sentences using the words of Active Vocabulary.

Exercise 3. Translate the following words and word-combinations into Ukrainian: Narrow; fat pad; urethra; bladder; cortex; carry; hilum; capsule; fist; medulla; ureter.

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

Kidney; urine; excess; pressure; either; slightly; renal fascia; relatively; nerves; exit; hilum; sinus; channel; minor; muscular.

Exercise 5. Read the following text:

URINARY SYSTEM

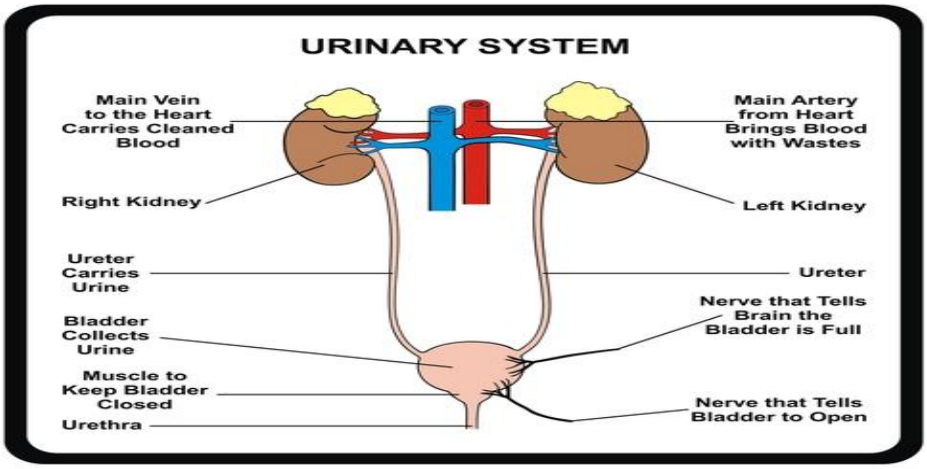
The urinary system consists of two kidneys, urinary bladder, two ureters, which carry urine from the kidneys to the urinary bladder, and urethra, which carries urine from the bladder to the outside of the body. The primary function of the urinary system is to remove the excess fluid and waste material from the blood. In addition, the kidneys function as glands producing hormones that are important in the production of red blood cells, in the regulation of blood pressure, and in the formation of bone.

The kidneys are the most important organs for fluid excretion. The kidneys, a pair of bean-shaped organs, are located against the back of the abdominal wall on either side of the spine at the level of the lowest ribs. Each kidney is generally about the size of the person's fist. The right kidney is slightly lower than the left. The kidney is

surrounded by a renal capsule and a renal fat pad and is held in place by the renal fascia. The two layers of the kidney are the cortex and the medulla.

On the medial side of each kidney there is a relatively small area called the hilum where the renal artery and the nerves enter and the renal vein and ureter exit.

The hilum opens into a cavity called the renal sinus, which is filled with fat and connective tissue. In the center of the renal sinus the urinary channel is enlarged to form the renal pelvis.



Several large urinary tubes (called calyces) extend to the renal pelvis from the kidney tissue. The calyces that open directly into the renal pelvis are called major calyces, and the smaller calyces that open into major calyces are called minor calyces. There are 8 to 20 minor calyces and 2 or 3 major calyces per kidney. At the hilum the renal pelvis narrows to form the ureter. Ureters are muscular tubes, one from each kidney, that propel the urine to the bladder. The bladder is a muscular bag that stores the urine. The urethra is the narrow tube through which the urine leaves the bladder during urination.

Exercise 6. Translate the following words and word-combinations into English: Ниркова чашка; переносити, нести; капсула, оболонка; медула; фасція; виділення; уретра, сечовивідний канал; ворота; сечовий міхур; звужуватися; сечовипускання; сечовід; нирковий.

Exercise 7. Translate the text "Urinary System" into Ukrainian.

Exercise 8. Insert the missing words:

1. The main function of the _ system is removal of excess fluid and waste material from the blood. 2. The urinary system consists of two _, urinary bladder, ureters, and _. 3. The kidneys are _ against the back of the abdominal wall. 4. Each kidney is generally about the size of the person's _. 5. Kidneys are the most important organs for fluid _. 6. Ureters are _ tubes. 7. They propel the urine to the _. 8. The bladder is a muscular bag that stores the _. 9. The _ is the narrow tube through which the urine leaves the bladder during urination.

Exercise 9. Answer the following questions:

1. What does the urinary system consist of? 2. What is the major function of the urinary system? 3. What are the layers of kidneys? 4. What is hilum? 5. What are ureters? 6. What are their functions? 7. What is the function of the urethra?

Exercise 10. Match the following words with their definitions:

1. Kidney	A. Tube conducting urine from the kidney to the urinary bladder.
2. Urethra	B. One of the two organs that excrete urine. They are bean-shaped organs approximately 11 cm long, 5 cm wide, and 3 cm thick.
3. Ureter	C. Urogenital canal; canal leading from the bladder, discharging the urine externally.

Exercise 11. Insert the prepositions:

1. The urinary system regulates the volume and composition _ the intestinal fluid. 2. The urinary system consists _ the kidneys, ureters, bladder, and urethra. 3. The key elements _ the urinary system are the kidneys, a pair of purplish-brown organs located below the ribs toward the middle of the back. 4. The kidneys remove excess liquid and wastes _ the blood in the form of urine, keep a stable balance of salts and other substances in the blood, and produce a hormone that aids the formation _ red blood cells. 5. Narrow tubes called ureters carry urine _ the kidneys to the bladder, a sack-like organ in the lower abdomen. 6. Urine is stored _ the bladder and emptied through the urethra.

Exercise 12. Write out key words of the text "Urinary System".

Exercise 13. Compose detailed plan of the text "Urinary System"

Exercise 14. Speak on: the structure of the organs of the urinary system; the location of the organs of the urinary system; the functions of the organs of the urinary system.

Exercise 15. Put the questions to the following sentences:

1. Urea is formed in the liver from ammonia. 2. The layers of kidneys consist of cortex and medulla. 3. The kidneys can be compared with the filters because they perform the filtration of waste products from the blood. 4. The process of filtration and formation of urine takes place within the tiny tubules of the kidney. 5. The urethra is a tube through which urine is discharged from the urinary bladder and passed out of the body.

Exercise 16. Make up a dialogue on the urinary system.

Exercise 17. Read the following text and retell it:

FUNCTIONS OF URINARY SYSTEM

The urinary system participates with other organs to regulate the volume and composition of the intestinal fluid. Exchange across the walls of capillaries provides nutrients and removes waste products from the interstitial spaces. Exchange of gas in the lungs removes carbon dioxide from the blood and provides a supply of oxygen. The digestive system supplies nutrients to the blood, and the liver removes certain waste products. These organ systems function together to regulate the level of gases, nutrients, and some waste products in the blood. The kidneys remove waste products, many of which are toxic, from the blood and play a major role in controlling blood volume, the concentration of ions in the blood, and the pH of the blood. The kidneys are also involved in the control of red blood cell production and vitamin D metabolism. Although the kidneys are the major excretory organs in the body; the skin, liver, lungs, and intestines also eliminate wastes. However, if the kidneys fail to function, other

structures cannot adequately compensate to maintain a normal environment for the body cells.

Exercise 18. Give a summary of the following text:

FLUID EXCRETION

Blood enters each kidney from its renal artery, a major branch of the aorta, the body's main artery. Once inside the kidney, the blood passes through a set of filtering systems called nephrons. These are the main functioning units of the kidney. Each kidney contains more than 1 million such units, each consisting of a tuft of small blood vessels, called a glomerulus, and some tubules. Although most nephrons measure 50 to 55 mm in length, the nephrons with renal corpuscles located within the cortex near the medulla are longer than the nephrons with renal corpuscles in the cortex nearer to the exterior of the kidney. First, the blood passes through the glomerulus. The blood cells, proteins, large particles, and some of the water remain in the bloodstream. Everything else, including a large volume of water, filters out and passes into the tubule. In the tubule, an important process occurs to control what will be excreted in the urine and what will be reabsorbed into the blood. Waste products (urea, creatinine, and uric acid) and excess salts, water, and calcium remain within the tubule. The other substances are absorbed. These absorbed substances are then returned to the bloodstream. Thus, the composition of the urine is determined by both the need to get rid of unwanted substances and the need to retain other substances. The urine that has remained in the tubule emerges from its lower end, enters the ureter, and goes to the bladder, where it is stored. When the nerves of the bladder signal a feeling of fullness, the urine is avoided through the urethra.

Exercise 19. Read and translate the following words:

Adjacent; maintain; urea; erythropoiesis; cushion; cardiac output; interlobar; papillae; arcuate artery; radial artery; arteriole; peritubular; glomerule; link.

Exercise 20. Read the following text:

KIDNEYS

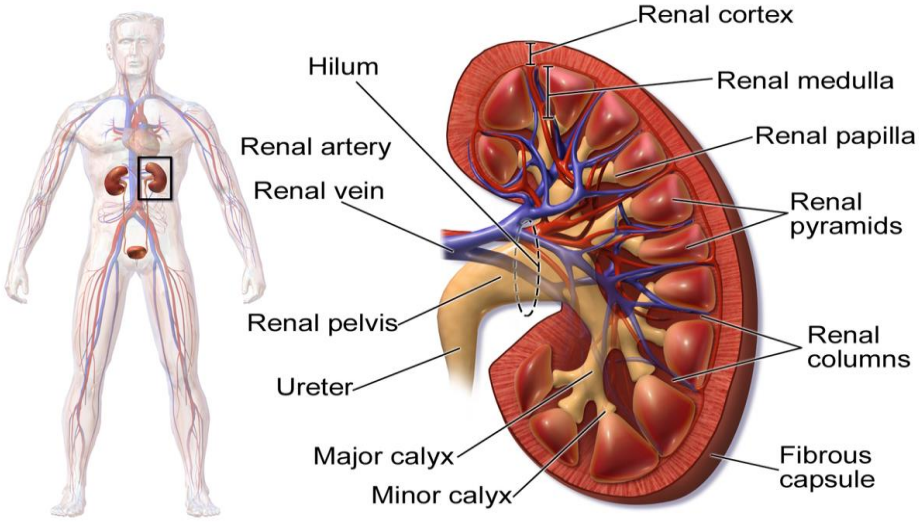
The kidneys are complex organs that have numerous biological roles. Their primary role is to maintain the homeostatic balances of bodily fluids and secreting metabolites (such as urea) and minerals from the blood and excreting them, along with water, as urine. The kidneys are important regulators of blood pressure, glucose metabolism, and erythropoeisis (the process by which red blood cells (erythrocytes) are produced). The medical field that studies the kidneys and diseases of the kidney is called nephrology. The prefix nephro- meaning kidney is from the Ancient Greek word nephros; the adjective renal meaning related to the kidney is from Latin rēnēs, meaning kidneys. In humans, the kidneys are located in the posterior part of the abdomen. There is one on each side of the spine. The right kidney sits just below the liver, the left one is located below the diaphragm and adjacent to the spleen. Above each kidney an adrenal gland is. The asymmetry within the abdominal cavity caused by the liver results in the right kidney being slightly lower than the left one, while the left kidney is located slightly more medial. The kidneys are approximately at the vertebral level T12 to L3. The upper parts of the kidneys are partially protected by the eleventh and twelfth ribs, and each whole kidney is surrounded by two layers of fat, which help to cushion it. In a

normal human adult, each kidney is about 10 cm long, 5.5 cm in width and about 3 cm thick, weighting 150 grams. Together, the kidneys weight about 0.5% of a person's body weight. The two kidneys together receive between 20% and 25% of the total cardiac output. Each kidney receives its blood supply from the renal artery, two of wich branch from the abdominal aorta. Upon entering the hilum of the kidney, the renal artery divides into smaller interlobar arteries situated between the renal papillae. At the outer medulla, the interlobar arteries branch into arcuate arteries, which course along the border between the renal medulla and cortex, giving off still smaller branches, the cortical radial arteries. Branching of these cortical arteries are the afferent arterioles supplying the glomerular capillaries, which drain into efferent arterioles. Efferent arterioles divide into peritubular cappilaries that provide an extensive blood supply to the cortex. Blood from these capillaries collects in renal venules and leaves the kidney via the renal vein. Efferent arterioles of glomeruli closest to the medulla send branches into the medulla, forming the vasa recta (intestinal artery). Blood supply is intimately linked to blood pressure.

Exercise 21. Answer the following questions:

1. What is the major role of the kidneys? 2. Are the kidneys important regulators of blood pressure, glucose metabolism, and erythropoeisis? 3. Why is the right kidney slightly lower than the left one? 4. How do the kidneys receive blood supply?

Exercise 22. Describe the structure of kidney using the following figure:



Kidney Anatomy

Exercise 23. Describe kidneys' functions. The following expressions may be helpful:

1. The function of kidneys is to maintain the homeostatic balances. Or: Kidneys maintain the homeostatic balances. 2. The kidneys remove waste products. Or: The function of kidneys is to remove waste products. Or: The primary role of kidneys is removal of waste products. Or: Kidneys function to remove waste products.

Exercise 24. Write the summary of the text "Kidneys".

Exercise 25. Translate the following sentences into English:

1. Органи сечової системи складаються з двох нирок та органів, які слугують для накопичення і виведення сечі (сечоводи, сечовий міхур, сечівник). 2. Нирка

– парний, бобоподібної форми орган, масою 120-200 г. 3. Знаходиться нирка в поперековій ділянці, з боків від хребтового стовпа. 4. Права нирка знаходиться на 1 – 1,5 см нижче від лівої. 5. Сечовід має форму трубки, завдовжки 30-35 см, діаметром 4-7 см. 6. Функція сечоводу – проведення сечі. 7. Сечовий міхур – непарний порожнистий орган. 8. Функція сечового міхура – накопичення та виведення сечі. 9. Сечівник – непарний орган у формі трубки. 10. Сечівник має два отвори – внутрішній та зовнішній. 11. Функція сечівника – виведення сечі.

Part 2. KIDNEYS DISORDERS

VOCABULARY

glomerular	клубочковий,гломерулярний
glomerulonehritis	гломерулонефрит
corpuscle	тільце
renal corpuscle	мальпігієве тільце, ниркове тільце
permeability	проникність
filtrate	фільтрат; фільтрувати
osmolality	осмотичний тиск
blurred	нерізкий
flank	бік
recur	рецидивувати
eradicate	усувати, звільняти
failure	недостатність
urea	сечовина
acidosis	ацидоз, кислотна інтоксикація
pyelonephritis	пієлонефрит
renal pelvis	ниркова лоханка
renal tubule	нирковий каналець
vasoconstriction	ангіоспазм, вазоконстрикція, вазоспазм,

Exercise 26. Read Active Vocabulary and memorize the following words.

Exercise 27. Compose 2-3- sentences using the words of Active Vocabulary.

Exercise 28. Translate the following words and word-combinations into Ukrainian:

Recur; permeability; acidosis; glomerulonephritis; vasoconstriction; filtrate; eradicate; osmolality; ischemia; renal corpuscle; renal pelvis; increase; tea-colored urine; blurred vision; ache; flank pain.

Exercise 29. Read the following words and word-combinations:

Abnormality; initially; nephritis; corpuscle; permeability; osmolality; urine; generalized; pyelonephritis; medulla; high fever; although; immediate threat; recur; interfere; lead; mercuric ion; carbon tetrachloride; epithelium.

Exercise 30. Read and translate the following text:

KIDNEYS DISORDERS

There are many forms of kidneys diseases. Many of the following abnormalities have no symptoms and may often go undetected, at least initially, or are detected when tests are done.

Glomerulonephritis results from inflammation of the filtration membrane

within the renal corpuscle. It is characterized by an increased permeability of the filtration membrane and the accumulation of numerous white blood cells in the area of the filtration membrane. As a consequence, a high concentration of plasma proteins enters the urine along with numerous white blood cells. Plasma proteins in the filtrate increase the osmolality of the filtrate, causing a greater- than-normal urine volume. The signs and symptoms are the following: cola- or tea-colored urine, hypertension, fluid retention, headaches, blurred vision, and generalized aches.

Pyelonephritis is inflammation of the renal pelvis, medulla, and cortex. It often begins as a bacterial infection of the renal pelvis and then extends into the kidney itself. It can result from several types of bacteria. Pyelonephritis may cause the destruction of nephrons and renal corpuscles, but because the infection starts in the pelvis of the kidney, it affects the medulla more than the cortex. As a consequence, the ability of the kidney to concentrate urine is dramatically affected. As a rule the person has flank pain, high fever, vomiting, and burning sensation during urination. When properly treated, acute pyelonephritis rarely progresses to chronic renal disease, although it can be an immediate threat to life in an elderly or weakened persons. It can also recur if the infection is not totally eradicated.

Renal failure may result from any condition that interferes with kidney function. Acute renal failure occurs when damage to the kidney is extensive and leads to the accumulation of the urea in the blood and to acidosis. In complete renal failure death may occur in 1 to 2 weeks. Acute renal failure may result from acute glomerulonephritis, or it may be caused by damage to or blockage of renal tubules. Some poisons such as mercuric ions or carbon tetrachloride that are the common to certain industrial processes cause necrosis of the nephron epithelium. If the damage does not interrupt the basement membrane surrounding the nephrons, extensive regeneration can occur within 2 or 3 weeks. Severe ischemia associated with circulatory shock caused by sympathetic vasoconstriction of the renal blood vessels can cause necrosis of the epithelial cells of the nephron.

Exercise 31. Translate the following words and word-combinations into English:

Гломерулонефрит; нирковий каналець; усувати, викорінювати; мальпігієве тільце, ниркове тільце; ацидоз, кислотна інтоксикація; осмотичний тиск; ниркова лоханка; сечовина; недостатність; пієлонефрит; рецидивувати; проникність; ангіоспазм, звуження кровоносних судин; викликати деструкцію; хронічне захворювання; виникати; покривати, оточувати.

Exercise 32. Insert the missing words:

1. Glomerulonephritis results from inflammation of the filtration membrane within the renal _. 2. It is characterized by an increased _ of the filtration membrane. 3. The signs and symptoms of glomerulonephritis are the following: tea-colored urine, hypertension, fluid retention, _, and generalized aches. 4. Pyelonephritis is inflammation of the renal _, medulla, and cortex. 5. It often begins as a bacterial _ of the renal pelvis. 6. Then it extends into the _ itself. 7. Pyelonephritis may cause the destruction of _ and renal corpuscles. 8. The person with pyelonephritis has _ pain, high fever, vomiting, and burning sensation during urination. 9. When properly

treated, acute _ rarely progresses to chronic renal disease. 10. Renal failure may result from any _ that interferes with kidney function. 11. Acute renal failure occurs when damage to the kidney leads to the accumulation of the _ in the blood. 12. In renal failure death may _ in 1 to 2 weeks. 13. Acute renal failure may result from acute _. 14. In some cases it may be caused by damage to or blockage of renal _. 15. Circulatory shock caused by sympathetic _ of the renal blood vessels can cause necrosis of the epithelial cells of the nephron.

Exercise 33. Answer the following questions:

1. What kidneys disorders do you know? 2. What does glomerulonephritis result from? 3. What is glomerulonephritis characterized by? 4. What are the symptoms of glomerulonephritis? 5. What is pyelonephritis? 6. What can pyelonephritis result from? 7. What are the signs of pyelonephritis? 8. What is renal failure? 9. What are the causes of renal failure? 10. Is it dangerous disease?

Exercise 34. Insert the prepositions and translate the following sentences:

1. Acute infections practically always precede the onset _ acute nephritis. 2. Acute glomerular nephritis is not merely a disease of the kidney, but may involve various systems _ the body. 3. The chief changes occurring _ acute glomerular nephritis are swelling and disintegration of the endothelial cells which line the capillaries of the tufts (tuft пучок). 4. The patient may develop the clinical picture of acute nephritis _ a period of from two to eight days. 5. Disturbances of urination characterized _ a scanty (недостатній, обмежений) outflow of urine or even complete anuria may be present. 6. The severity or mildness of the kidney disease cannot always be measured _ the examination of the urine or any other tests.

Exercise 35. Write out key words of the text "Kidney Disorders".

Exercise 36. Make up a plan of the text "Kidney Disorders".

Exercise 37. Speak on the kidney disorders. The following expressions may be helpful:

… is one of the kidneys disorders. The cause of … is … . The signs and symptoms of … are … . … may progresses to/can cause … .

Exercise 38. Make up a dialogue on glomerulonephritis, pyelonephritis, or renal failure. **Use the following expressions:**

What is the definition of …? What is the cause of …? What are the signs of … ?

Exercise 39. Pronounce and memorize the words to the theme studied:

Smooth surface гладка, рівна поверхня; **stone** камінь; **referred** [rI'fq:d] **pain** гетеротопічний біль, відбитий (рефлекторний) біль; **groin** [grOIn] пах; **ulceration** укривання виразками; **obscure** [qb'skjuq] неясний; **gout** [gaut] подагра; **pulverize** ['pAlveraIz] дрібнити, дробити.

Exercise 40. Read and translate the following text:

KIDNEY STONES

Kidney stones are hard objects found in the pelvis of the kidney. They are normally small (2 to 3 mm in diameter) with a smooth surface. Approximately 1% of all autopsies reveal the presence of kidney stones, and many of the stones occur without causing symptoms. The symptoms associated with kidney stones occur when a stone passes into the ureter, resulting in referred pain down the back, side, and

groin area. The ureter contracts around the stone, causing the stone to irritate the epithelium and produce bleeding, which appears as blood in the urine. In addition to causing intense pain, kidney stones can block the ureter, cause ulceration in the ureter, and increase the probability of bacterial infections.

Approximately 65% of all kidney stones are composed of calcium oxylate mixed with calcium phosphate, 15% are magnesium ammonium phosphate, and 10% are uric acid or cystine. In all cases approximately 2.5% of the kidney stone is composed of mucoprotein.

The cause of kidney stones is usually obscure. Predisposing conditions include a concentrated urine and an abnormally high calcium concentration in the urine, although the cause of the high calcium concentration is usually unknown. Magnesium ammonium phosphate stones are often found in people with recurrent kidney infections, and uric acid stones often occur in people suffering from gout. Severe kidney stones must be removed surgically. However, instruments that pulverize kidney stones with ultrasound have replaced most traditional surgical procedures.

Exercise 41. Make up a dialogue based on the text "Kidney Stones" using its active vocabulary.

Exercise 42. Pronounce and memorize the words to the theme studied:

Rejection відторгнення; **compatibility** сумісність; **cadaver** [kq'deIvq] труп; **acceptable** прийнятний, задовільний; **locate** виявляти; **offer** виражати готовність; **accept** приймати, сприймати; **hurdle** бар'єр, перешкода; **prone** схильний (до), підвладний; **follow-up** наступний; спостереження, нагляд, віддалений результат; **enhance** [In'ha:ns] збільшувати, підсилювати, поліпшувати; **ensure** [In'Suq] гарантувати, забезпечувати.

Exercise 43. Give a summary of the following text:

KIDNEY TRANSPLANTATION

Transplantation and dialysis are the only two treatment options for persons with end-stage kidney disease. Not everyone with end-stage kidney disease is a suitable candidate for kidney transplantation. Those with infection, acute glomerulonephritis, unstable coronary artery disease, or other severe medical problems generally are considered not to be in good enough condition to undergo a major operation. They can have adverse reactions, including death, after transplantation than are healthier individuals. However, when successful, transplantation provides a healthier and better-quality life.

The operation itself is not a complicated procedure. What can be complicated is finding the right donor, which is important to lessen the chance of rejection of the new kidney. Compatibility is determined by blood tests that provide information about both the donor and the recipient, such as blood type and the nature of the antibodies present in each. A brother or sister of the recipient generally has compatible tissue. Unfortunately, it is not always possible.

When a living donor is not available, hospitals and clinics throughout the country are called on the help locate acceptable donors from among accident victims and others who offered to donate their kidneys after their death. A kidney from a cadaver must be transplanted within 48 hours after the death of the donor. Thus,

some people have to undergo long periods on dialysis until a compatible cadaver donor is available.

After the transplantation operation, the person receives immonusuppressant drugs to keep his/her body from rejecting the foreign kidney. If the donor is a blood relative of the recipient, the chances are 85 to 95 percent that by 1 year after the transplantation, the kidney will still be functioning. With a cadaver donor, the chances are about 80 percent that the kidney will still be working quite well by 1 year after the transplant operation. In cases in which the transplanted kidney is rejected, a second or even third transplantation can be done.

Improvements in preparing patients for transplantation and in monitoring their recovery have decreased mortality to as low as 5 percent in some medical centers.

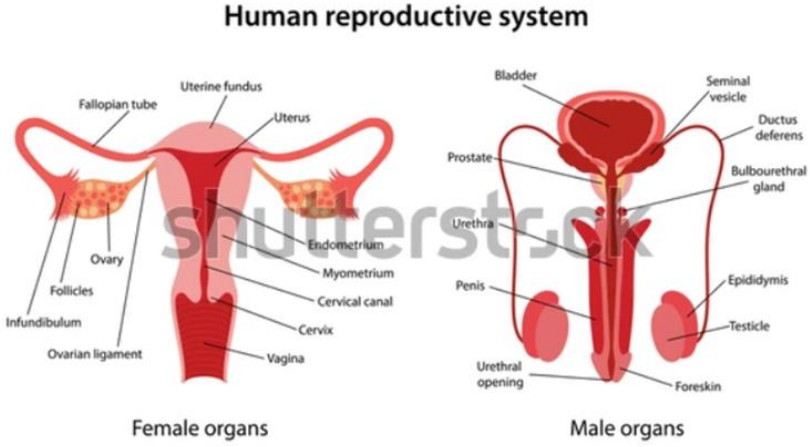
Transplant recipients usually are hospitalized for 5 days to 6 weeks, depending on how well their body accepts the new kidney. The major hurdles are rejection and infection. Immonusuppressant drugs have greatly decreased rejection, but they make it harder for the body's immune system to fight infection. For this reason, the physician will often give antibiotics to prevent viral and fungal infection for the first few months after transplantation. This is the most likely period in which infection may develop. Because transplant recipients must take an immonusuppressant medication for the rest of their lives, they are prone to have infections.

Kidney transplant recipients need careful medical follow-up to enhance the success of the operation and to ensure good general health.

Unit 4.9. Reproductive System. Pregnancy

Speaking

1. What are the main functions of female and male rerproductive system?
2. What is the structure of male and female reproductive system?
3. What are the main causes of infertility?
4. Name at least six sexually transmitted diseases.



childbirth	пологи
uterine tubes (fallopian tubes)	маткові труби (фаллопієві труби)
uterus	матка
external genital organs	зовнішні статеві органи
vagina	піхва
mammary glands	молочні залози
sweat glands	потові залози
ova	яйцеклітина
embryo	ембріон, заплід, зародок
oocyte or zygote (the fertilized oocyte)	ооцит або зигота (запліднена яйцеклітина)
puberty	статеве дозрівання
menopause	менопауза (клімактеричний період)
sex hormones	статеві гормони
estrogen	естроген
progesterone	прогестерон
breasts	груди
spermatozoon	сперматозоїд
pronuclei	пронуклеуси
cervix	шийка матки
cervical canal	цервікальний канал
muscular layer	м'язовий шар
female perineum	жіноча промежина
male perineum	чоловіча промежина
mucous membrane	слизова оболонка
nipple	сосок

circular, pigmented areola	кругла, пігментована ареола
sperm cells	сперматозоїди
testes (or testicles)	яєчка
epididymides	епідидиміди
ductus deferentia	вивідної протоки
urethra	уретра, сечівник
prostate gland	передміхурова залоза
bulbourethral glands	бульбоуретральні залози
scrotum	мошонка
penis	пеніс
testerone	тестостерон
epididymides	придаток яєчка
ejaculate	еякулят
ejaculation	еякуляція
sexual intercourse	статевий акт
to fertilize an egg	запліднити яйцеклітину
maturation	дозрівання
menstruation (menses)	менструація (менструація)
menstrual cycles	менструальні цикли
disturbed sleep	порушений сон
hot flashes	припливи
mood swings	зміни настрою

Exercise. 1. Read Active Vocabulary and memorize new words.

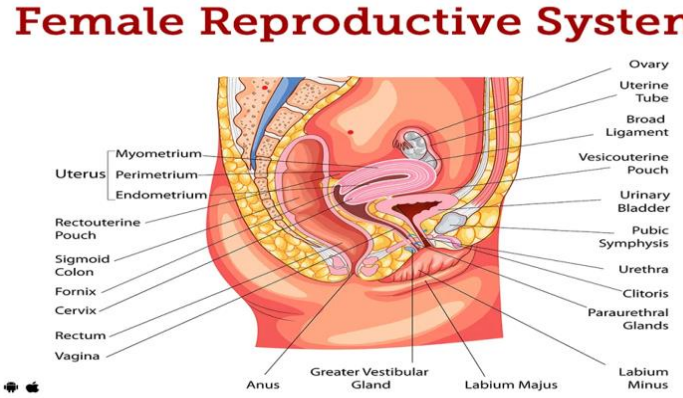
Exercise. 2. Translate the following words and word-combinations into Ukrainian:

Female reproduction, hormonal and nervous regulation, female reproductive organs, ovaries, fallopian tubes, external genital organs, internal reproductive organs, mammary glands, fertilized oocyte, between puberty and menopause, pelvic cavity, male and female sex cells, spermatozoon, a medium-sized pear, fusion of the male and female pronuclei, cervix, cervical opening, discharge of the endometrial lining, unfertilized egg, maturation, transition phase, regular menstrual periods.

Part 1.

Exercise 3. Read and translate the following text.

FEMALE REPRODUCTIVE SYSTEM



As in the male, female reproduction is under the control of hormonal and nervous regulation. Development of the female reproductive organs and normal function depend on the relative levels of a number of hormones in the body.

The female reproductive system consists of ovaries, uterine tubes, uterus, vagina, external genital organs, and mammary glands. The female reproductive system produces ova and provides a place for the embryo growth.

There are two fallopian tubes (also called uterine tubes) one on each side of the uterus. Each of these tubes contains a passageway no wider than a needle. The fallopian tubes transport the oocyte or zygote (the fertilized oocyte) from the ovary to the uterus.

Two ovaries are small organs approximately 2 to 3.5 cm long and 1 to 1.5 cm wide. They are located in pelvic cavity. Between puberty and menopause, the ovaries generally release one egg each month. They also produce the female sex hormones (estrogen and progesterone). The union of the male and female sex cells in humans takes place within the female body.

Fertilization is the process of penetrating the secondary oocyte by the spermatozoon. It is completed with the fusion of the male and female pronuclei. If fertilization takes place, the new cell formed begins a nine-month period of development within the uterus.

The size and shape of the uterus is as a medium-sized pear and is approximately 7.5 cm long and 5 cm wide. The walls of uterus are thick and consist of three layers: serous, muscular, and mucous. The powerful muscles contract during childbirth to push the baby out.

The narrow neck of the uterus is called the cervix, and it also has thick walls. The mucus fills the cervical canal and acts as a barrier to substances that could pass from the vagina into the uterus. Ordinarily, the opening of the cervix is exceedingly small. During childbirth, the cervical opening expands to allow passage of the baby.

The cervix extends into vagina, which is a muscular tube about 10 cm long. The wall of the vagina consists of an outer muscular layer and an inner mucous membrane. Most of the time the walls of vagina touch, but they can expand to accommodate a baby. The internal reproductive organs are held in place within the pelvis by a group of ligaments.

The opening to vagina is protected by external genitals.

Mammary glands are the organs of milk production and are located within breasts. The mammary glands are modified sweat glands. Externally, the breasts of both males and females have a raised nipple surrounded by a circular, pigmented areola (pl. areolae). The female breasts begin enlarging during puberty under the influence of estrogen and progesterone.

Menstruation. Menstruation (men-stroo-AY-shun), also known as menses, is the normal periodic discharge of the endometrial lining and unfertilized egg from uterus. The average menstrual cycle consists of 28 days. These days are grouped into four phases. ***Menarche (MEN-ar-kee)*** is the beginning of menstruation (men means menstruation, and -arche means beginning). This begins after the maturation that occurs during puberty. In the United States the average age of menarche is 12. ***Menopause (MEN-oh-pawz)*** is the normal termination of menstruation in a woman during middle age (men/o means menstruation, and -pause means stopping). Menopause is considered to be confirmed when a woman has gone 1 year without

having a period. ***Perimenopause (pehr-ih-MEN-oh-pawz)*** is the term used to designate the transition phase between regular menstrual periods and no periods at all (peri- means surrounding, men/o means menstruation, and -pause means stopping). During this phase, which can last as long as 10 years, changes in hormone production can cause symptoms, including irregular menstrual cycles, hot flashes, mood swings, and disturbed sleep.

Exercise 4. Complete the following sentences.

1. The female reproduction is under the control of …
2. The female reproductive system consists of …
3. The female reproductive system produces…
4. Each of the follopian tubes contains …
5. Two ovaries are ….
6. The ovaries produce such sex hormones as ….
7. Fertilization is …
8. The walls of uterus are …
9. The cervix is …
10. Mammary glands are …
11. The external genitals prorect …
12. Mammary glands are located ….
13. Menstrual cycle is grouped into such four phases: …

Exercise 5. Answer the questions.

1. What does development of the female reproductive organs and its normal function depend on?
2. What is the main organs of the female reproductive system?
3. What is the structure and function of the fallopian tubes?
4. What is the location of the ovaries? What is their major function?
5. What is fertalization?
6. What is the structure, shape and size of the uterus?
7. What is the cervix and what is its main function?
8. What is the structure of the vagina?
9. What are the organs of milk production?
10. What is menstruation?
11. What is the duration of the average menstrual cycle?
12. What are the main phases of the menstrual cycle?

Exercise 6. Read and translate the following text.

Part 2.
PREGNANCY

pregnancy	вагітність
chidbirth (delivery, labor, parturition)	пологи
expulsion of the afterbirth	вигнання посліду
fetus	плід
gravida	вагітна
embryo	зародок, ембріон
trimester	триместр, тримісячний термін

assault	негативне явище
rudiment	рудимент, зачаток
mammal	ссавець
bud	брунька, зачаток
gestation	вагітність; період вагітності
mature	дозрівати, розвиватися
fertilization	запліднення
placenta	послід
vernix	сироподібна змазка, першородна змазка

Exercise 7. Read Active Vocabulary and memorize new words.

Exercise 8. Translate the following words and word-combinations into Ukrainian:

Pregnancy; a growing fetus; pregnant female; embryo; the embryo is sensitive to assaults; burrow; rudiments of a spinal cord; arm and leg buds; gestational week; it can kick; less transparent; beyond the fingers.

Exdercise 9. Read the following words and word-combinations:

Initial; para; similarly; particularly; doubling; miniature; previous; beyond vertebrae; more noticeable; trimester; heart. Embryo at 4 weeks after fertilization Fetus at 8 weeks after fertilization Fetus at 18 weeks after fertilization Fetus at 38 weeks after fertilization Development of Fetus

Ex. 10. Read and memorize the following medical terms and their definitions:

embryo – conceptus between time of fertilization to 10 weeks of gestation;
fetus – from 10 weeks of gestation to time of birth;
gravidity (G) – number of times the woman has been pregnant;
infant – time of birth to 1 year of age;
preterm infant – delivered between 24-37 weeks;
previable infant – delivered prior to 24 weeks;
term infant – delivered between 37-42 weeks ;
first trimester – up to 14 weeks of gestation;
second trimester – 14 to 28 weeks of gestation;
third trimester – 28th week to delivery (*пологи*) full term refers to the end of 36 weeks (nine months) from the first day of the woman's last menstrual period – the end of gestation. If a woman gives birth earlier than this, it is classed as a premature birth.

Exercise 11. Read and translate the following text:

PREGNANCY

Pregnancy is the term used to describe when a woman has a growing fetus inside of her. Human pregnancy lasts about 40 weeks, or just more than 9 months. The medical term for a pregnant female is gravida, which is a word rarely used in common speech. The term embryo is used to describe the developing human during the initial weeks, and the term fetus is used from 110 about two months of development until birth. A woman who is pregnant for the first time is known medically as a primigravida or "gravida 1", while a woman who has never been pregnant is known as "gravida 0". Similarly, the terms "para 0", "para 1" and so on are used for the number of times a

woman has given birth. Pregnancy is typically divided into three periods, or trimesters. Trimester means about three months.

First Trimester. The first 3 months of fetal development are in many ways the most important. During this time, all the major organs in the body are formed. The embryo is particularly sensitive to assaults from the outside. By the end of this period the baby is not more than 3 inches long and weighs little more than 1 ounce. The time from fertilization to implantation in the uterus is about 5 to 7 days. After burrowing deep within the uterus, the egg begins to grow, doubling in size every day. The placenta has begun to form. In another week, the rudiments of a spinal cord are evident and, within days, five to eight vertebrae are in place. In addition, the eyes and heart have begun to form. Over the next few weeks the components of a human being develop, although at first the human baby is similar in appearance to the developing babies of some other mammals. The heart begins to form, as does the intestinal tract. At the end of the sixth week the brain becomes more noticeable, and arm and leg buds begin to appear. By the seventh week, the chest and abdomen are fully formed and the lungs are beginning to develop. The baby's face and features are forming in the eight gestational week. Fingers and toes are beginning to develop. At the end of the second month of pregnancy, the baby looks like a human infant, albeit in miniature. By the tenth week, the baby's face is well developed. The heart has four chambers and beats 120 to 160 beats per minute. At this point, the embryo is considered a fetus.

Second Trimester. During the second trimester the fetus grows and the organs formed during the previous weeks mature. At 13 weeks the fetus can kick and move its toes. The mouth can open and close, and the fetus is capable of bending its arms and a fist. The fetus's skin is slightly pink and less transparent than it was previously. Fine hair covers the entire body. The first eyelashes and eyebrows begin to appear. Once month later, the fetus may have hair in its head. It is now 12 inches long and weighs about 1 pound.

Third Trimester. The fetus takes on most of its weight during its last 13 weeks of development. The baby is covered with a thick white protective coating called vernix. The infant's eyes are open, and a baby born at this time can cry weakly and move its limbs. The infant now weighs 3 pounds 12 ounces. The skin may or may not still be covered with vernix. Most of the body hair is gone, although the shoulders and arms may still have a light covering. The fingernails and toenails may extend beyond the fingers and toes.

Exercise. 12. Translate the following words and word-combinations into English:

Прозорий; триместр, тримісячний термін; дозрівати, розвиватися; плід; вагітність; зародок, ембріон; сироподібна змазка, першородна змазка; вагітна; помітний; з'являтися; чутливий; брунька, зачаток; запліднення; грудна клітка; черевна порожнина; ділитися, підрозділятися; закривати(ся); покривати.

Exercise. 13. Insert the missing words:

1. Human _ lasts about 40 weeks, or just more than 9 months. 2. Pregnancy is typically _ into three periods, or _, each of about three months. 3. The first 3 months of _ development are the most important. 4. During this time, all the major organs in the body are _. 5. The eyes and _ have begun to form. 6. At the end of the sixth week

the brain becomes more _, and arm and leg _begin to appear. 7. By the seventh week, the _ and abdomen are fully formed and the lungs are beginning to 111 develop. 8. During the second trimester the fetus grows and the organs formed during the previous weeks _. 9. At 13 weeks the fetus can _ and move its toes. 10. The mouth can open and _. 11. The fetus is capable of bending its _ and a fist. 12. Fine hair _ the entire body. 13. The first eyelashes and eyebrows begin to _. 14. During the third _ the infant's eyes are open.

Exercise 14. Answer the following questions:

1. What does a term "pregnancy" mean? 2. How many periods is pregnancy divided into? 3. When are all the major organs in the body formed? 4. What organs and parts of the body are formed during the first trimester? 5. How can you characterize the fetus growth during the second trimester? 6. What is the weight of infant during the third trimester?

Ex. 15. Make up a dialogue on pregnancy.

Exercise 16. Read the beginning of the text "Prenatal Care". Combine remaining corresponding parts into sentences, paying attention to the meaning of the sentences:

PRENATAL CARE

Prenatal care is the care woman gets during a pregnancy. Getting early and regular prenatal care is important for the health of both mother and the developing baby. In addition, health care providers are now recommending a woman see a health care provider before she is even trying to get pregnant.

Healthcare providers recommend women take the following steps to ensure the best health outcome for mother and baby: Getting at least 400 micrograms of folic acid every day to help prevent many types of neural tube defects.

Healthcare providers recommend taking folic acid both before and during pregnancy.

1. Being properly vaccinated for certain diseases (such as chickenpox and rubella) that could harm a developing fetus _____
2. Maintaining a healthy weight and diet and _____
3. _____ before, during, and after pregnancy.

A. getting regular physical activity before, during, and after pregnancy

B. it is important to have the vaccinations before becoming pregnant;

C. avoiding smoking, alcohol, or drug use.

Exercise 17. Read the following text and list the signs of pregnancy:

SIGNS OF PREGNANCY

Physical symptoms of pregnancy vary. Of the symptoms listed, not all will occur for every woman, and individuals may well experience different symptoms during different pregnancies. The following is a list of the most common symptoms.

First trimester. Breasts may feel swollen, sore, or tender. Pregnancy sickness may cause nausea and vomiting. It is also known as morning sickness, although it may occur at any time of the day or night. The sense of smell may be heightened. Fatigue is a common symptom in early pregnancy. It results from increased progesterone and may be compounded by increased blood volume, which can result in lower blood pressure and lower blood sugar.

Dizziness and fainting may be experienced, particularly after standing up quickly. These symptoms are caused by lower blood pressure and lower blood sugar. Frequent mild headaches may occur, caused by increased blood circulation. Constipation is a common symptom caused by increased progesterone, which slows the activity of the large intestine. Increased urination is caused by pressure of the growing uterus against the urinary bladder.

Emotional lability, including dysphoria, crying spells, and mood swings, may be experienced. These mood changes are triggered by the effect of pregnancy hormones on mood regulation in the brain.

Other symptoms may be experienced specifically during the later stages, such as: Lower backache. Balance and ease of walking may be affected. Some women report hair loss, others have more body or "facial" hair. Sensitivity in teeth, higher risk for gum disease may occur. Some women during pregnancy experience mental disturbances more severe than typical mood swings. Psychological stress during pregnancy is associated with an increase in other pregnancy symptoms.

SUPPLEMENTARY TEXTS

Text 1. Medicine

Medicine is the science and art of healing. Medicine is a science because it is based on knowledge gained through careful study and experimentation. It is an art because it depends on how skillfully doctors and nurses and other medical workers apply the knowledge when dealing with patients.

The goals of medicine are to save lives and to relieve suffering. For this reason, medicine has long been one of the most respected professions. Many thousands of men and women who work in medical professions spend their lives caring for the sick.

Today doctors head medical teams made up of nurses, laboratory workers, and many other skilled professionals. The care provided by such teams cannot generally be started at home. As a result, health centers, clinics, and hospitals have become the chief centers for medical care in most countries.

Medical care consists of three main elements: the first is (lie diagnosis or identification of disease or injury; the second is the treatment of disease or injury; the third is the promotion of health and prevention of disease. Medical care is provided by a variety of specially trained people. Doctors take charge of treating the sick. Nurses help doctors to care for patients. Other trained workers also help to provide health care.

People usually recover from minor illnesses and injuries without special treatment. In these cases, doctors may simply reassure their patients and allow the body to heal itself. But serious diseases generally require special treatment. In these cases, a doctor may prescribe drugs, surgery or other treatment.

Text 2. From the History of Medicine

The search for health is as old as the history of mankind. In Babylon it was a custom to show the sick in the streets, so that passers-by could say how to treat the sick from their own experience. It was not allowed to pass a sick man in silence.

A papyrus was found dating back to 1600 B.C. about surgery and treatment of wounds. Then another papyrus was found with about 900 prescriptions, some of these prescriptions are used by doctors today. People learn much from Egyptian manuscripts and from embalmed bodies. Examination of some of these bodies showed many interesting facts. For example, people of those times knew such diseases as rheumatoid arthritis, tuberculosis and appendicitis.

Clinical medicine and health protection greatly developed in Roman times. The name of Galen is widely known. Galen worked first as a surgeon at a school for gladiators. He went to Rome when he had much practice, but he continued to experiment on living animals, especially apes and pigs.

The Roman army had a well-organized service of surgeons. The gladiators' school was an ideal school for training in surgery.

Text 3.

Text 4. Prominent Scientists and Physicians of Ukraine

A well-known Ukrainian scientist O. M. Shumlyansky was the prominent anatomist-microscopist of the 18th century. He was the first who described the kidney texture. O. M. Shumlyansky was born in 1748 in the village Yakivtsi of Poltava region. He graduated from the medical school in Petersburg and worked as a surgeon. Then he improved his education in the field of obstetrics and received his doctor's

degree. O.M. Shumlyansky was a professor of the medical surgical school in Moscow. He was the author of many research works in the fields of surgery andobstetrics.

The outstanding Ukrainian anatomist V.P. Vorobyov (1876 – 1937) was born on July 15, 1876 in Odesa. In 1897 he finished gymnasium and entered the Medical Faculty of Kharkiv University. After graduation he worked as a professor at this University. In 1917 V. Vorobyov headed the chair of Normal Anatomy at the Kharkiv Medical Institute. One of the greatest contributions to the world science made by V. Vorobyov was "Atlas on Human Anatomy". This scientific work was of great importance for theoretical and practical medicine.

O. Bohomolets was the founder of a large school of pathophysiologists. O. Bohomolets graduated from the medical faculty at Odesa University in 1906 and worked as a lecturer there. In 1911–1925 he served as a professor at Saratov University in Russia and in 1925–1931 as a professor of pathophysiology at Moscow University; he was also director of the Institute of Hematology and Transfusion in Moscow (1928–1931). In 1931 he moved to Kyiv, where he founded the Institute of Experimental Biology and Pathology and the Institute of Clinical Physiology. He demonstrated that connective tissue had a protective function in the organism and played a role in its nourishment. Bohomolets wrote many works in Biology, Physiology, and Pathology and gained world-wide fame.

The prominent surgeon and scientist M. V. Skliphosovsky (1836 – 1904) was born in Moldova and spent his childhood in Odesa. After successful graduating from University he worked hard for the degree and became a professor of the Medical Academy in Petersburg. He was one of the organizers of surgical school in Russia. M.V. Skliphosovsky liked Ukraine and often visited Odesa and other Ukrainian towns. In 1871 he moved to Poltava and worked as a physician at the regional hospital. It should be noted that he took care about poor people. He treated them free of charge and tried to create favourable conditions in the hospital. A new school was built for poor children on his initiative and his daughter was a teacher there.

Text 4. Modern Medicine

Medicine in the 20th century received its impetus from Gerhard Domagk who discovered the first antibiotic, sulfanilamide, and the groundbreaking advancements in the use of penicillin. Further progress has been characterized by the rise of chemotherapy, especially the use of new antibiotics; increased understanding of the mechanisms of the immune system and the increased prophylactic use of vaccination; utilization of knowledge of the endocrine system to treat diseases resulting from hormone imbalance, such as the use of insulin to treat diabetes; and increased understanding of nutrition and the role of vitamins in health. Much medical research is now directed toward such problems as cancer, heart transplantation, AIDS, reemerging infectious diseases such as tuberculosis and dengue fever, and organ diseases.

a degree of Bachelor of Arts or of Science.

Text 5. Haisyn Medical College

Soon our Medical College will celebrate its 80th anniversary. Our College was founded in 1928 and it was a medical school for Jews.

The students paid money for their studying during the first year. The first director of the school was N. A. Polyakman. He made a great contribution to the development of the medical school. The first students graduated in 1931. Before the Great Patriotic War the College trained about one thousand specialists who took an active part in that War.

After the War our school began to train nurses, medical assistants and obstetricians. Today more than 600 students study at the nursing, obstetric and medical assistant departments. They listen to lectures and attend practical classes. We have well-equipped classes for studying general and specialized medical subjects. Well-trained teachers and doctors teach students to be good specialists in their future profession.

Text 6. Medical Education in the USA

In the USA Universities and medical colleges train doctors. The doctors' training takes from 8 to 13 years to become a doctor. The medical students have three or four years of pre-clinical training at the University. During this course students learn the basic subjects. They must have deep knowledge in Anatomy, Biology, Chemistry and others.

Medical students may work as nurses after pre-clinical training. Students who have made top grades are chosen candidates for a medical school or medical faculty of the University. This course lasts 4 years. At the time of the clinical training, students learn the basic sciences, such as Biological Chemistry, Pharmacology, Physiology, Pathologic Physiology and others. Besides, they have Psychology, which teaches the students to deal with patients. The students come in touch with patients in their third and fourth years. During this course, the students learn Anesthesiology, Dermatology, Internal Medicine, Surgery, Preventive Medicine, Pediatrics, Gynecology, Obstetrics and others. After graduation, they may improve their qualification at postgraduate or special courses. As a rule, after graduation from the University young doctors must work for 3-5 years under the supervision of experienced specialists in a certain field of medicine. After that they may work independently and have private practice.

In the USA there is a system of control and valuation of students' knowledge levels. The system of test is determined by means of test units. It is used for counting study hours, definition of academic progress and number of studied courses. For receiving the degree of Bachelor it is necessary to get 120-140 units during 4 years of study.

The most Universities are not state. They are private institutions. Each University has its own independent government and syllabuses. Medical education in the USA is very expensive and only the best students receive grants. The students pay additional fees for the using of laboratories, clinics and others.

Text 7. Composition and Formation of Blood

The primary function of blood is to maintain a constant environment for the other living tissues of the body. Blood transports nutrients, gases, and wastes to and from the cells of the body. Nutrients from food, digested in the stomach and small intestine, pass into the bloodstream through the lining cells of the small intestine. Blood then carries these nutrients to all body cells. Oxygen enters the body through the air sacs of the lungs. Red blood cells then transport the oxygen to cells throughout the body. Blood also helps remove the waste products released by cells. It carries gaseous waste (such as carbon dioxide) to the lungs to be exhaled. It carries chemical waste, such as urea,

to the kidneys to be excreted in the urine. Blood transports chemical messengers called hormones from their sites of secretion in glands, such as the thyroid or pituitary, to distant sites where they regulate growth, reproduction, and energy production. Finally, blood contains proteins, white blood cells and antibodies that fight infection, and platelets (thrombocytes) and other proteins that help the blood to clot.

Composition and Formation of Blood

Blood is composed of **cells** (45% of blood volume), or formed elements, suspended in a clear, straw-colored liquid called **plasma** (55% of blood volume). The cells are **erythrocytes** (red blood cells or RBCs), **leukocytes** (white blood cells or WBCs), and platelets or thrombocytes (clotting cells). Plasma is a solution of water, proteins, sugar, salts, hormones, lipids, and vitamins.

A Drop of Blood

A small drop of blood normally contains approximately 4-6 million RBCs, 7-10 thousand WBC, 150-450 thousand platelets.

Cells

Beginning at birth, all blood cells originate in the marrow cavity of bones. Both the red blood cells that carry oxygen and the white blood cells that fight infection arise from the same blood-forming or **hematopoietic stem cells.** Under the influence of proteins in the blood and bone marrow, stem cells change their size and shape to become specialized, or **differentiated.** In this process, the cells change in size from large (immature cells) to small (mature forms), and the cell nucleus shrinks (in red cells, the nucleus actually disappears).

Erythrocytes

As a red blood cell matures (from erythroblast to erythrocyte), it loses its nucleus and assumes the shape of a biconcave disk. This shape (a depressed or hollow surface on each side of the cell, resembling a cough drop with a thin central portion) allows for a large surface area so that absorption and release of gases (oxygen and carbon dioxide) can take place.

Red cells contain the unique protein **hemoglobin,** composed of **heme** (iron-containing pigment) and **globin** (protein). Hemoglobin enables the erythrocyte to carry oxygen. The combination of oxygen and hemoglobin (oxyhemoglobin) produces the bright red color of blood.

Erythrocytes originate in the bone marrow. The hormone called **erythropoietin** (secreted by the kidneys) stimulates their production (**-poiesis** means formation). Erythrocytes live and fulfill their role of transporting gases for about 120 days in the bloodstream. After this time, **macrophages** (in the spleen, liver, and bone marrow) destroy the worn-out erythrocytes. From 2 million to 10 million red cells are destroyed each second, but because they are constantly replaced, the number of circulating cells remains constant at 4 million to 6 million per microliter (μL) of blood. Macrophages break down erythrocytes and hemoglobin into heme and globin (protein) portions. The heme releases iron and decomposes into a yellow-orange pigment called **bilirubin.** The iron in hemoglobin is used again to form new red cells or is stored in the spleen, liver, or bone marrow. Bilirubin is excreted into bile by the liver, and from bile it enters the small intestine via the common bile duct. Finally it is excreted in the stool, where its color changes to brown.

Leukocytes

White blood cells (7000 to 10,000 cells per microliter of blood) are less numerous than erythrocytes, but there are five different types of mature leukocytes. These are three polymorphonuclear granulocytes: eosinophil, basophil, and neutrophil; and two mononuclear leukocytes: lymphocyte and monocyte.

The **granulocytes,** or **polymorphonuclear leukocytes (PMNs),** are the most numerous (about 60%). The three granulocytic leukocytes end with the suffix -phil (meaning attraction to). This reflects their affinity for various dyes. **Eosinophils** contain granules that stain with eosin, a red acidic dye. These cells increase in allergic responses and engulf substances that trigger the allergies. **Basophils** contain granules that stain dark blue with a basic (alkaline) dye. These granules contain heparin (an anticlotting substance) and histamine (a chemical released in allergic responses). **Neutrophils** contain granules that are neutral; they do not stain intensely and show only a pale color. Neutrophils are **phagocytes** (**phag/o** means to eat or swallow) that accumulate at sites of infection, where they ingest and destroy bacteria.

Specific proteins called **colony-stimulating factors** (CSFs) promote the growth of granulocytes in bone marrow. **G-CSF** (granulocyte CSF) and **GM-CSF** (granulocyte-macrophage CSF) are given to cancer patients to restore granulocyte production. **Erythropoietin,** like CSFs, can be produced by recombinant DNA techniques. It stimulates red blood cell production (erythropoiesis). Normally erythropoietin is made by the kidney. Thus patients with kidney failure can become anemic and are often treated with EPO to stimulate red blood cell production.

Although all granulocytes are **polymorphonuclear** (they have multilobed nuclei), the term **polymorphonuclear granulocytes ("polys")** most often refers to neutrophils, which are the most numerous of the granulocytes.

Mononuclear (containing one large nucleus) **leukocytes** do not have large numbers of granules in their cytoplasm, but they may have a few granules. These are **lymphocytes** and **monocytes**. Lymphocytes are made in bone marrow and lymph nodes and circulate both in the bloodstream and in the parallel circulating system, the lymphatic system.

Lymphocytes play an important role in the **immune response** that protects the body against infection. They can directly attack foreign matter and, in addition, make **antibodies** that neutralize and can lead to the destruction of foreign **antigens** (bacteria and viruses). **Monocytes** are phagocytic cells that also fight disease. As **macrophages**, they move from the bloodstream into tissues and dispose of dead and dying cells and other tissue debris by phagocytosis.

Platelets (Thrombocytes)

Platelets, actually blood cell fragments, are formed in bone marrow from giant cells with multilobed nuclei called **megakaryocytes.** The main function of platelets is to help blood to clot. Specific terms related to blood clotting are discussed later in this chapter.

Plasma

Plasma, the liquid part of the blood, consists of water, dissolved proteins, nutrients, wastes, salts, hormones, lipids, and vitamins. The four major plasma proteins

are **albumin, globulins, fibrinogen,** and **prothrombin** (the last two are clotting proteins).

Albumin maintains the proper proportion (and concentration) of water in the blood. Because albumin cannot pass easily through capillary walls, it remains in the blood and carries smaller molecules bound to its surface. It attracts water from the tissues back into the bloodstream and thus opposes the water's tendency to leave the blood and leak out into tissue spaces. **Edema** (swelling) results when too much fluid from blood "leaks" out into tissues. This happens in a mild form when a person ingests too much salt (water is retained in the blood and seeps out into tissues) and in a severe form when a person is burned in a fire. In this situation, albumin escapes from capillaries as a result of the burn injury. Then water cannot be held in the blood; it escapes through the skin, and blood volume drops.

Globulins are another component of blood and one of the plasma proteins. There are alpha, beta, and gamma globulins. The gamma globulins are **immunoglobulins,** which are antibodies that bind to and sometimes destroy antigens (foreign substances). Examples of immunoglobulin antibodies are **IgG** (found in high concentration in plasma) and **IgA** (found in breast milk, saliva, tears, and respiratory mucus). Other immunoglobulins are **IgM, IgD,** and **IgE.** Immunoglobulins are separated from other plasma proteins by **electrophoresis.** In this process, an electrical current passes through a solution of plasma. The different proteins in plasma separate based mainly on their size and electric charge.

Plasmapheresis (**-apheresis** means removal) is the process of separating plasma from cells. In plasmapheresis, the entire blood sample is spun in a centrifuge machine. Because blood cells are larger and heavier, they move to the bottom of the sample, leaving the plasma on top.

Text 8. Blood Types

Transfusions of whole blood (cells and plasma) are used to replace blood lost after injury, during surgery, or in severe shock. A patient who is severely anemic and needs only red blood cells will receive a transfusion of **packed red cells** (whole blood with most of the plasma removed). Human blood falls into four main types: A, B, AB, and O. These types are based on the antigens on red blood cells and the antibodies found in each person's serum.

BLOOD TYPES

TYPE	PERCENTAGE IN POPULATION	RED CELL ANTIGENS	SERUM ANTIBODIES
A	41	A	Yes (anti-B)
B	10	B	Yes (anti-A)
AB	4	A and B	No (anti-A or anti-B)
O	45	No A and B	Yes (anti-A and anti-B)

There are harmful effects of transfusing blood from a donor of one blood type into a recipient who has blood of another blood type. Therefore, before blood is transfused, both the blood donor and the blood recipient are tested, to make sure that the transfused blood will be compatible with the recipient's blood type. During

transfusion, if blood is not compatible, then **hemolysis** (breakdown of red blood cells) occurs. This may be followed by excessive clotting in blood vessels (**disseminated intravascular coagulation,** or **DIC**), which is a life-threatening condition. Besides A and B antigens, many other antigens are located on the surface of red blood cells. One of these is called the **Rh factor** (named because it was first found in the blood of a rhesus monkey). The term Rh positive (Rh+) refers to a person who is born with the Rh antigen on his or her red blood cells. An Rh negative (Rh−) person does not have the Rh antigen.

In clinical practice, blood types are named to indicate both Rh and ABO antigen status. If a woman has an A+ (A positive) blood type, for example, this means that she was born with both A antigen and Rh antigen on her red blood cells.

If a man has a B− (B negative) blood type, this means he was born with the B antigen on his red blood cells but not Rh antigen.

Why is Type O the "Universal Donor" Blood Type?

Type O blood does not contain A or B red cell antigens and therefore will not react with antibodies in any recipient's bloodstream. Anti-A and anti-B antibodies present in type O blood become diluted in the recipient's bloodstream and do not cause an adverse reaction.

Text 9. Blood Clotting

Blood clotting, or **coagulation,** is a complicated process involving many different substances and chemical reactions. The final result (usually taking less than 15 minutes) is the formation of a **fibrin clot** from the plasma protein **fibrinogen.** The suffix -gen means giving rise to. Platelets are important in beginning the process following injury to tissues or blood vessels. The platelets become sticky and collect, or aggregate, at the site of injury. Then, in combination with tissue and protein clotting factors, plus calcium, vitamin K, prothrombin, and thrombin, fibrinogen is converted to fibrin to form a clot. One of the important clotting factors is factor VIII.

It is missing in some people who are born with hemophilia. Other hemophiliacs are missing factor IX.

The fibrin threads form the clot by trapping red blood cells. Then the clot retracts into a tight ball, leaving behind a clear fluid called **serum.** Serum is related to plasma. It is plasma after the clotting factors have been removed.

Normally, clots (thrombi) do not form in blood vessels unless the vessel is damaged or the flow of blood is impeded. **Anticoagulant substances** in the blood inhibit blood clotting, so clots do not form. **Heparin,** produced by tissue cells (especially in the liver), is an example of an anticoagulant. Other drugs such as **warfarin (Coumadin)** are given to patients with thromboembolic diseases to prevent the formation of clots. **Direct oral anticoagulants (DOACs)** work by inhibiting blood clotting factors such as thrombin.

Text 10. Atherosclerosis

Healthy arteries are like healthy muscles. They are strong, flexible, and elastic. Atherosclerosis is the condition in which fatty deposits accumulate in and under the lining of the artery walls. The name comes from the Greek word ather, meaning "porridge", because the fatty deposits are soft and resemble porridge. Blood cells

(platelets) often clump at microscopic sites of injury to the inner wall of the artery. At these sites, fat deposits also collect. Initially, the deposits are only streaks of fat-containing cells but, as they enlarge, they invade some of the deeper layers of the arterial walls, causing scarring and calcium deposits. Large accumulations called atheromas or plaques are the principal characteristic of atherosclerosis. The greatest danger from these deposits is the narrowing of the channel through which the blood flows. When this occurs, the tissues that the artery supplies will not receive their full quota of blood. Pieces of the fatty deposits may be dislodged, travel with the blood flow, and finally obstruct an artery at some distant point.

Atherosclerosis may be discovered in the course of a routine physical examination. During examination of patient's neck, abdomen, or other parts of the body, the physician may hear a blowing sound if a narrowing of the lining of the arteries at one or more these points causes turbulence of the blood flow. The physician also will estimate the amount of blood flow by feeling for pulsations in the arteries at the wrists, legs, and feet. A decrease in pulsations is a reason to suspect partially obstructed blood flow. More elaborate tests of circulation using sound waves often help in establishing the presence and degree of decreased blood flow. Ultrasound scan of the abdomen often is used to identify a suspected aneurysm of the aorta in the abdomen. Another test for locating the sites of plaques that narrow blood vessels is arteriography. In many cases, the diagnosis is not suspected until the artery is completely obstructed and the person has experienced a stroke, heart attack, or arterial thrombosis. To some extent, the body can protect itself from narrowing of a particular artery by developing, with time, additional arterial connections that detour blood around the narrowed point. This is called collateral circulation. Although atherosclerosis occurs to some extent in all middle-aged and elderly people and even may occur in certain young people, some people appear more at risk because of high blood cholesterol levels. The best prevention and treatment of atherosclerosis is certain regimen, sound sleep, rest, and proper diet. Vitamins are widely used in the treatment of this disease. Other drugs administered in treating atherosclerosis are so-called lipotropic substances, which prevent fat from accumulating in the organism.

Text 11. Angina Pectoris

If you are having pain or pressure in the middle of your chest, left neck, left shoulder, or left arm, go immediately to the nearest hospital emergency department. Do not drive yourself. Call for emergency transport. Angina, or angina pectoris, is the medical term used to describe the temporary chest discomfort that occurs when the heart is not getting enough blood. The heart is a muscle (myocardium) and gets its blood supply from the coronary arteries. Blood carries the oxygen and nutrients the heart muscle needs to keep pumping. When the heart does not get enough blood, it can no longer function at its full capacity. When physical exertion, strong emotions, extreme temperatures, or eating increase the demand on the heart, a person with angina feels temporary pain, pressure, fullness, or squeezing in the center of the chest or in the neck, shoulder, jaw, upper arm, or upper back. This is angina, especially if the discomfort is relieved by removing the stressor and/or taking sublingual (under the tongue) nitroglycerin. The discomfort of angina is temporary, meaning a few seconds or minutes, not lasting hours or all day. An episode of angina is not a heart attack.

Having angina means you have an increased risk of having a heart attack. A heart attack is when the blood supply to part of the heart is cut off and that part of the muscle dies (infarction). Prolonged or unchecked angina can lead to a heart attack or increase the risk of having a heart rhythm abnormality. Either of those could lead to sudden death. Time is very important in angina. The more time the heart is deprived of adequate blood flow (ischemia), and thus oxygen, the more the heart muscle is at risk of heart attack or heart rhythm abnormalities. The longer the patient experiences chest pain from angina, the more the heart muscle is at risk of dying or malfunctioning. Not all chest pain is angina. Pain in the chest can come from a number of causes, which range from not serious to very serious. For example, chest pain can be caused by: acid reflux (gastroesophageal reflux disease), upper respiratory infection, asthma, or sore muscles and ligaments in the chest (chest wall pain). If chest pain is severe and/or recurrent, the patient should see a healthcare provider.

Text 12. Peptic ulcer

Peptic ulcers are holes or breaks in the inner lining of the esophagus, stomach, or duodenum. It has been determined that peptic ulcer generally occurs in the lower part of the stomach (gastric ulcer), in the initial portion of the duodenum (duodenal ulcer), and occasionally in the lower esophagus (esophageal). The signs and symptoms of the peptic ulcer are the following: burning, aching, or hunger discomfort in the upper abdomen or lower chest (that is relieved by milk or food); black stools; bloated feeling after meals; and nausea or vomiting. In emergency cases the person has clammy skin and fainting. The cause of ulcers is not fully known. Normally, the linings of the esophagus, stomach, and duodenum are kept intact by a balance between the acid and stomach juices and the resistance of these linings to injury. When the balance breaks down, the result may be a peptic ulcer. Recent research has shown that many ulcers may be secondary to bacteria called Helicobacter pylori (H pylori).

Peptic ulcers are not uncommon in our society. It has been estimated that the age at diagnosis peaks between 30 and 50 for duodenal ulcers and between 60 and 70 for gastric ulcers. Frequently, ulcers recur within 1 year after healing, sometimes without symptoms. Some people may have an inherited disposition to ulcers. Peptic ulcers are 3 times more likely to occur in families of patients with duodenal ulcer than in the general population. And relatives of people with gastric ulcers have the very same kind of ulcer. The goals of treatment are to relieve symptoms, heal the ulcer, prevent relapse, and avoid complications. The vast majority of persons with peptic ulcer disease responds well to medication. The key to treatment is either decreasing the amount of acid present or strengthening the protective lining of the stomach or duodenum. The mainstay of treatment is a class of drugs that decrease the amount of acid produced in the stomach. These drugs are called H12 blockers. The usual course of therapy lasts approximately 6 weeks. Many people with ulcers harbor H pylori bacteria, which can be effectively treated with antibiotics. Twelve months after treatment, most people show no ulcer recurrence, while recurrence is more common after using standard ulcer medications. However, if the person has an ulcer that does not respond to medical treatment or the person has serious complications such as hemorrhage, obstruction, or perforation, he/she may be a candidate for surgery.

Text 13. Gastritis

"Gastritis" is a general term that means inflammation of the lining of the stomach. It can result from a number of causes, each of which may produce somewhat different symptoms, such as: upper abdominal discomfort, nausea and vomiting, and diarrhea. Gastritis can occur as a result of acid-induced damage to the lining of the stomach when no ulcer is present. Excessive smoking or alcohol consumption are known to produce mild gastritis or to aggravate existing gastritis symptoms. Gastritis also can be a side effect of a number of prescription drugs. Severe stress due to burns, trauma, surgery, or shock may produce gastritis. Gastritis is also seen in some persons whose stomachs do not produce acid. In these cases, the lining of the stomach is atrophied. This condition may be associated with vitamin B12 deficiency and occurs in many older people. Even very healthy people may experience gastritis with some regularity. In most cases, the symptoms of gastritis are relatively mild and short-lived, pose no real danger, and have no lasting effect. Occasionally, gastritis may cause bleeding, but it is rarely severe. Antacids in liquid or tablet form are a suitable and common treatment of mild gastritis. If a person is troubled by excessive acid and antacids fail to provide relief, the physician may prescribe drugs such as cimetidine, ranitidine, or nizatidine, which decrease the amount of acid produced by the stomach. Medication to protect the lining of the stomach may be used.

Text 14. Male reproductive system

The main function of the male reproductive system is producing sperm cells and transporting them to the female reproductive system. The male reproductive system consists of the testes (or testicles), epididymides, ductus deferentia, urethra, seminal vesicles, prostate gland, bulbourethral glands, scrotum, and penis. Sperm cells are very temperature sensitive and do not develop normally at usual body temperatures. The testes and epididymides are located outside the body cavity where the temperature is low. The testes are contained in a pouch of skin, called the scrotum. In each testis there is a tightly packed mass of coiled tubes surrounded by a protective capsule. At puberty the testes begin to produce the sperm cells (spermatozoa) that are used in reproduction. This process continues throughout life. In addition to producing sperm cells the testes secrete the male hormone testerone, which plays an important role in the development and maintenance of the typical masculine physical characteristics, such as facial hair, greater muscle mass and strength, and a deeper voice. The sperm cells are constantly being produced within each testis. They are transported through the epididymides and the ductus deferentia and then stored in the seminal vesicles. The mixture of the sperm cells with the fluids formed by the seminal vesicles and the prostate gland forms the semen that is ejaculated during sexual activity. Although sperm cells make up only a small portion of the semen, a single ejaculation contains as many as 500 million sperm. After sexual intercourse, one of these cells may reach and fertilize an egg in the female. The prostate gland contributes fluids to the semen. As a man ages, the prostate gland frequently enlarges. The urethra, which runs the length of the penis through its center, carries urine during voiding and semen during ejaculation. The urethra exits from the pelvis and passes through the penis to the outside of the body.

Text 15. Infertility

Infertility is a common problem in partners. Fortunately, major advances have been made in recent decades, and the problem of infertility can be solved in many cases. Problems of infertility can include problems with the sperm, problems with egg, or difficulties encountered in their union. Abnormal function of the fallopian tube or uterus, infections, and immunologic and other factors may also cause infertility. Infertility problems also can result from sexual dysfunction. To physicians, the term infertility usually means the inability to become pregnant after 1 year of frequent sexual intercourse without using any contraception. Ten to 15 percent of couples are infertile. Of these couples, the man is the infertile partner in about 30 percent of cases and contributes to the infertility problem in an additional 20 percent of cases; the woman is infertile 50-70 percent of the time. In both men and women, various factors can account for infertility. Forty percent of infertile couples have more than one cause of their infertility. Thus, the physician will begin a comprehensive infertility examination of both partners. The most cause of infertility in men is a slow sperm cell count. Normal sperm counts range from 75,000,000 to 400,000,000 sperm cells. If the sperm cell count drops to 20,000,000 sperm cells per milliliter, the male is usually sterile. Decreased sperm cell count can occur because of damage to the testes (e.g., because of mumps, radiation, or trauma), obstruction of the duct system, or inadequate hormone production. In women, the failure to release an egg, is responsible for infertility problems in up to 15 percent of cases. It can be caused by various factors. We know of uterine's and immunologic factors' being a cause of infertility. In some cases the physicians don't know exactly the reasons of infertility's occurring. The numerous treatments for infertility depend on the cause. Recent developments in therapy have increased the number of once-infertile couples who can achieve pregnancy. Various means of insemination or embryo transfer may be possible so that the woman can still become pregnant.

Text 16. Breast Cancer

Breast canceris the disease women fear most. Experts predict 178,000 women will develop breast cancer in the United States in 2007. Breast cancer can also occur in men, but it's far less common. For 2007, the predicted number of new breast cancers in men is 2,000. 134 Yet there's more reason for optimism than ever before. In the last 30 years, doctors have made great strides in early diagnosis and treatment of the disease and in reducing breast cancer deaths. In 1975, a diagnosis of breast cancer usually meant radical mastectomy – removal of the entire breast along with underarm lymph nodes and muscles underneath the breast. Today, radical mastectomy is rarely performed. Instead, there are more and better treatment options, and many women are candidates for breast-sparing operations. Knowing the signs and symptoms of breast cancer may help save your life. When the disease is discovered early, you have more treatment options and a better chance for a cure. Most breast lumps aren't cancerous. Yet the most common sign of breast cancer for both men and women is a lump or thickening in the breast. Often, the lump is painless. Other potential signs of breast cancer include: a spontaneous clear or bloody discharge from your nipple, often associated with a breast lump, retraction or indentation of your nipple, a change in the size or contours of your breast, any flattening or indentation of the skin over your

breast, redness or pitting of the skin over your breast, like the skin of an orange, a number of conditions other than breast cancer can cause your breasts to change in size or feel. Breast tissue changes naturally during pregnancy and your menstrual cycle. Other possible causes of noncancerous (benign) breast changes include fibrocystic changes, cysts, fibroadenomas, infection or injury. If you find a lump or other change in your breast – even if a recent mammogram was normal – see your doctor for evaluation. If you haven't yet gone through menopause, you may want to wait through one menstrual cycle before seeing your doctor. If the change hasn't gone away after a month, have it evaluated promptly. A diagnosis of breast cancer is one of the most difficult experiences you can face. In addition to coping with a potentially life-threatening illness, you must make complex decisions about treatment. Treatments exist for every type and stage of breast cancer. Most women will have surgery and an additional (adjuvant) therapy such as radiation, chemotherapy or hormone therapy. Experimental treatments are also available at cancer treatment centers.

Text 17. Food and Nutrition During Pregnancy

It is important for a pregnant woman to eat a healthy diet. She has to eat a variety of foods, including dairy products and several fruits and vegetables which contribute to a healthy pregnancy. Some specific nutritional needs for pregnancy include: Folic acid (also called folate or Vitamin B9) is strongly needed at the start of pregnancy. Folic acid is needed for the closing of fetus neural tube. It thus helps prevent spina bifida, a very serious birth defect. Folates (from folia, leaf) are abundant in spinach (fresh, frozen or canned), and are also found in green vegetables, salads, melon, and eggs. In the United States and Canada, most wheat products (flour, noodles) are supplemented with folic acid. Calcium and iron are particularly needed by the rapidly growing fetus. Pregnant women should eat enough dairy products (for calcium) and red meat (for iron) if they are not lactose intolerant. Women who do not eat dairy or meat can obtain calcium and iron from soy milk and juice, soybeans, and certain leafy greens. Care providers may prescribe iron pills if pregnant women develop iron deficiency anemia. Calcium is effective only if women also obtain enough vitamin D. The best way to get vitamin D is to sunbathe each day for 10-15 minutes. Salmon and fatty fishes are also good sources of vitamin D. Fluoride helps to build strong teeth by changing the nature of calcium crystals: if water or salt does not contain fluoride, it is wise to take fluoride mini-pills at the end of pregnancy and during breast-feeding (but high doses are toxic). Some pregnant women suffer edema, and are told not to eat (too much) salt. Fat (from salmon, trout, tuna, herring, sardine, mackerel, and some chicken eggs) is needed to build neuron membranes. Thus fatty fish intake during pregnancy may provide nutrition for proper brain and retina development of the fetus. However, large fish such as tuna and swordfish 112 may contain too much toxic mercury. Fish two or three times a week seems to bring enough good fat, but not too much mercury. Ex. 22. Pronounce and memorize the words to the theme studied: Derive походити; proceed продовжувати; evagination евагінація, випинання; eventually зрештою; foregut передня кишка; elongate пролонгувати, подовжувати; conjunction з’єднання, об'єднання. Ex. 23. Read the following text and put 10-11 questions on it. Get ready to inform your fellow-students what text deals with.

Text 18. Development of the Organ Systems

The major organ systems appear and begin to develop during the embryonic period. **Skin.** The epidermis of the skin is derived from ectoderm, and the dermis is derived from the mesoderm. Nails, hair, and glands develop from the epidermis. **Skeletal system**. The skeleton develops by intramembranous bone formation or endochondrial bone formation. **Muscular system.** Myoblasts are multinucleated cells that produce skeletal muscle fibers. The growth of the muscle occurs by an increase in the number of muscle fibers. The total number of muscle fibers is established before birth. Muscle enlargement after birth is due to an increase in the size of individual fibers. **Nervous system.** The nervous system is derived from the neural tube and neural crest cells. Closure of the neural tube begins in the upper-cervical region and proceeds into the head and down the spinal cord. The central cavity of the neural tube becomes the ventricles of the brain and the central canal of the spinal cord. The nerve cells that form the peripheral nervous system are located either within the neural tube or are derived from neural crest cells. **Endocrine system.** The thyroid gland originates as an evagination from the floor of the pharynx in the region of the developing tongue and moves into the lower neck, eventually losing its connection with the pharynx. The parathyroid glands migrate inferiorly and become associated with the thyroid gland. The pancreas originates as two evaginations from the duodenum, which come together to form a single gland. The adrenal medulla arises from neural crest cells, and the adrenal cortex is derived from mesoderm. **Cardiovascular system.** The heart develops from two endothelial tubes, which fuse into a single heart tube. Blood vessels form from small masses of mesoderm that become blood vessels on the outside and blood cells on the inside. These masses fuse to form the cardiovascular system. **Respiratory system.** The lungs begin to develop as a single evagination from the foregut in the region of the future esophagus. This evagination branches to form two lung buds. The lung buds elongate and branch, first forming the bronchi that project to the lobes of the lungs and then the bronchi that project to the lobules of the lungs. This branching continues until approximately 17 generations of branching have occurred. **Urinary system.** The kidneys develop from mesoderm located between the somites and the lateral portion of the embryo. The urinary system develops in three stages from the head to the tail of the embryo. The ducts join the digestive tract. **Reproductive system**. Reproductive system develops in conjunction with the urinary system. Hormones are very important to sexual development of the human.

Medical English Vocabulary

Word, Part of Speech	Meaning	Example Sentence
Abnormal, adj	not normal for the human body	This amount of weight loss is abnormal for women your age.
ache, noun/verb	pain that won't go away	I can't sleep because my knees ache in the night.
acute. adj	quick to become severe/bad	We knew the baby was coming right away because the woman's labour pains were acute.
allergy noun allergic adj	a body's abnormal reaction to certain foods or environmental substances (e.g. causes a rash)	Your son is extremely allergic to peanuts.
ambulance, noun	emergency vehicle that rushes people to a hospital	We called the ambulance when Josh stopped breathing.
amnesia. noun	a condition that causes people to lose their memory	I can't remember the accident because I had amnesia.
amputation, noun amputate, verb	permanent removal of a limb	We had to amputate his leg because the infection spread so quickly.
anaemia, noun anaemic, adj	occurs when the body doesn't have enough red blood cells	I have low energy because I am anaemic.
antibiotics, noun	medication that kills bacteria and cures infections	My throat infection went away after I started the antibiotics.
anti-depressant, noun	medication that helps relieve anxiety and sadness	The anti-depressants helped me get on with life after Lucy died.
appointment, noun	a scheduled meeting with a medical professional	I've made you an appointment with a specialist in three week's time.
arthritis, noun	a disease that causes the joints to become swollen and crippled	My grandmother can't knit anymore because the arthritis in her hands is so bad.
asthma (attack), noun	a condition that causes a blockage of the airway and makes it difficult for a person to breathe	I carry an inhaler when I run because I have asthma.
bacteria, noun	a disease-causing organism	To prevent the spread of bacteria it is important that nurses wash their hands often.
bedsore, noun	wounds that develop on a patient's body from lying in one place for too long	If you don't get up and take a walk, you will develop painful bedsores.

benign, adj	not harmful (not cancerous)	We're hoping that the tests will show that the lump in your breast is benign.
biopsy, noun	removal of human tissue in order to conduct certain medical tests	The biopsy ruled out a number of illnesses.
blood count, noun	the amount of red and white blood cells a person has	You will be happy to know that your blood count is almost back to normal.
blood donor, noun	a person who gives blood to a blood bank or other person	Blood donors have to answer questions about their medical history.
blood pressure, noun	the rate at which blood flows through the body (high/low)	High blood pressure puts you at risk of having a heart attack.
brace, noun	a device that holds injured body parts in place	You will probably always have to wear a brace on your ankle when you jog.
breech, adj	position of an unborn baby in which the feet are down and the head is up	We thought it was going to be a breech birth, but the baby turned himself around.
broken, adj	a bone that is divided in two or more pieces as a result of an injury	We thought it was just a sprain, but it turned out his leg was broken.
bruise, noun bruised, adj	injured body tissue that is visible underneath the skin	The woman was badly bruised when she came into the emergency room.
Caesarean section, C-section, noun	procedure that involves removing a baby from its mother through an incision in the woman's lower abdomen	The baby was so large that we had to perform a Caesarean section.
cancer, noun	disease caused by the uncontrollable growth of cells	There are many different options when it comes to treating cancer.
cardiopulmonary resuscitation (CPR), noun	restoring a person's breath and circulation	You saved your brother's life by performing CPR
cast, noun	a hard bandage that is wrapped around a broken bone to keep it in place	My leg was in a cast for graduation.
chapel, chapeline, noun	a place where loved ones can go to pray for a patient's recovery;	If you want a place to pray, the chapel is on the third floor.

	a priest who visits patients in the hospital	
chemotherapy, noun	type of treatment used on cancer patients	My mother has already had three rounds of chemotherapy.
chickenpox, noun	a virus commonly contracted by children, characterized by itchy spots all over the body	It is best to get chickenpox as a child so that you don't get it worse as an adult.
coroner, noun	a person who determines the cause of death after a person dies	We only call the coroner if we think a death is suspicious.
critical condition, noun	requiring immediate and constant medical attention	You can't see her right now; she's in critical condition.
crutches, noun	objects that people with injured legs or feet use to help them walk	I'd rather hop on one foot than use crutches.
cyst, noun	A sac in the body-tissue filled with fluid (sometimes diseased)	We're going to remove the cysts just to be on the safe side.
deaf, adj	unable to hear	The accident left the patient both deaf and blind.
deficiency, noun	a lack of something necessary for one's health	The tests show that you have an iron deficiency.
dehydrated, adj	in need of water	It is easy for the elderly to become dehydrated in this heat.
dementia, noun	loss of mental capacity	It is hard to watch a loved one suffering with dementia.
diabetes, noun	type of disease typically involving insulin deficiency	People with diabetes have to constantly check their blood sugar levels.
diagnosis, noun	medical explanation of an illness or condition	The doctor would prefer to share the diagnosis with the patient himself.
discomfort, noun	experiencing pain	This pain medication should relieve some of your discomfort.
disease, noun	a medical disorder that is harmful to a person's health	I understand that this disease runs in your family.
dislocated, adj	when a bone is temporarily separated from its joint	You will have to wear a sling because of your dislocated shoulder.
emergency, noun	a medical problem that needs immediate attention	It is important that children know which number to dial in case of an emergency.
ER (emergency room), noun	the hospital room used for treating patients with	The child was rushed into the ER after he had a severe allergic reaction to a bee sting.

	immediate and life-threatening injuries	
external, adj	on the outside	This cream is for external use only. Do not get it near your ears, eyes, or mouth.
false, noun, adj	a test that incorrectly comes back negative	We had two false negative pregnancy tests, so we didn't know we were having a baby.
family history, noun	medical background of a person's family members	The doctor was concerned about my family history of skin cancer.
fatal, adj	causing death	The doctor made a fatal error when he wrote the wrong prescription.
fever, noun feverish , adj	higher than normal body temperature	He is very feverish, and his temperature is near danger point.
flu (influenza), noun	many types of respiratory or intestinal infections passed on through a virus	People who have the flu should not visit hospital patients.
fracture, noun fractured, adj	broken or cracked bone	Your wrist is fractured and needs a cast.
germ, noun	a micro-organism, especially one that causes disease	Flowers are not allowed in the ward to avoid the risk of germs being brought in.
genetic, adj	a medical condition or physical feature that is passed on in the family	The disease is part genetic and part environmental.
growth, noun	a ball of tissue that grows bigger than normal, either on or under the skin	That growth on your shoulder is starting to worry me.
heart attack, noun	instance in which blood stops pumping through the heart	People who smoke are at greater risk of having a heart attack.
HIV, noun	the virus that infects the human T-cells and leads to AIDS	HIV can be passed down from the mother to her fetus.
hives, noun	bumps that appear on the surface of the skin during an allergic reaction	I broke out in hives after I ate that potato casserole.
illness, noun ill, adj	general term for any condition that makes a person feel sick for a certain period of time	Her illness went away when she started eating better.
immune system, noun	the parts of the body that fight diseases, infections, and viruses	You can't have visitors because your immune system is low.

immunization, noun immunize, verb	an injection that protects against a specific disease	Babies are immunized three times in their first year.
incision, noun	cut in the body made during surgery	I had to have stitches to close the incision.
inconclusive, adj	unclear	We have to do more x-rays because the first ones were inconclusive.
infant, noun	young baby	The nurse will demonstrate how to bathe an infant.
infection, noun infected, adj	diseased area of the body (viral or bacterial)	The wound should be covered when you swim to prevent it from becoming infected.
inflamed, adj	appearance (red and swollen) of an injured body part	My right ankle was so inflamed it was twice the size of my left one.
injury, noun	damage to the body	Her injuries were minor; just a few cuts and bruises.
intensive care unit (ICU), noun	section of the hospital where patients get constant attention and doctors rely on specialized equipment	She will remain in the ICU until she can breathe on her own.
internal, adj	under the skin, inside the organs	The doctors will be monitoring her for any internal bleeding.
Itchy, adj	feeling discomfort on the skin's surface	If you are allergic to this medication your skin will get red and itchy.
IV, noun	a tube that pumps liquids and medication into a patient's body	The toddler was so dehydrated that the doctor decided to get him on an IV.
lab results, noun	tests that come back from a laboratory and help doctors make a diagnosis	The lab results have come in and you are free to go home.
lab (laboratory), noun	place where samples of blood/urine etc. are taken for testing	I'll take these samples down to the lab on my way out.
life support, noun	a machine that keeps patients alive by helping them breathe	The woman has severe brain damage and is currently on life support.
life-threatening, adj	when injuries and conditions are extremely serious	The victim was shot in two places but the bullet wounds are not life-threatening.

light-headed, adj	feeling of dizziness and being off-balance, caused by lack of oxygen in the brain	If you are feeling light-headed again, lie down and call me.
malignant, adj	expected to grow and get much worse (especially related to cancerous cells)	I'm afraid at least one of the tumours is malignant.
medical school (med. school), noun	place where someone trains to be a doctor	After eight years of medical school I can finally practice medicine.
newborn, noun	an infant that is less than three months old	You have to support her neck because she is still a newborn.
numb, adj	no feeling in a certain body part	The needle will make your lower body feel numb.
OR (operating room), noun	the place where major surgeries and operations take place	You must wear a face mask and gloves while you are in the OR.
operation, noun operate on, verb	a medical procedure that involves going inside a person's body in an attempt to fix a problem	The operation lasted seven hours, but it was successful.
pain, noun	strong discomfort in certain areas of the body	We gave your husband some medicine to relieve some of the pain.
pain killer, pain reliever, noun	type of medicine that takes away some or all of the discomfort of an illness or injury	You can take two pain killers every four hours.
paralyzed, adj	unable to move certain areas of the body	We thought her legs were paralyzed for life, but she is learning how to walk.
patient, noun	a person staying in a hospital or medical facility	The patients in Room 4 are not getting along.
pharmacist, noun	a person who fills a doctor's prescription and gives people advice about medication	Ask the pharmacist if there is a generic brand of this medication.
pharmacy, drugstore, noun	a place where people go to buy medication and other medical supplies	You should be able to buy a bandage at the pharmacy.
physician, noun	doctor	Ask your family physician to refer you to a specialist.
poison, noun poisonous, adj	a substance that is very dangerous if it enters the human body	The child was bitten by a poisonous snake.

prenatal, adj	of the time period leading up to giving birth	The woman was well prepared for labour because she took the prenatal classes.
prescription, noun prescribe, verb	the correct amount and type of medication needed to cure an illness or relieve symptoms	You will need to visit your doctor to get another prescription.
privacy, noun private, adj	being alone; personal (e.g. test results)	You will have to pay for a private hospital room if you don't want a room-mate.
radiation, noun	high energy X-rays that destroy cancer cells	If the radiation doesn't kill all of the abnormal cells, the cancer will come back.
residency resident, noun	part of a doctor's training that takes place in the hospital; a student working under a doctor	John is a resident under Dr Brown.
routine check-up, noun	a doctor's appointment to check a person's general health	I'd like to see you a year from now for a routine check-up.
scrubs, noun	plain uniform (usually green, white, or blue) worn by medical professionals	I have some extra scrubs in my locker.
scrub up, verb	carefully wash hands before and after seeing a patient	I have to scrub up and get ready for surgery.
second opinion, noun	input from a second doctor about an illness or symptom	I went to another doctor to get a second opinion about these headaches.
seizure, noun	sudden violent movements or unconsciousness caused by electrical signal malfunction in the brain	People who suffer from epilepsy are prone to seizures.
shock, noun	body not getting enough blood flow	The woman was in shock after being pulled from the river.
side effects, noun	other symptoms that might occur as a result of a certain medication or procedure	One of the side effects of antidepressants is a loss of appetite.
sore, adj	painful	I have a sore throat and a runny nose
spasm, noun	the uncontrollable tightening of a muscle	Ever since I injured my leg I've been having muscle spasms in my upper thigh.
specialist, noun	a doctor that is an expert in a certain kind of medicine	My family doctor is sending me to a specialist.

sprain, noun/verb	an injury (less serious than a break) to a joint (ankle, wrist, knee etc	I sprained my knee playing soccer.
stable condition, noun	a patient is stable if their medical condition is no longer changing rapidly	You can see your husband now; he is in a stable condition.
sting, noun/verb	sharp, temporary pain	It may sting when I insert the needle.
stress, noun stressed, adj	worry that causes muscles to tighten and blood pressure to rise	You need to take some time off work and relieve some of your stress.
swelling, noun swollen, adj	ligaments (parts that hold the joints together) growing bigger and rounder after an injury to a joint	I knew my ankle was sprained because it was so swollen.
symptoms, noun	pain or physical changes that occur because of an illness or disease	You have all of the symptoms of a diabetic.
temperature, noun	amount of heat measured in a body; higher than normal temperature	We brought Jesse to emergency because he was running a (high) temperature.
tender, adj	painful when touched or used	The incision was tender after the surgery.
test results, noun	medical information that helps doctors understand a patient's condition or body	The test results came back negative. You aren't pregnant.
therapy, noun	treatment aimed at improving a person's mental or physical condition	I was able to go back to work a few weeks after starting the therapy.
transplant, noun	moving of an organ from one human to another	The heart transplant saved your life.
ultrasound, noun	a test that examines the body's internal organs and processes using sound waves (often used during pregnancies)	The ultrasound shows that we are expecting a baby boy.
umbilical cord, noun	the lifeline from the mother to the fetus (when cut at birth this forms the belly button)	I had an emergency C-section because the umbilical cord was wrapped around the baby's neck.
unconscious, adj	alive, but appearing to be asleep and unaware of the surroundings	I hit my head on the steering wheel and was still unconscious when the ambulance arrived
urine sample, noun	a small amount of the body's liquid waste that is tested for different medical reasons	The urine sample tells us how much alcohol is in your blood.

vein, noun	the thin tubes that transport blood around the body and back to the heart	I'm just looking for the best vein in which to insert the needle.
virus, noun	a dangerous organism that causes the spread of minor and major diseases	The virus is contractable through the exchange of bodily fluids.
visiting hours, noun	time of day when friends and family are allowed to visit patients in hospital	I'm afraid you'll have to come back during visiting hours.
vomit, noun/verb	discharge of a person stomach contents through the mouth	The pregnant woman can't stop vomiting.
ward, noun	a section of a hospital or health facility where patients stay	I should warn you that we're entering the mental health ward.
wheelchair, noun	a chair on wheels used for transporting patients from place to place	If you get in the wheelchair I'll take you down to see the garden.
wound, noun wounded, adj	injury to body ("flesh wound" means not deep)	The wounded soldiers are being airlifted to the hospital.
X-ray, noun/verb	a photograph of a person's bones and organs	The technician took x-rays of my shoulder to make sure it wasn't broken.

GRAMMAR GUIDE

NOUN

All nouns are divided into **abstract** *(happiness, freedom,* etc), **proper** *(Ukraine, Lutsk, Mark, Helen, Japan,* etc), **group** *(team, family, government,* etc) and **common** *(table, hat, sofa,* etc).

Most common nouns referring to people have the same form for men and women, *(teacher, doctor,* etc) Others have different forms:

actor – actress;
widower – widow;
bridegroom – bride;
father – mother;
duke – duchess;
nephew – niece;
hero – heroine;
son – daughter;
host-hostess;
husband – wife;
uncle – aunt;
king – queen;
lord – lady;
monk – nun;
policeman – policewoman;
prince – princess;
emperor – empress;
waiter – waitress; etc.

The Plural of Nouns

<table>
<tr><th colspan="2">Nouns are made plural by adding:</th></tr>
<tr><td>-s to the noun (table - tables, etc).</td><td></td></tr>
<tr><td>-es to nouns ending in -s, -ss, -x, -ch, -sh
(bus - buses, glass - glasses, fox - foxes, church - churches, brush - brushes, etc).</td><td rowspan="3">-s to nouns ending in:
vowel + -o (radio - radios),
double -o (zoo - zoos),
abbreviations (photograph/photo - photos), musical instruments (cello - cellos) and proper nouns (Navajo - Navajos).
Some nouns ending in -o can take either -es or -s. These are:
buffaloes/buffalos, mosquitoes/mosquitos, volcanoes/ volcanos, zeroes/zeros, tornadoes/tornados, etc.</td></tr>
<tr><td>-ies to nouns ending in consonant + y (city - cities, party - parties, etc).</td></tr>
<tr><td>- s to nouns ending in vowel + y (toy - toys, day - days, etc).</td></tr>
<tr><td>-es to nouns ending in o
(tomato - tomatoes, etc).</td><td>-ves to some nouns ending in -f/-fe
(wife - wives) BUT chiefs, roofs, cliffs,</td></tr>
<tr><td colspan="2">Compound nouns form their plural by adding -s/-es:</td></tr>
<tr><td>to the second noun if the compound consists of two nouns
(bedroom - bedrooms).</td><td>to the first noun if the compound consists of two nouns connected with a preposition or to the noun if the compound has only one noun
(mother-in-law - mothers-in-law, passer-by - passers-by).</td></tr>
<tr><td>to the noun if the compound consists of an adjective and a noun (ironing board</td><td>at the end of the compound if this is not made up of any nouns (breakdown -</td></tr>
</table>

- ironing boards).	*breakdowns).*

Irregular Plurals:

man - ***men***,	*woman* - ***women***,	*person* - ***people***,
foot - ***feet***,	*tooth* - ***teeth***,	*louse* - ***lice***,
mouse - ***mice,***	*child* - ***children***,	*goose* - ***geese***,
sheep - ***sheep***,	*deer* - ***deer***,	*fish* - ***fish***,
trout - ***trout***,	*ox*- ***oxen***,	*salmon*-***salmon***,
spacecraft - ***spacecraft***,	*aircraft* - ***aircraft***,	*means* - ***means***,
species - ***species***,	*hovercraft* – ***hovercraft***	

Remember**: W***hen using numbers with plural nouns, the numbers do not take an* ***-s*** *unless they are followed by the preposition* ***of. three hundred years/hundreds of years***

Countable - Uncountable nouns

Nouns can be **countable** (those that can be counted) ***one pen - two pens***, etc or **uncountable** (those that can't be Runted) ***milk, homework***, etc. **Uncountable nouns** take a singular verb and are not used with **a/an.**

Some, any, no, much, etc can be used with them. *Can I have some apple juice, please?*

BUT we use ***a*** in phrases like ***a relief, a pity, a shame, a wonder, a knowledge (of sth), a help*** even though they are uncountable. *What* ***a help*** *you've been! What* ***a pity****! What* ***a shame****!*

Nouns

Uncountable nouns are:

- ***Mass nouns (fluids, solids, gases, particles)***: *milk, brad, air, oxygen, sugar, rice* etc.
- ***Subjects of study***: *History, Math, Physics, Chemistry, Science* etc.
- ***Languages:*** *Spanish, German, Japanese, Portuguese, Italian,* etc.
- ***Games***: *billiards, basketball, golf, darts, hockey, cricket,* etc.
- ***Diseases****: flu, pneumonia, measles, mumps,* etc.
- ***Natural phenomena****: darkness, wind, snow, sunlight,* etc.
- ***Some nouns:*** *accommodation, advice, anger, behavior, business, countryside, courage, dirt, education, homework, housework, information, intelligence, knowledge, luck, music, news, peace, progress, seaside, shopping, traffic, trouble, truth, work,* etc.
- ***Collective nouns:*** *cutlery, furniture, jewelry, luggage, machinery, money, rubbish,* etc.

Note: *With expressions of duration, distance or money meaning "a whole amount" we* use a singular verb: *Three thousand euros was what the second-hand car cost*

Many uncountable nouns can be made countable.

a ***piece*** *of paper/cake/information/advice/furniture; a* ***glass/bottle*** *of water; a* ***jar*** *of jam; a* ***rasher*** *of bacon; a* ***box/sheet*** *of paper; a* ***packet*** *of tea; a* ***slice/loaf*** *of bread; a* ***pot*** *of yoghurt; a* ***pot/cup*** *of tea; a* ***kilo /pound*** *of meat;* ***a tube*** *of toothpaste; a* ***bar*** *of chocolate/soap; an ice* ***cube****; a* ***lump*** *of sugar; a* ***bag*** *of flour; a* ***can*** *of soda; a* ***carton*** *of milk; a* ***pair*** *of trousers; a* ***game*** *of soccer.*

PLURAL NOUNS

Some nouns represent a group of people or things and are usually followed by a plural verb. These are:

- objects consisting of two parts: **garments** *(jeans, pajamas,* etc) **instruments** (*glasses,* etc.) *tools (scissors,* etc.)
- nouns like: *clothes, congratulations, earnings, outskirts, people, police, stairs, surroundings, wages,* etc. *The people who live next door are friendly.*

Group nouns

Group nouns *(**army, audience, class, club, committee, company, council, crew, crowd, headquarters, family, jury, government, press, public, staff, team,*** etc) can take either a singular or a plural verb depending on whether we see the group as a whole or as individuals. *The audience has enjoyed the performance,* (the audience as a group) *The audience were given an autograph at the end of the play,* (each person in the audience separately as individuals)

Note how certain nouns can be used in the singular and plural with a difference in meaning.

Singular	Plural
Could 1 have a glass of water, please? *1 bought my mum a vase made of glass* (the material)	*I broke my glasses last night,* (spectacles)
He walked past the newsstand and bought a paper (newspaper) *Write your name and telephone number on a piece of paper* (the writing material)	*I left some important papers at home,* (documents)
Tracy has got short blonde hair (all the hair on her head)	*I found a hair in my food,* (a single hair)
Helen starts work at 9.00.	*We saw beautiful works of art at the art gallery* (creations) _
Ted likes dark chocolate	*1 got some chocolates for my birthday.*
The light rain has stopped	*The rains came later on in the year.*
The desk is made of wood (the material)	*We had a picnic in the woods*
She has a lot of experience in public speaking.(length of time doing it)	*We enjoyed listening to him describing his experiences as a nature photographer.* (events)
John wants to spend more time with his children.	*How many times did you take the driving test? (occasion)*
1 met some friendly people in the park.	*All the peoples of the world should have food and clean water (*nations)

Exercise 1.. Put in a / an or the. Sometimes you don't need either word – you leave it blank.

1. There was _____ waiter standing at _____ entrance of _____ restaurant. I ordered him ___ glass of ___ still water with ____ slice of ____ lemon.

2. There is ____ question I'd to ask ___ Pharmacology Lecturer about _____ digitalis. She says ___ digitalis is ____ drug prepared from ____ dried leaves of foxglove and containing ____ substances that stimulate ____ heart muscle.

3. "Is that your group-mate?" - "No, my group-mate's _____ person ____ white medical coat conducting ____ experiment with ____ sodium hydroxide.

4. I work in ___ team of experienced doctors with ____ man and two women. ____ man is quite nice, but ___ women are not very friendly.

5. What's in ___ newspaper?

6. Can you show me ____ that book, please? Is it ____ Pathology?

7. What's ____ name of ___ woman in ___ blue dress waiting for ___ Dortor Alex?

8._____ water turns into _____ ice at 0 degree C.

9. Doctor prescribed me ___ diet. I am not allowed __ steak, ____ sausage, and __ chocolate.

10. She lives in ___ nice flat on ___ fifth floor of ___ old house not far from ____ hospital, so she goes to ____ work on foot.

11. It's terrible - ____ prescribed pills are $ 20 ___ dozen.

12. There was ___ boy and ____ girl in the room. ____ boy was Japanese but ____ girl looked foreign. She was wearing ____ fur coat. They were waiting for ____ information about injured man's state from _____ doctor.

13. This morning I bought ____ newspaper and ___ magazine. ____ newspaper is in my bag but I don't know where ____ magazine is.

14. "Have you got ___ car?" - "No, I've never had ____ car in my life because of ____ poor sight."

15. We don't go to _____ medical exhibitions very much these days. In fact, in ____ city where we live they are organized not often.

16. Don't stay in

17. After I graduate from _____ university, I'd like to join ____ famous pharmaceutical company.

Exercise. 2 Insert the right article (a/an/the) if necessary.

1. Do you still live in … Lviv?

2. Carol's father works as … neurosurgeon in … regional hospital.

3. After … conference and meeting with … leading pharmacologists and toxicologists you have … whole afternoon free to explore the city.

4. Chamomile is 20 hryvnias … package.

5. My grandmother likes ... medicinal plants very much. She often collects them for … tea.

6. I always listen to the radio in … morning.

7. What about going to … Carpathian mountains in … February?

8. There is … new Toxicology book on the desk.

9. Svitiaz is … most famous lake with healing properties in Ukraine .

10. He has … scientific counterpart in Berlin.
11. Look! There's … bird flying.
12. … most children have … bad teeth because they like … sweets.
13. Volyn National University includes ... thirteen faculties.
14. We start school year on ... 1st of September.
15. Last year more than … two thousand graduated got … diplomas with honors.
16. Anatomy is … science.
17. What is … generic name of this medicine?
18. Ohmatdyt is … large medical children's center in … Ukraine.
19. When I went to Milan, I met… Italian counterparts of mine.
20. Tom is in … operation theatre. Doctor is conducting … operation on … his knee.

Exercise 3. Make following nouns plural.

1. Injury _____.	2.Kidney dish _____.	3.Watch _____.
4.Box _____.	5.Spatula _____.	6.Man _____.
7.Child _____.	8.Foot _____.	9.Sheep _____.
10.Country _____.	11.Cloth _____.	12.Glass _____.
13.Means _____.	14.Half _____.	15.SelfSymposia _____.
16.Tattoo _____.	17.Kilo _____.	18.Mosquito _____.
19.Bacterium _____.	20.Formula _____.	21.Crisis _____.
22.Phenomenon _____.	23.Thesis _____.	24.Sick leave _____.
25.Medical license _____.	26.Salary _____.	27.By stander _____.
28.Sister-in-law _____.	29.Bookshelf _____.	30.Story _____.
31.Nebulizer _____.	32.Syringe _____.	33.Cannula _____.

Exercise 4. Make following nouns singular where possible.

1.Crocodile forcepts _____.	2. News _____.
3.Surgical scissors _____.	4.Spectacles _____.
5.Mathematics _____.	6.Victims _____.
7.Clothes _____.	8.Teeth _____.
9.Grapes _____.	10.People _____.
11.Tweezers _____.	12. Gloves _____.
13.Simposia _____.	14.Pincers _____.
15.Statistics _____.	16.Spirits _____.
17.Tongs _____.	18.Earrings _____.
19.Manners _____.	20.Brains _____.

Exercise 5. Make the nouns in brackets plural.

1. My (foot) _____hurt me. 2. He is the owner of some big (studio)_____. 3. They bought new (auto)_____ for military. 4. (Mouse)_____ often transmit infections. 5. (This hobby) are not bad for your recovering. 6. For this case we have (memo) _____ in our office.7.The (knife) get rusty when put into water for along time. 8.In autumn all the (leaf) _____ fall down. 9. (This deer) _____live in the forest. 10. David's body is all covered with (tattoo) _____.

Exercise 6. Define whether these nouns countable or uncountable.

1. ointment___ 2. fruit ___ 3. treatment ___ 4. bread ___
5. education ___ 6. meat ___ 7. intelligence___ 8. recovery__
9. glasses ___ 10. property ___ 11. substance ____12. oxygen __
13. gasoline __ 14. drug __ 15. substance ___ 16. money ___
17. oil __ 18. insect __ 19. pharmacy__ 20. yogurt ___
21. plaster __ 22. ambulance ___ 23. food __ 24. chocolate __
25. injection ____ 26.media____ 27. advice____ 28.gossip _____

***Exercise 7*. Fill in the blank spaces with some, any, no.**

1. Are there _____ patients waiting for X-ray?
2. Have you got _____ cold solution in the fridge? Yes, I have got _____.
3. - I'd like _____ food. Is there _____?

– Yes. There is _____ but I'm sorry to say your doctor doesn't allow you to eat ____ food today.

4. We have _____ good news for you.
5. Don't believe _____ gossip. This disease has been curable for many years.
6. Are there _____?
7. Is there much cheese on the plate? No, there isn't _____ cheese.
8. Have you got _____ CDs? - No, I haven't _____ but I've got _____ DVDs.
9. - Have you got _____ money?

- No, we've got _____ money. We spent _____ money at the medical exhibition yesterday.

10. There are _____ educational films on urinary system disorders. Let's listen to the lecture.
11. Have you got _____ children? - No, we haven't got _____ but we've got _____ nephews.

***Exercise 8*. Fill in the blanks with *many, much, a lot of or lots of*.**

1. We don't have _____ cough syrup, so we'll have to buy some.
2. There aren't _____ doctors in the reception ward.
3. Doctor Collin is very busy; he has _____ work to do. He must examine _____ injured patients.
4. Cardiology has _____ significant research to conduct.
5. I can't buy a new car. I don't have _____ money. I'm not paid _____.
6. Hurry up! We don't have_____ time to help him, his pressure is dangerously high.
7. Your garden's got _____ medicinal plants.
8. There weren't _____ volunteers to be vaccinated.
9. - Do you have _____ symptoms of Covid?

- No _____, but my relatives have _____."

10. I think you eat too _____ sugar. I'm afraid You'll put _____ weight soon.

Degrees of comparison of adjectives

	Positive	Comparative	Superlative
I syllable	old	old+er	the old+est
+ -er/+ -est	cheap	cheap+er	the cheap+est
	high	high+er	the high+est
I syllable cons. -vowel -cons. double consonant +er/+est	hot big thin	hotter bigger thinner	the hottest the biggest the thinnest
II syllable ending -y, -ow -y → -ier/-iest	healthy	healthier	the healthiest
	happy	happier	the happiest
	noisy	noisier	the noisiest
	narrow	narrower	the narrowest
Adverbs→more/most **more slowly**	truly	more truly	the most truly

II syllable and rs	interesting	more interesting less interesting	the most resting the least resting
more the most less the least	beautiful	more beautiful	the most beautiful

THE COMPARATIVE FORM

We use the comparative form of the adjective to compare **two things**.

- *White meat is **healthier <u>than</u** red meat.*
- *Travelling by bus is **more comfortable <u>than</u** travelling by train.*

less … than

We can also use the form **less + adjective + than**. **Less** is the opposite of **more**.

- *Peter is **less considerate than** Marta.* (=Marta is more considerate)

(not) as … as
not so … as

We can also use the form **(not) as + adjective + as**.

- Peter is**n't as considerate as** Marta. (=Marta is more considerate)

than me / than I am

After **than** or **as … as** we use an object pronoun (**me, you, him, etc**.) or a subject pronoun (**I, you, he, she, etc**.) + auxiliary verb.

- *My sister is taller **than me**.*
- *My sister is taller **than I am**.*
- *His brother is cleverer than him. / His brother is cleverer than he is.*
- *My mother is older than her./My mother is older than she is.*

much/a lot/a bit more…

Before the comparative (**more** or **-er**) we can use **much**, **a lot** or **a bit**.

- *He's **a bit taller** than me.*
- *Florence is **much more** interesting than Pisa.*
- *This car is **a lot more** expensive.*

any/no more than

We can use **any**/**no** + comparative (*any better, no faster, any more expensive,* etc.). We use **any** in negative sentences and **no** with positive verbs.

- *Your performance was **no better** than mine.*
- *Your performance wasn't **any better** than mine.*

SUPERLATIVE ADJECTIVES

We use the superlative form of an adjective or adverb to compare more than two things.

the most … in …

After the superlative we use **in** + names of **places** or **singular words for groups of people** (class, school, team, family, etc.)

- *She is **the best** student **in** the class.*
- *He's **the tallest in** the family.*
- *Messi is **the best player in** the world.* (NOT of the class, etc.)

We normally use **of** + periods of time or a number of people (*of the year, of my life, of my brothers, of the students*, etc.).

- *It was the best evening **of my life**.*
- *I am the tallest **of my brothers**.*

the most … I have ever …

We often use the superlative with the **present perfect tense** and **ever**.

- *This is **the best** movie I've **ever watched**.*
- *She is **the most beautiful** woman I **have ever seen**.*

the/my/Tom's best …

Before the superlative we always use **the**, or **my/your/his/etc.** or **Tom's/Jenny's/etc.**)

- *He is **the best**.*
- *This is **my most expensive** jacket.*
- *This is **Paul's best** friend.*

the least

The opposite of **the most** is **the least**

- *He is **the least hardworking** student in the class.*

COMPARING ACTIONS WITH ADVERBS

We can use the comparative or superlative form of **adverbs** to compare **actions**.

- *She drives fast, but I drive **faster**.*
- *He plays well, but I play **better** than him.*

With adverbs ending in –**ly**, you must always use **more** to form the comparative, and **most** to form the superlative

- *She speaks **more quietly** than her boss.* (NOT)
- *He cooks well, but **more slowly** than his workmates.* (NOT)

For adverbs that have the **same form as adjectives**, the comparative and superlative forms are like adjectives: add –**er** to form the comparative and –**est** to form the superlative. The most common of these adverbs are: **late-later, early-earlier, fast-faster, hard-harder, long-longer**.

- *He works **harder** <u>than</u> me.*
- *She always arrives **earlier** <u>than</u> her boss.*
- *It took us **longer** <u>than</u> usual to arrive because of the traffic.*

Types of comparisons

- **as + positive adjective + as** (to show that two people or things are similar/different in some way). In negative sentences we use **not as/so as … as.**

as…..as

- **less +positive adjective +than** (express the difference between two people or things). The opposite is **more…than.**
- **the least + positive adjective + of/in** (compares one person or thing to two or more people or things in the same group). The opposite is **the most …of/in.**

- **even/much/a lot/far/a little/a bit/slightly + comparative** (expresses the degree of difference between two people or things).

a lot faster than

even more interesting than

slightly better than

- **comparative + and + comparative** (to show that something is increasing or decreasing).

….more and more….

Something is getting bigger and bigger

- **the comparative …, the + comparative** (shows that two things change together, or that one thing depends on another thing).

The more ……, the more …….

- **by far + the + superlative** (emphasizes the difference between one person or thing and two or more people or things in the same group)

by far the cleverest

good/well – better – the best
bad – worse – the worst
much/many – more – the most
little – less -the least
far – further/farther – the furthest/the farthest

***Exercise 9*. Write the appropriate comparative and superlative form of these adjectives:**

1 light _____ _____
2 clever _____ _____
3 sunny _____ _____
4 hard _____ _____
5 thin _____ _____
6 good _____ _____
7 poor _____ _____
8 short _____ _____
9 late _____ _____
10 happy _____ _____
11 shady _____ _____
12 stupid _____ _____
13 rainy _____ _____
14 soft _____ _____
15 fat _____ _____
16 bad _____ _____
17 rich _____ _____
18 long _____ _____
19 early _____ _____
20 sad _____ _____

***Exercise 10*. Underline the best word.**

1. Don't eat the fish. It smells *bad* / *badly*.
2. It's a *two-hours* / *two-hour* train journey from here to Manchester.
3. I stumbled across *an asleep* / *a sleeping* man in the doorway.
4 They ran home through the rain, and when they arrived were *sheer* / *soaking* wet.
5. As far as Maria was concerned, it was a *losing* / *lost* opportunity.
6. Tom opened the door and found a very *large* / *enormous* parcel on the doorstep.
7 I read that article, but I thought it was *mere* / *complete* rubbish!
8. The smell of *baking-fresh* / *freshly baked* bread made me feel hungry.

9. That suitcase looks really *heavy* / *heavily*.
10. What's the matter with you? You look *worrying* / *worried.*

Exercise 11. Put *very* in front of the adjective where possible or leave blank(-).
E.g. I put my foot in the water, and it was - freezing!
1. Please don't make that silly noise! It's _____annoying!
2.When we first saw the wave we were shocked, because it was _____enormous.
3. You really should read this book. It's _____interesting.
4 Jeff has been missing for two days, and we're _____worried.
5. Unfortunately, the ring I found turned out to be _____worthless.
6. At the end of the race, most of the runners felt _____exhausted.
7. By the end of the second week, many of the villagers were_____ starving.
8. It's _____unusual for so much rain to fall here in July.
9. I've checked the figures again, and I can assure you that they are _____correct.
10. How do you do. I'm _____ pleased to meet you.
11. When I realized what she had said, I was _____ upset.

Exercise 12. Complete the sentences using the correct forms.
1. The president hopes that people of all races will live together _____ *(peaceful)*
2. She told us that the streets in the capital city were____ *(dirty, ugly)*
3. Do you think nuclear energy is _____? *(safe)*
4. I get all the food _____ from the farmers. *(direct)*
5. The minister was _____ worried that the deal would not pass parliament. *(deep)*
6. Marty drove home from the party as _____ as he could and got there. *(fast, safe)*
7. When the director found out about the scandal he shouted ____ at his employees. *(angry)*
8. The old woman walked across the street very _____. *(careful)*
9. She didn't see me. She_____ knocked me down with her brand-new car! *(near)*
10. After a few weeks people forgot about him _____. *(complete)*
11. He _____ works anymore, because he already has enough money. *(hard)*
12. She _____ climbed down from the tree as soon as the bear had disappeared. *(slow)*
13. He is a very _____ volleyball player. *(good)*
14. Bob excused himself _____ and went home. *(polite)*
15. English is an _____ language to learn, however he couldn't learn grammar rules so _____. *(easy, easy)*
16. The sun shone _____ in the sky. *(bright)*
17. The new colleague seems to be _____ intelligent. *(high)*
18. The boy felt _____because he knew what he had done. *(guilty)*

Exercise 13. Fill in *too* or *enough*.
1. I can't carry this suitcase. It's _____ heavy.
2. This bag isn't big _____. I can't put all my possessions in it.
3. Is your meal warm _____? If not, I'll put it in the microwave.
4. Mom was _____ worried to go to sleep, so she stayed up all night.
5. I don't like this fizzy drink. It's much_____ sweet.

6. I'll ring you up later. I haven't got _____ time at the moment.
7. She's _____ young to drink alcohol. She's not even 15 yet.
8. We weren't able to buy tickets for both games because we didn't have _____ money.
9. I couldn't see her anywhere because it was getting _____ foggy.
10. You can't play in our first team. You're not good _____

Exercise 14. Fill in the correct form: Adjective or Adverb
1. If anything goes _____, someone must be blamed. *(wrong)*
2. The parliament was _____elected. *(free)*
3. You shouldn't go up that ladder. It's not _____. *(safe)*
4. Coffee in the morning smells _____. *(fantastic)*
5. The western part of the US was colonized _____by the Spanish. *(main)*
6. The sun was shining _____in the sky. *(bright)*
7. She likes to wear _____clothes when she goes out. *(colorful)*
8. My son was _____disappointed because he didn't get the job. *(bitter)*
9. Don't be so _____when you leave and close the door _____, please. *(noisy, quiet)*
10. The plane was able to land _____ on the main runway. *(safe)*

Exercise 15. Use *as….as* or *so….as.*
1. These houses are … high…those.
2. Peter is … thin … his brother.
3. This room is not … comfortable … that one on the first floor.
4. I'm not … strong … a horse.
5. Their apartment is twice … big … ours.
6. The blue car is …fast …the red car.
7. Peter is not … tall … Fred.
8. The violin is not … low … the cello.
9. This copy is … bad … the other one.
10. Oliver is … optimistic … Ivan.

Exercise 16. Choose the correct variant.
1. She has never seen … a small house.
a) so b) such c) what d) as
2. Some people are working … others.
a) hard as b) hardly c) harder than d) as hardest than
3. Grandmother can't hear them ….
a) very good b) very well c) much good d)much well
4) The film was …. more exciting than I expected.
a) so b) by far c) very d) even
5. His car is not ….. as mine.
a) moderner b) more modern c) most modern d) so modern
6. He's a good guitarist, but he plays the piano …
a) very good b) quite well c) much better d) too hardly
7. The teacher complains: 'The others were bad, but these pupils are … of all'
a) worse b) more bad c) the worst d) baddest

8. He knew he had to get there….
a) quickly b) more quick c) quicker d) quicklier
9. I don't watch TV … you.
a) as much as b) so much as c) more as d) much then
10. Her behavior is getting … to understand.
a) stranger and stranger c) most and most strange
b) more and more strange d) the most strange

PERSONAL PRONOUNS

Personal Pronouns	Objective Pronouns
I	**me**
you	**you**
he	**him**
she	**hr**
it	**it**
we	**us**
they	**them**

Exercise17. Rewrite the sentences and change the underlined nouns into personal or objective pronouns.

1. Jane told Alice to help Mary and Peter.
2. I met Betty in the library yesterday.
3. My mother came out. My mother was surprised to see Peter and I there.
4. Kate will phone David in the evening.
5. Charles gave I the book as a present.
6. The flowers were in the vase.
7. Robert and Mark met Lucy in the cinema yesterday.
8. Mike must go to see Jane and Marta.
9. Mrs. Swift always gives the students homework.
10. Mary works at National Bank.
11. The cups are in the cupboard.
12. Derek lives in Oakland, California.
13. My brother and I enjoy watching movies on Friday evenings.
14. Tom was speaking to Jim and Mike.
15. Our colleagues usually attend all our meetings.

Exercise 18. Fill in objective pronouns.

1. Who is that woman? Why are you looking at _____?
2. Do you know that man? Yes, I work with _____.
3. I am talking to you. Please listen to _____.
4. These photos are nice. Do you want to look at _____?
5. I like that camera. I am going to buy _____.
6. I don't know Peter's girlfriend. Do you know _____?
7. Where are the tickets? I can't find _____.

8. We are going to the disco. Can you come with _____?
9. I don't like dogs. I'm afraid of _____.
10. Where is she? I want to talk to _____.
11. Those apples are bad. Don't eat _____
12. I don't know this girl. Do you know _____?
13. Alan never drinks milk. He doesn't like _____.
14. Where are the children? Have you seen _____?
15. I can't find my pencil. Can you give one to _____?

Exercise 19. Circle the correct word.
1. *He/Him* didn't want to tell *we/us* about his problem.
2. *I/Me* was very grateful for what *she/her* had done for *I/me.*
3. *She/Her* saw *they/them* as *they/them* were crossing the street.
4. I can't see my sunglasses. Where are *they/them*? - I've put *they/them* on the shelf.
5. I'd like to speak to *he/him*, but I don't know if *he/him* is in the office.
6. This letter isn't for *I/me*, it's for *she/her*.
7. Are those flowers for *I/me*?
8. He reported *we/us* about the results of the conference.
9. Can you pass *they/them* the salt, please?
10. I couldn't visit *she/her* yesterday but I phoned *she/her*.

Exercise 20. Complete the sentences with the correct pronouns.
1. I don't know her phone number. Can you tell _____ to _____, please?
2. Your grandparents are so kind! I always enjoy my visits to _____
3. Is Helen in the gym? We can't see _____ anywhere.
4. Excuse us, can you help _____? We don't know the way to the station.
5. I didn't answer the teacher's question and he gave _____ a bad mark.
6. She asked Den to phone _____ as she wanted to tell _____ some news.
7. Where is your father? I need ____ help.
8. The secretary told ____ that we had to wait for some minutes.
9. John is a hardworking employee. She often sees _____ in the office.
10. We like this teacher. He explains the rule to _____ very often.

Exercise 21. Use the correct pronouns to complete the sentences.
1. Josh lost the purse. _____ doesn't know when it happened.
2. We met girls in the café, but Bob hadn't met _____ before.
3. Kate was there too. I talked to _____ for twenty minutes.
4. Carol bought a new car. _____ is a Mercedes.
5. I need some help. Please, help _____.
6. My friend and I sold all the trees. _____ need some new flowers now.
7. He looked at me. _____ couldn't help him.
8. They invited us. _____ agreed to come.
9. I want to send _____ this present. They will be glad.
10. We locked his documents. _____ was very angry.

Exercise 22. Use the correct personal pronouns (subject and object).

1. _____ is dreaming. *(George)*
2. The teacher always gives _____ homework. *(The students)*
3. _____ is green. *(The book)*
4. _____ are on the wall. *(The posters)*
5. I am reading the book to _____. *(My sister)*
6. Open _____, please. *(The window)*
7. _____ are watching TV. *(My mother and I)*
8. _____ are in the garden. *(The flowers)*
9. _____ has got a brother. *(Diana)*
10. Can you help _____, please? *(My sister and I)*

POSSESSIVE PRONOUNS

Possessive Pronouns	Absolute Form of Possessive Pronouns
my	**mine**
your	**yours**
his	**his**
her	**hers**
its	**-**
our	**ours**
their	**theirs**

Possessive pronouns are used with corresponding nouns. Absolute Form of Possessive Pronouns doesn't require the use of the noun, it is clear from the context. Study the examples:

*This is **his car.** – The car is **his.***

*I told her **my story** and she told me **hers.***

Exercise 23. Circle the correct word.

1. I'm sure *her/hers* brother is at home. 2. This disc is *my/mine*. It isn't *your/yours*. 3. She put *her/hers* report on the table and started to read *my/mine*. 4. Let's leave *my/mine* car at the car park and take *your/yours*. 5. This is *her/hers* house and *their/theirs* is near the river. 6. Mary gave Peter *her/hers* address and wrote down *him/his*. 7. Grilled chicken is *their/theirs* favorite dish. 8. This phone number is *our/ours*. 9. They bought a new house. Now it's *their/theirs*. 10. I don't need this eraser. I have *my/mine*.

Exercise 24. Use the correct possessive pronoun.

1. The bus stop is near _____ house. *(We)*
2. How is _____ new school? *(You)*
3. This is my bag and that is _____. *(He)*
4. Sophia's hair is longer than _____. *(I)*
5. It's _____ turn now. *(I)*
6. The bike on the right is _____. *(You)*
7. Which desk is _____? *(We)*
8. Here are _____ tickets. *(She)*

9. The children brushed _____ teeth. *(They)*
10. Our school is much nicer than _____. *(They)*

Exercise 25. Complete the sentences with the correct form of possessive pronouns in brackets.

1)Frank showed me photos of ... family and I showed.... (*mine, his*). 2) I spent ... day doing shopping and Jane spent ... in the swimming-pool (*my, hers*). 3) We described ... adventures to Mr. Harris and he told about.... (*his, our*). 4) They didn't know that was ... car. They were surprised to know that it's.... (*your, yours*). 5) I returned them ... key. ... Granny told the key was.... (*my, their, theirs*). 6) Has she found ... pen? If not, you can use ... then (*mine, your*). 7) We don't need ... help because he didn't accept.... (*his, ours*). 8) Dogs are ... favourite animals and what are...? (*my, yours*) 9) She took ... hands into ... and smiled at me (my, hers). 10) We gave ... passes to the guard. He gave me ... pass back but didn't return Bob.... (*my, his, our*).

Exercise 26. Circle the correct item.

1) Could you tell ... the time, please?
a) I b) my c) me
2) This dog is ... .
a) she b) her c) hers
3) We left ... things in the room of the hotel,
a) us b) our c) ours
4) Thomas often phones ....
a) they b) their c) them
5) Ann didn't see ... at school yesterday,
a) you b)your c)yours
6) Pass me ... phone, please.
a) I b) my c) mine
7) John always has the driven license with ....
a) he b) his c) him
8) The ring is really beautiful, but ... price is too high for me.
a) it b) its c) my

Exercise 27. Translate into English.

1) Він учора розповів нам про свої плани.
2) Я хочу повернути тобі твою книгу.
3) Ми зустріли їх вчора біля метро.
4) Вона бачила вас у лікарні минулого тижня.
5) Вчитель виправив наші помилки та повернув нам зошити.
6) Де мої черевики? — Вони під стільцем.
7) Ми щойно показали їй наше чудове місто.
8) Я не зрозумів його слів та попросив його повторити запитання.
9) Вона не могла зателефонувати вам, бо загубила ваш номер.
10) Я щойно поклав олівець на стіл, але не можу його зараз знайти.

DEMONSTRATIVE PRONOUNS

A demonstrative pronoun represents a thing or things:

- near in distance or time (**this**, **these**)
- far in distance or time (**that**, **those**)

	near •	**far ⇒**
singular ▇	this	that
plural ▇▇▇	these	those

Exercise 28. Complete the sentences with the demonstrative pronouns.

1) Can you see ... building in the distance?
2) ... pen doesn't write. Give me another one, please.
3) I don't recognize ... people. They are too far from us.
4) Here you are! Take ... flowers. I've bought them for you.
5) ... castle far away looks mysterious.
6) I'm really enjoying _____ (experience that's happening now).
7) _____ painting (that we saw yesterday) was really beautiful.
8) I really liked _____ cakes. (I'm talking about the cakes we ate last week.)
9) _____'s a great idea! (the idea you explained to me.)
10) David, _____ is Lukas.
11) Who is _____ woman by the door?
12) _____ are fabulous trousers! (That you're wearing.)
13) I really like _____ chocolates (that I'm eating now).
14) _____ people we met last night were really nice.
15) Could I please try on _____ t-shirts? (I'm holding the t-shirts).

REFLEXIVE PRONOUNS

Reflexive pronouns are words ending in *-self* or *-selves* that are used when the subject and the object of a sentence are the same (e.g., *I believe in myself*). They can act as either objects or indirect objects. The nine English reflexive pronouns are ***myself, yourself, himself, herself, oneself, itself, ourselves, yourselves,*** and ***themselves***.

Exercise 29. Circle the correct item.

1) She calls *yourself/herself* the smartest girl in the class. 2) We have organized the festival *ourselves/myself.* 3) I *herself/ myself* wanted to check all the details of the plan. 4) My parents grow these wonderful tomatoes *yourselves/themselves.* 5) He couldn't see it, but I saw it *himself/myself.* 6) Our mother needs help, she can't do all the housework *herself/ourselves.* 7) Sam couldn't phone *herself/himself* and asked me to phone you. 8) I'm awfully sorry to tell this, but the computer destroyed the programme *itself/himself.* 9) The children made the New Year toys *yourselves/themselves.* 10) Bob and Ron will make the project *themselves/ourselves.*

Exercise 30. Complete the sentences with the reflexive pronouns.

1) Ted solved the problem... . 2) Vicky and Albert are going to paint the car... . 3) I ... have given you the promise. 4) Did Patricia write the letter...? 5) You, children, must tidy this room.... 6) I won't be able to come ..., but my wife will. 7) This program has to check the mistakes... . 8) Have you, Nancy, cooked this meat... ? 9) Hilda... doesn't understand the meaning of that word. 10) The room ... was very comfortable, and the service was excellent.

Exercise 31. Translate into English.

1. Ті книги ваші чи їхні? — Вони — наші.
2. Де ваші ліки? — в холодильнику.
3. Яблука її чи твої? — Вони наші.
4. Цей сік його чи Тома? — Його.
5. Той сад — малий. Наш більший. А ваш? — Наш — такий самий.
6. Ті квіти ваші чи її? — Вони — наші.
7. Це авто Теда чи ваше? — Воно — його.
8. Сумка твоя чи Анни? — Її. — А де твоя?
9. Персики їхні чи твої? — Вони її.
10. Книги студентів чи ваші? — Вони їхні.
11. Цуценя ваше чи сусідів? — Ні, воно їхнє.
12. Де твій кашкет? — Мій — на полиці, а його — на столі.
13. Де ваші зошити? — Наші — у школі, а його — вдома.
14. Бутерброд мій чи її? — Твій — на тарілці, а її — у портфелі.
15. Квіти ваші чи її? — Її. Наші — у вазі.

NOTE! We do not use reflexive pronouns with the verbs: *concentrate, feel, relax* ***and*** *meet.*

Exercise 32. Insert reflexive pronouns where it is possible.

1. Tom cut _____ while he was shaving this morning.
2. We really enjoyed _____very much.
3. I repaired my bike _____
5. He felt _____tired.
6. Why don't you clean the windows _____?
7. Jack and I introduced _____ to our new neighbor.
8. They are relaxing _____ at the SPA center.
9. Let's paint the house _____?
10. The children cleaned their room _____.
11. John used to concentrate _____ on different affairs.
12. The cat caught the mouse _____.
13. Tell me a little about _____.
14. We met _____ at the train station.
15. She did all the work by _____.

INDEFINITE PRONOUNS

Indefinite pronouns do not refer to a specific person, place, or thing. In English, there is a particular group of indefinite pronouns formed with a quantifier or distributive proceeded by *any, some, every* and *no*.

	Person	**Place**	**Thing**
All	everyone everybody	everywhere	everything
Part (positive)	someone somebody	somewhere	something
Part (negative)	anyone anybody	anywhere	anything
None	no one nobody	nowhere	nothing

Exercise 33. Choose the appropriate pronoun from the box.

Any, anybody, anything, every, everybody, everything

1. She does morning exercises _____ day.
2. You can meet her _____ time between 1 and 2.
3. This is a small town where _____ knows _____ about _____
4. He will do _____to save her.
5. There are a lot of carpets here. You can choose _____ color you need.
6. They told us _____they wanted and there isn't _____ else to say.
7. He seemed to know _____about music.
8. She doesn't know _____ about this gossip.
9. We know _____ person in this club.
10. _____knows him as a very talented writer.

Exercise 34. Translate the following sentences into English.

1. Чи бачив хто-небудь дітей?
2. Ми не можемо ніде знайти цю книгу.
3. Там хтось ходить на горі.
4. Є що-небудь поїсти в холодильнику?
5. Щось велике лежало на столі.
6. Я десь поклала олівець і не можу знайти.
7. Хтось ходив по садку і співав пісеньку.
8. Ви бачили що-небудь цікаве на виставці?

9. Покличте кого-небудь, щоб допоміг нам.
10. Чи є у тебе щось цікаве почитати?

Exercise 35. Fill in the gaps with *none, nobody,* and *nothing.*

1. _____ of us will go there. It's not the place we should go.
2. _____has happened. Don't worry
3. It was too dark outside and we could see _____
4. He found two copies but _____of them was correct.
5. Kate had watched _____of the two films I told her to watch.
6. There was _____in the hall when we entered.
7. He will buy _____today because it is Sunday and the shops are closed.
8. There was _____at the counter.
9. You can see _____out of the window. It is snowing heavily.
10._____of them is rigid.

Exercise 36. Supply necessary indefinite pronouns.

1. There is _____ in the clothes basket. It is empty.
2. I've tried phoning but every time I tried there was _____ in.
3. I have prepared _____ for dinner which you will like very much.
4. Would you like _____ to start with before the main meal?
5. He sat at the table but didn't have _____ to eat.
6. You can do _____. I don't really care.
7. I met _____ you know last night. She told me she had missed you very much.
8. That's a very easy job. _____ can do it.
9. Did you turn the oven off? I think I can smell _____ burning.
10. _____ offered help. They probably didn't have time.
11. _____ arrived in good time and the meeting started promptly at 3:30.
12. When the show finished there was complete silence. _____ clapped.
13. _____ likes being poor

THE ENGLISH SENTENCE: ITS TYPES AND PARTS. TYPES OF QUESTIONS. WORD ORDER

Exercise 37. Match the English and Ukrainian terms, denoting parts of the sentences:

1) Subject	a) означення
2) Predicate	b) підмет
3) Object	c) обставина
4) Attribute	d) присудок
5) Adverbial Modifier	e) додаток

Exercise 38. Match the English and Ukrainian terms, denoting parts of speech:

1) Noun	a) іменник
2) Verb	b) прислівник
3)Adjective	c)прийменник
4)Adverb	d)дієслово
5)Pronoun	e)сполучник
6)Numeral	f)числівник
7)Preposition	g)прикметник
8)Conjunction	h)займенник
9)Participle	i) дієприкметник, дієприслівник

Exercise 39. Match the English and Ukrainian terms, denoting types of sentences:

1)Declarative sentence	a) питальне речення
2)Interrogative sentence	b) окличне речення
3)Imperative sentence	c) розповідне речення
4)Exclamatory sentence	d) спонукальне речення
5)Positive sentence	e) заперечне речення
6)Negative sentence	f) стверджувальне речення

Exercise 40. Match the terms, denoting structural types of sentences:

1) Simple	a) складнопідрядне
2) Composite	b) просте
3) Compound	c) складне
4) Complex	d) складносурядне
5) Complete	e) неповне
6) Incomplete	f) поширене
7) Extended	g) повне
8) Unextended	h) особове
9) Personal	i) безособове
10) Impersonal	j) непоширене

DECLARATIVE SENTENCE

(positive or negative)

Word order in English is of great importance. As English words have hardly any inflexions and their relation to each other is shown by their place in the sentence and not by their form, word order in English is fixed. We cannot change the position of different parts of sentence at will, especially that of the subject and the object. It will lead to misunderstanding.

Subject	Predicate	Objects			Adverbial Modifier		
		Indirect	Direct	Prepositional indirect	of manner	of place	of time
The	bought		a book.				
We	gave	her	an ce.				
I	sent		a letter	to my friend			last wee k.
She	met	him			by chance	at the theatre	two days ago.
I	drew		a picture	for him			yest erda y.

Negative sentences are formed with the help of **'not'** and **'no':**

NOT+Verb **NO+ Adjective**

+many/ much/ a lot of **+Noun**

+negative short answer

Exercise 41. Determine parts of the sentence in the following sentences and fill in the chart. The first has been done for you.

1. We learn Medicine.

2. Ann is a pediatrician.

3. Pharmacist is explaining instruction to the customer.

4. He has been teaching English at this University for ten years.

5. John and Mary don't live in Liverpool.

6. Twice a week I have my practical training at the hospital.

7. I have a coffee break at my office in the afternoon.

8. Sarah and her friends were talking loudly in the hospital hall.

9. Yesterday we sunbathed and swam in the ocean the whole day long.

10. They'll get no help from people.

	Adverbial modifier **(0)**	Subject (1)	**Predicate** **(2)**	**Object** **(3)**	**Object** **(3)**	**Adverbial modifier of manner** **(4)**	**Adverbial modifier of place** **(4)**	**Adverbial modifier of time** **(4)**
1.		We	learn	medicine				
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10								

The word order of words in which the predicate is placed before the subject is called inversion.

Inversion is full when the whole predicate is placed before the subject or partial when only the auxiliary or modal verb precedes the subject.

Eg. Have you any ideas?

Haven’t you any family?

Certain types of sentences require the inverted order of words. These are:

1) Interrogative sentences. In most of them the inversion is partial as only part of the predicate is placed before the subject.

Eg. What did they research?

2) Sentences with the introductory **there.**

Eg. There are many candidates in the room.

There exist different opinions on this question.

3) Exclamatory sentences expressing wish.

Eg. Be it so!

4) Inversion occurs when an adverbial modifier opens the sentence.

Eg. At some distance from the factories stands their hospital.

Exercise 42. Mark and comment on the word order and explain the cases of inversion.

1. I have read this book with great pleasure. _____

2. She met me in the park on Friday. _____

3. I told the news to him. _____

4. Show the book to your brother. _____

5. There is your book. _____

6. They lived in an old wooden house near a short deep river. _____

7. Yesterday I received a long letter from him. _____

8. She bought a nice red dress some days ago. _____

9. From the window came sounds of music. _____

10. Here he comes! _____

11. There is a small garden near my house. _____

12. I returned the magazine to the library last week. _____

13. Never in my life have I seen such a beautiful flower. _____

14. From the window came sounds of music. _____

15. On the left is our town museum. _____

Exercise 43. Make up sentences from the given words. Find the subject and the predicate of the sentences. Comment on the word order.

1. A / STUDENT / DEPARTMENT/ OF / AM / I / FIRST / MEDICAL / YEAR.
_____.

2. PHARMACISTS / DRUGS / AND DISPENSE/ PRESCRIPTION / ON / PREPARE / CUSTOMERS / TO.
_____.

3. CHARGE / THE SICK / TREATING / OF / DOCTORS / TAKE.
_____.

4. AND HEALTH / CLINICAL / PROTECTION/ TIMES / ROMAN / DEVELOPED / MEDICINE / GREATLY/ IN.
_____.

5. TOOK / THE DOCTOR /AND PULSE / THE PATIENT'S / TEMPERATURE.
_____.

6. AND FOOD / MAKES / BODY / FROM / VITAMIN D/ SUNLIGHT / YOUR.
_____.

7. OF / PHARMACY / TO / THE FIRST / BACK / THIRD / OF / THE ORIGIN / CENTURY/ THE 19^{TH}.
_____.

8. PATIENT /EXAMINED / MEDICINES /AND / CAREFULLY / PRESCRIBED / SOME DOCTOR /.
_____.

9. LASTS / THE / OF / FOR / INTERNSHIP / COURSE / A YEAR.
_____.

10. MEDICINE /THIS /FOLLOW /WONDERS/ IF /YOU /WILL WORK / THE INSTRUCTION.
_____.

THE PRESENT SIMPLE TENSE

Positive Sentences ***Subject + Main Verb +*** **_____.**

	Subject	**Main Verb**	
1st Person	I, We	study	at the university.
2st Person	You	live	In Ukraine.
3st Person Singular	She, He	knows	Chemistry well.
3st Person Plural	They	conduct	the experiment.

Negative Sentences

	Subject	**Auxiliary Verb**	**Not**	**Main Verb**	
1st Person	I	do	not	miss	classes.
2st Person	You	do	not	work	at the weekends.
3st Person Singular	Sam	does	not	study	Surgery.
3st Person Plural	Students	do	not	speak	English very well.

Interrogative Sentences (Questions)

	Auxiliary Verb	**Subject**	**Main Verb**	
1st person (I, we)	Do	I	speak	clearly?
2nd person (you)	Do	you	work	in the polyclinic?
3rd person singular (he, she, it)	Does	a doctor	examine	patients?

3rd person plural (they)	Do	the graduates	have	a period of internship?

The Present Simple is used:

1. For permanent situations. *She works hard.*
2. For repeated actions in the present? Especially with adverbs of frequency. *They often have practical classes.*
3. For facts which are permanently true. *The sun sets in the west.*
4. For timetables or programs. *The conference starts at 10 o'clock.*

Time expressions used with Present Simple:

Usually, always, never, often, sometimes, seldom, rarely, every day/ week/ month/ year etc.

Adverbs of frequency (**often, always, usually, sometimes etc**.) are placed before maim verbs but after auxiliary/ modal verbs **to be.** *He often works in the lab. She is never late.*

Spelling Rules:

Third person singular always takes endings –s, -es. *He swims. It turns.*

Verbs ending in **-y**, in the third person singular **-y** changes into **-ie**. *Fly – fl**ies**; supply – suppl**ies**.*

Verbs ending in **-ss, -sh, -ch, -x** and **-o** take the ending **-es**. *Kiss – ki**sses**; teach – tea**ches**.*

Verbs ending in **a vowel+y** take the ending **-s**. play –pla**ys**; stay –sta**ys**.

Exercise 43. Write the verbs in the third person singular.

1. They pass. He _____.
2. I carry. She _____.
3. We watch. She _____.
4. I dry. He _____.
5. We call. He _____.
6. They go. She _____.
7. We play. It _____.
8. They reach. He _____.
9. We carry out experiments in the lab. She_____.
10. They read medical books on original. Alex_____.

Exercise 45. Choose the correct option:

1. Doctors always (examine /examines) patients.
2. He often (suffer / suffers) from the splitting headache.
3. Architect (design / designs) buildings.
4. This lawyer always (consult / consults) our family.
5. Alice (visits / visit) her family doctor regularly.
6. Students often (decorates /decorate) the hall for parties.
7. They (plays /play) volleyball every Sunday in the university gym to stay fit.

8. Olga (work/ works) at the therapeutical department.
9. The nurses often (give / gives) injections to the patients.
10. She always (try / tries) to observe any changes in the patient's condition.

Exercise 46. Put verb in brackets in the Present Simple:

1. Students of the first year _____ (to study) general subjects.
2. Training of a pharmacist _____ (to include) many subjects common to the medical curriculum.
3. Chemistry _____ (to deal) with the properties of a substance.
4. Our university library _____ (to have) many books on medicine.
5. They _____(not/ to attend) classes regularly.
6. Physician _____ (to treat) people for different diseases.
7. Dentists say that sweets ____ (to spoil) our teeth.
8. Higher medical institutions of our country _____(to train) pharmacists and doctors.
9. Students _____ (to have) practical classes four times a week.
10. She _____(to research) physical and medical properties of the new medicines.

Exercise 47. Read this part of a book review. Put verbs in brackets in the Present Simple tense and underline them. Circle the adverbs of frequency.

COME DOWN!

Dr. Roads

In today's fast-paced world, we never _____(to escape) stress. Stress always _____ (to affect) us psychologically, but according to Dr. Roads, author of the new bestseller, *Calm Down!*, it also _____ (to affect) us physically. For example stress _____ (to cause) high blood pressure. Doctors often _____ (to prescribe) medication for stress-related illnesses. Medicine usually _____ (to lower) a patient's blood pressure. But, Dr. Roads _____ (to claim), "You don't always need pills. Relaxation exercises _____ (to be) sometimes as effective as pills. For example, breathing exercises both _____ (to relax) you and _____ (to lower) your blood pressure. It only _____ (to take) a few minutes!"

Exercise 48. Put the time expressions in the correct order.

1. Tracy is a hard-working student. (always)
2. Bob works long in the Chemistry Lab. (usually)
3. Students work in the library. (sometimes)
4. She is late. (never)
5. Students take practical classes. (often)
6. The faculty trains students from different countries of the world. (always)
7. Medical students have practical training at the hospital. (usually)
8. The internship lasts longer than a year. (sometimes)

Exercise 49. Complete the following sentences using medical vocabulary:

1.Our Dean often _____.

2. Doctor Hanna always _____.
3.We _____ every day.
4.Patients of the Pulmonary department _____.
5.He takes _____.
6.Chrissie always _____.
7.Sandra sometimes _____.
8. Nurses usually _____.
9. Patients never _____.
10.Hilda is an obstetrician. She _____.

Exercise 50.Translate into English:

1.Студенти здають іспити кожного семестру.
2.Пацієнти з гіпертонією часто відчувають головний біль.
3.Медична лабораторія має кілька сучасних мікроскопів, щоб робити аналізи якісно.
4.Ця хвороба є невиліковною. Ліки лише полегшують стан пацієнта.
5.Лікарі завжди ретельно оглядають своїх хворих.
6.Де ви відчуваєте біль? Куди біль віддає?
7.Відповідні аналізи завжди допомагають виявити небезпечні інфекції.
8.Регулярні фізичні вправи ,як правило, покращують стан людей.
9.Дефіцит (нестача) вітамінів в організмі людини часто призводить до погіршення самопочуття.
10. Вакциновані діти зазвичай не хворіють цими хворобами.
11.Якщо ви будете дотримуватися всіх рекомендацій лікаря ви одужаєте за кілька днів та уникнете будь-яких ускладнень.
12. Травматологи та фізіотерапевти приймають пацієнтів за попереднім записом.

VERB <u>TO BE</u>

Sigular		**Plural**	
I am (not)	Am I?	We are (not)	Are we?
You are (not)	Are you?	You are (not)	Are you?
He is (not)	Is he?	They are (not)	Are they?
She is (not)	Is she?		
It is (not)	Is it?		

Note! Time expressions are always used after the subject in the sentence. Only in the sentences with the verb **to be** they are used after the verb **to be.**

Exercise 51. Use the following time expressions <u>*usually, never, sometimes, always, seldom, often, rarely*</u> in the sentences below.

1. The doctor is angry when patients are late.
2. Nelson is on time for his date.
3. The doctor’s advice is useful.
4. His blood pressure is high.

5. He is in poor health.
6. Her reports are informative.
7. The pharmaceutical students have practical training in the drug's store.
8. Nurses look after the patients.
9. Dr. Graham have his dinner in the hospital canteen.
10. Our district doctor is on a sick-leave.

Exercise 52. Put the correct form of the verb to be.

1. It ____ necessary to consult the doctor.
2. Natural drugs ____ made of medicinal plants.
3. Students _____ at the lab now.
4. The emergency department ____ on the first floor.
5. Larry's parents _____ doctors.
6. Most poisons _____ useful drugs if they _____ administered in small doses.
7. The patient _____ in the examination room.
8. Cytology _____ the study of the cells.
9. The results _____ surprising.
10. Angina pectoris _____ a disease of the heart.
11. This new equipment _____ important for compounding medications.
12. Side effects _____ caused by incorrect drug administration.
13. Most emergency treatment _____ symptomatic.
14. All proteins _____ organic in their nature.
15. Copper _____ associated with a number of enzymes.

CONSTRUCTION "THERE + TO BE"
(Affirmative Form)

Present Simple	**Past Simple**	**Future Simple**
There **is** (Singular) There **are** (Plural)	There **was** (Singular) There **were** (Plural)	There **will be** (Singular, Plural)

Exercise 53. Read and translate the following examples:

1. There is a surgical department in this hospital.
2. There are some departments in the regional hospital.
3. There is a stomatological faculty at our University.
4. There are some students in auditorium 105.
5. There is a new hospital in our city.

Exercise 54. Complete the following sentences*:*

1. There ____ 320 patients in this clinic.
2. There _____ more than 25 faculties at Oxford University.
3. There _____my sister and many friends in my party.
4. There _____a large lab and several classrooms on the first floor.
5. There _____ a doctor on duty and three nurses in the therapeutic department.

6. There _____ an old clinic in our city.
7. There _____ some faculties at the Medical Academy.
8. There _____ four main departments in our pharmaceutical company.
9. There _____ some dosage forms of Mensamint currently on the market.
10. There _____ no clinical findings in the oral administration studies.

Exercise 55. Make the following sentences negative and interrogative:
1. There is a medical faculty at our Academy.
2. There are many clinical chairs at the University.
3. There are many qualified teachers at our Medical University.
4. There are several outstanding scientists at our hospital.
5. There are many medical colleges in our country.
6. There is a very interesting museum in our village.
7. There are a lot of parks in this residential district.

Exercise 56. Correct the mistake if there are any.
1.The teacher corrects our mistakes always.
2.Doctors examines patients in the examination rooms.
3.There is many examination rooms on the second floor.
4.Pharmaceutical students has their practical training at the chemist's shops.
5. The faculty train doctors and profesionals for chemist's shops.
6. They often are on duty at the weekends.
7. There are the urgent need for physiotherapists in our days.
8. Senior students studies management of medicine.
9. Dr Jones are the best surgeon able to perform difficult operations.
10. They don't never smoke in the consulting room.

Exercise 57. Translate the following sentences into English:
1. У нашій лікарні є декілька відділень.
2. У цьому університеті – дві бібліотеки.
3. У національному університеті налічується близько 25 факультетів.
4. У читальному залі знаходиться викладач та декілька студентів.
5. У районній поліклініці є діагностичний центр та багато лабораторій.
6. В кабінеті багато медичного обладнання.
7. В палаті є чотири ліжка, холодильник, телевізор та кілька крісел.
8. Лікарі роблять щоденний обхід палат, обстежують пацієнтів та призначають лікування.
9. Реєстратура знаходиться на першому поверсі. Запишіться на прийом до лікаря там.
10. Медсестра часто вимірює життєві показники пацієнтів.
11. На першому поверсі знаходиться реєстратура, клінічна лабораторія та стоматологічні кабінети.
12. Де знаходяться кабінети УЗД?
13. Немає даних про побічні ефекти цих препаратів на даний час.
14. В нашій домашній аптечці є лише безрецептурні препарати.

FOUR TYPES OF QUESTIONS

Yes / No Questions	Wh- questions
To form question we put the auxiliary (can, be, will, have etc) before the subject. We use **do / does** to form questions in Present Simple and **did** to form questions in Past Simple. *She is studying Chemistry. – Is she studying Chemistry?* *He hates injections. - Does he hate injections.* *They left two hours ago. – Did the leave two hours ago.*	Wh- questions begin with a question word **(who, what, when, why, where, whose, how** etc**)** *What do you study? – Medicine* *How do you get to university?– By bus* When there is a preposition, it usually goes at the end of the question, though in formal English it can be put before the question word. ***Who** is this letter **from**?* ***From whom** is this letter ?*

WE NORMALLY USE THE FOLLOWING QUESTION WORDS TO ASK ABOUT:

people	things / animals/ actions	place	time	quality	manner	reason
Who **Whose** **Which** **What**	**What** **Which**	**Where**	**When** **How long** **What time** **How often**	**How much** **How many**	**How**	**Why**

There are four types of questions:

GENERAL QUESTION – we put question to the whole sentence.
Students study General subjects during the first two years.

Do students study General subjects during the first two years?
*Does student **(he or she)** study General subjects during the first two years?*

SPECIAL QUESTIONS – we put questions to the certain part of a sentence using special words: *WHO, WHAT, WHY, WHEN, WHERE, WHOM, WHOSE, HOW, HOW MANY (MUCH), WHICH.*

What do students study during the first two years?
When do students study General subjects?
Who** studies General subjects during the first two years?(In special question to the **subject** we don't use auxiliary verb **DO or DOES)

ALTERNATIVE QUESTIONS – we doubt about something and give alternative (something to choose)

Do *students study General **or Special** subjects during the first two years?*

***Do** students study General subjects during the first two years **or during the third year**?*

Does a student study Medicine or Pharmacology ?

DISJUNCTIVE or TAG QUESTIONS – we express doubt and statement.

Students study General subjects during the first two years, don't (do not) they?

*Student **(he or she)** studies General subjects during the first two years, doesn't (does not) he (she)?*

Students don't study General subjects during the third year, do they?

***She doesn't** study Special subjects during the first two years, does she?*

Exercise 58. Ask as many questions as possible to the following sentences.

1. Advanced students always get grants at our university.

***General question** _____?*

Special question

***What** _____?*

***When** _____?*

***Who** _____?*

***Alternative question** _____ **or**_____?*

***Disjunctive question** _____, _____?*

2. A medical course lasts seven years in Ukraine.
3. There are many medical colleges in our countries.
4. The private clinic offers high quality service.
5. Our district doctor sees his patients in the consulting room 3.

Exercise 59. Fill in: what, when, which, who, whose, why, how, how many, how much, how often, what time, where or how long.

1. "_____ treats your son?" "Local Physician."
2. "_____ pencil case is this?" "It's mine."
3. "_____ do you have your Medical English lessons?" "On Monday and on Friday."
4. "_____ do you usually start your work?" "At 9 o'clock in the morning."
5. "_____ do your group mates have the practical classes?" "In the laboratory."
6. "_____does he get to work?" "By his own car."
7. "_____ do your colleges meet so often?" "To confirm the plan of treatment."
8. "_____ does this medicine cost?" "Above 500 hryvnias."
9. "_____ motorbike is parked outside?" "It's Julie's."
10. "_____ does your train depart?" "At 8 o'clock am."
11. "_____ does it take to get from here to your clinic?" "Nearly half an hour."
12. " _____ is the most difficult for you?" "Mathematics."
13. " _____ are you so sad today?" "I am not well. I have a splitting headache."
14. "_____ does the internship last?" "For 18 months."
15. "_____ has new neighbors?" "Nick has."

Exercise 60. Complete the following disjunctive questions adding the correct tags.

1. Robert looks ill, **doesn't he?**

2. She never does it, _____?
3. There are many people in the reception area,_____?
4. They don't have any facts, _____?
5. You never change your decision, _____?
6. A nurse gives patients a thermometer to take their temperature, _____?
7. The results of the X-ray examination and blood analysis are normal, _____?
8. She is a pediatrician, _____?
9. An apple a day keeps doctor away, _____?
10. They have all kinds of medical equipment, _____?

Exercise 61. Use the preposition in brackets to write questions to match the statements.

1.Fred is very unhappy. (about) ***What is he unhappy about?***
2.I go to the symposium next week. (with) ***Who*** _____?
3.Doctor Helen comes from Poland. (from) ***Where exactly*** _____?
4.Craig has some confrontation. (with) ***Who*** _____?
5.I often make the appointment. (with) ***Whom*** _____?
6.A team of phthalmologists go on a business trip on Monday. (to) ***Where_____?***
7.I've got good news. (for) ***Who*** _____?
8.Doctor Larris often shouts. (at) ***Whom*** _____?
9. Salary usually depends upon the qualification. (upon) ***Wha***t _____?
10.She is the most responsible employee. (for) ***What*** _____*?*

VERB <u>TO HAVE</u>

Positive Form

	I have (got)	We have (got)
+	You have (got)	You have (got)
	She, he, it has (got)	They have (got)

Negative Form

I don't have (I haven't got)
You don't have (You haven't got)
\- He (She, It) doesn't have
(She, He, It hasn't got)
We don't have (we haven't got)
They don't have (they haven't got)

Interrogative Form

	Do I have (Have I got)?	Do we have (Have we got)?
?	Do you have (Have you got)?	Do you have (Have you got)?
	Does He (She, It) have (Has she, he, it got?)	Do they have (Have they got)?

Note!

*1)**Have got** and **have*** mean the same. ***Have got*** is more informal.

We use ***have (got)*** here to refer to both verbs:

I've got a terrible pain in my back.

I have a terrible pain in my back. (more formal)

2) We use ***have* (*got*)** to talk about possession, relationships, characteristics and illnesses.

In these contexts, it is not used in the continuous form:

*She's **got** two diplomas.*

*She **has** two diplomas.*

*She's **got** a delightful voice.*

*She **has** a delightful voice.* (more formal)

*It's **got** 153 calories and 45g of carbohydrates.*

*It **has** 153 calories and 45g of carbohydrates.* (more formal)

*She **has** the measles.*

*He's **got** a headache.*

3) *Have got* cannot be used to talk about actions. Only ***have*** is possible in this case.

*I usually **have** dinner at 8 o'clock. (NOT I usually have got dinner at 8 o'clock.)*

Note that **have** and **have not** are only used in the present simple. In the past tense, only **had** is used. **Had not** is not possible.

*I **had** a strange experience yesterday. (NOT I had got a strange experience yesterday.)*

Got forms of have are not normally used to indicate repetition and habit.

*I **have** a meeting on Monday. OR I **have got** a meeting on Monday.*

*I often **have** meetings on Mondays. (BUT NOT I often **have got** meetings on Mondays.)*

Exercise 62. Complete the following sentences with the correct form of verb *to have*.

1.This substance _____ many properties.

2. We _____ fully equipped laboratory.

3. I _____ terrible toothache. I need to see a dentist.

4. We _____ a big fridge to keep medicines there.

5. The medical students _____ five examinations this term.

6. Many students of our group _____ flu.

7. He _____ a great number of pharmacological books.

8. This aerosol dispensing device _____ many side effects.

9. A patient _____ an adverse reaction after drug administration.

10.They _____ unexpected results of experiment.

Exercise 63. Cross out the unnecessary words.

1. Dr. Boris always fills in the patients cards yet.

2. They have got shower after training every day.

3. They don't want to reduce expenses too.

4. Doctors often discuss the plan of treatment in severe cases of.

5. The register on duty writes out a referrals to the specialists if it is necessary.

6. There are many ambulances with full an equipment to render first aid.

7. The professional training involves practice in hospital wards at.
8. The compulsory professional course in pharmacy five years more.
9. There are more than seventy accredited off colleges of pharmacy in the USA.
10. She always has got her breakfast at 8 o'clock.

Exercise 64. Complete the following sentences using the Present Simple.

1. Doctor Brown usually _____.
2. Anton sometimes _____.
3. There are _____.
4. Medical and pharmaceutical students seldom have _____.
5. Doctors always _____.
6. The patients often _____.
7. Our university _____.
8. A nurse _____.
9. Each drug's store _____.
10. We _____every semester.
11. Medical staff usually have _____.
12. Human body has _____.

Exercise 65. Complete the following sentences using the Present Simple. Put six questions to the text.

Health Smart

The cold and flu season _____ ***(to be)*** back again, so it's time to brush up on prevention and treatment. Contrary to popular belief, cooler weather _____ ***(not/ to cause)*** colds. What is more likely is that we _____ ***(to stay)*** indoors more, giving viruses an opportunity to spread from person to person. In addition, the cold months associated with low humidity, and the dry air _____ ***(to make)*** the nasal cavity more susceptible to bugs. Consequently, cases of colds and flu _____ ***(to surge)*** between the beginning of autumn and spring the average adult _____ ***(to get)*** two to four respiratory infections a year; children even more). Because the season is upon us, it is a good idea to revise a few cold and flu tactics.

To prevent an infection, the best defense is a good offence. The first step is to limit physical contact with the cold sufferer. When someone with a cold _____, _____, _____ ***(to sneeze, to cough or to sniffle),*** keep your distance. Hugging, kissing and shaking hands _____ ***(to be)*** sure ways to catch a cold.

1) _____?
2) What _____?
3) When _____?
4) Who _____?
5) _____or_____ ?
6) _____, _____?

Exercise 66. Translate into English:

1.Ця медична стаття є пізнавальною та корисною.
2.Конгрес нейрохірургів розпочинається о 9 годині ранку в середу.

3. Багато людей похилого віку скаржаться на підвищений тиск в спеку.

4.Аналіз крові допомагає лікареві встановити діагноз пацієнта.

5.Наші лікарі зазвичай лікують більше ніж 200 пацієнтів одночасно.

6.Серце людини – життєво важливий орган. Воно складається з чотирьох камер.

7.Наші студенти фармацевти знають досконало фармакологію та токсикологію.

8. Медики та фармацевти намагаються запобігти епідемії грипу в нашому місті.

9.Пацієнти з опіками часто поступають у наше відділення.

10.Фізіотерапевти пропонують різні програми реабілітації хворим для полегшення їхніх станів.

11.В обласній лікарні працюють провідні лікарі.

12.Учасники контрольної групи тестування отримують ліки під наглядом лікарів.

13.Карпатські ліси багаті на лікарські рослини.

14.Ромашка лікарська позитивно впливає на травну та нервову систему.

15.Деякі ліки викликають залежність.

THE PRESENT PROGRESSIVE TENSE

Subject + Am / Is / Are + Verb(ing)

I am studying	***We are studying***
You are studying	***You are studying***
He (she, it) is studying	***They are studying***

+ He is studying. ? Is he studying? - He isn't (is not) studying.

THE PRESENT PROGRESSIVE TENSE is used:

1. For temporary situations.

She's staying at the hospital at the moment.

2. For actions happening at or around the time of speaking.

He is looking for a new job this week.

3. With *always* to express annoyance or criticism.

He' s always coming late! It's his weak point.

4. For fixed arrangements in the near future.

They are flying to Warsaw tomorrow to participate in the medical symposium.

(It is all arranged. They have already bought the tickets. The time of the action is always stated or understood.)

Time expressions used with Present Progressive*: now, at the moment, at present, always, tonight.*

Note 1! *The stative (non-action) verbs rarely appear in the progressive tenses. They describe a state or situation, not an action. That is why they are used only in the Present Simple.*

Remember the following verbs!

Appreciate, be, believe, belong, care, cost, contain, doubt, fear, feel, forget, hate, have *(in the meaning* ***to possess), hear, include, know, like, love, mean, need, own, prefer, realize, recognize, remember, see, seem, smell, sound, suppose, taste, think, understand, want, weigh.***

BUT: to see *(у значенні зустріти) I am seeing them on Sunday. – Я зустріну їх в неділю.*

To have (у значенні мати, володіти не вживається в Present Progressive) as in the example *She has two diplomas.*

In the expressions*: to have a bath (shower), to have a nap, to have fun, to have breakfast (lunch, dinner, supper, tea), to have a lesson –* **we use the Present Progressive.**

1) He is busy. He is having a shower. 2) We are having English lesson at the moment.

Note 2! With the verbs to see, to hear, to smell, to taste in the interrogative form we use the modal verb **can.**

Can you hear? Somebody is knocking at the door.

Can you smell the smoke?

Exercise 67. Read this letter. Underline the present progressive verbs that describe something happening right now. Circle the present progressive verbs that describe things that are happening these days (but not necessarily right now). Answer the questions below the box.

Dear Helen!

I'm working very hard these days, but I have some good news. Right now I'm having my first practical training at the department of Cardiology. I'm taking part in the doctors' daily round. It's very thrilling. I am wearing my new uniform and I hope, my look is perfect. Of course, I'm still taking the Psychology classes at night as well. Medicine and Psychology is very close and I need this knowledge. Many interesting things happen with me and my fellow students this week. I'm always making close of the day notes.

How are you doing? Are you still writing music? Oops! They are calling me, I must go! Write soon!

Your Ann

1) What news does Ann have?
2) What is she doing right now?
3) What is she wearing?
4) What classes is she having at night?

Exercise 68. Read Ann's e-mail and find examples of:

a) A fixed future arrangement;
b) an action happening around the time of speaking;
c) a timetable;

d) a permanent state;
e) a temporary situation;
f) a habit / routine;
g) an action happening now.

Dear Emily,

Thanks for your e-mail. It's always great to hear from you. As for me, I'm really busy. College life is very exciting, but there's so much to do. I get up at 8 o'clock on weekdays because lectures start at 9:30. I spend most of my afternoons in the library as I'm taking six different courses this term and there's lots of reading to do! At the weekend I do some part-time waitressing. So, as you can see, I'm working very hard these days. But it's not all work and no play. Tonight I'm having dinner with some classmates. I can't wait!

I'd better finish here because Sarah, my flat-mate, is calling me to come and help her. Come and visit me soon!

Ann

Exercise 69. Put the verbs in brackets into the present simple or the present progressive tense.

1. ***A:*** _____ (you /to do) anything interesting this weekend?
B: No, I _____ (to study) for my Anatomy exam.
2. ***A:*** Why _____(you /to be) in such a rush?
B: Because my train _____ (to leave) in ten minutes.
3. ***A:*** What _____ (James / to do)?
B: He _____ (to work) at the Natural History Museum in the city centre.
4. ***A:*** _____ (you / to like) your flat?
B: Not really. Actually, I _____ (to look) for a new one at the moment.
5. ***A:*** Nina _____ (to look) nervous.
B: She is. She _____(to see) the dentist this afternoon.
6. ***A:*** _____ (he /to want) to go to the theatre this evening?
B: He can't. He _____ (to have) an important business appointment.
7. ***A:*** Why _____ (Ann /not/ to come) to work these days? Is she ill?
B: No, she's on leave. She _____ (to get) married next week.
8. A: How much _____ (the brain / to weigh)?
B: About 2% of your total body weight, and it _____ (to use) 20 % of your body's energy.

Exercise 70. Complete the dialogue. Use the words under the lines, in the Present Simple or the Present Progressive. Complete the short answers.

The phone rings in the dentist's office.
Assistant: Dr Brown's office.
G: Hello. This is Gloria from the beauty salon next door.

(I / have / a toothache.) (I/ feel / awful / at the moment.) (What / the dentist / do / right now ?) (he / busy /?)

Assistant: Yes**,**

_____

(He / usually / have time / in the morning.) (He / often / take a break.) (But today / there / several patients / wait / in the waiting room.)

G: _____

*(*I / usually / visit the dentist / twice a year.)(But / I / need to see / Dr. Brown / now!)(My tooth / hurt.) (This / be / an emergency!)

Meanwhile, a secretary on the second floor is trying to call Gloria.

S: _____

(Why / her phone / always / busy?) (Gloria / talk on the phone/ all the time.)

Exercise 71. Put the verbs in brackets into the present simple or the present progressive tense.

1. You can't see Tom now: he (to have bath).
2. He usually (to drink) coffee but today he (to drink) tea.
3. - What you (to do) in the evening? - I (to play) volleyball with my fellow-students.
4. I won't go out now as it (to rain) and I (not/ to have) an umbrella.
5. The last train (to leave) Lviv station at 11 p. m.
6. He usually (to speak) so quickly that people (not/ to understand) him.
7. Hardly anyone (to wear) a hat nowadays.
8. We (to wear) the sunglasses today because the sun is very bright.
9. I'm busy at the moment. I (to introduce) our new partner.
10. Don't take his remarks too seriously. He's so upset that I (not/ to think) he really (to know) what he (to say).

Exercise 72. Imagine that some people you know have rather bad habits, which irritate you. Imagine that you are complaining of them. Add some sentences of your own.

1. Ann smokes in the room. – ***Ann is always smoking in the room.***
2. Alex borrows money and forgets to return them.
3. They leave their dirty cups in the basin.
4. She leaves the light switched on.
5. He usually messes everywhere.
6. Fiona often comes late.
7. Cecilia usually scribes her tests.
8. _____.
9. _____.
10. _____.

Exercise 73. Complete the following sentences using the Present Simple or Present Progressive:

1.Mr. Bredford _____now.

2. Douglas _____ at the moment.
3. Doctors _____ every morning.
4. Surgeon _____ now.
5. Look! They _____.
6. Scientists _____this year.
7. Students usually _____.
8. Jill _____ today.
9. Our graduates always _____.
10. Alexandra _____ every week.

Exercise 74. ***Put the verbs in the correct tense form. Put questions to the given sentences.***

1. Different kinds of medical plants _____ (grow) on the territory of Ukraine**.**
Where _____?
2. He _____(work) at the toxicology project this year.
What project _____?
3. The root _____(have) two main functions.
What _____?
4. Fibrous root systems _____(be) for absorption of water and minerals.
What for _____?
5. Antibiotics _____(kill) some of the simple organisms.
_____, _____?
6. Antibiotics _____ (destroy) harmless organisms.
_____ or _____?
7. My mum _____ (take) antibiotics these days.
Who _____?
8. Pharmacist _____ (explain) interaction of the medicine to the patient at the moment.
What _____?
Who _____?
9. There _____(be) many people who recover after poisoning.
_____?
10. They _____ (produce) new drugs in the laboratories of pharmaceutical plants.
Who _____?
Where _____?

Exercise 75. Describe the picture below. Write down 5-6 sentences using the Present Progressive Tense.

1) _____.
2) _____.
3) _____.
4) _____.
5)_____.
6)_____.

Exercise 76. Translate into English:

1. Марк перекладає інструкцію до ліків зараз.
2. Студенти досліджують хімічні властивості деяких речовин в лабораторії в даний момент.
3. В ці дні студенти старших курсів проходять екстенсивну практику під керівництвом досвідчених лікарів.
4. Молоді науковці у галузі медицини прийматимуть участь у конференції у наступну п’ятницю.
5. Він завжди марнує свій час, тому має низькі успіхи у навчанні.
6. Пацієнт нашого відділення має ускладнення після ковіду. Його стан погіршується сьогодні.
7. Марк перекладає інструкцію по використанню нового обладнання цього тижня. Він завжди робить переклади для нашого діагностичного центру.
8. - Де Лілія?
   - Вона в першій палаті ставить крапельницю хворому.
9. Я зараз зайнятий. Я описую результати нашого останнього експерименту.
10. Роберт зараз в операційній. Він оперує жовчний міхур.

THE PAST SIMPLE TENSE

V + ed (або форма неправильного дієслова)

We finished our task in time.
Doctor examined the patient some minutes ago.
Bob was a diligent student.

Verb <u>to be</u> in the Past Simple

I was	We were
You were	You were
He (she, it) was	They were

+	?	–
1.She was a pharmacist.	Was she a pharmacist?	She was not (wasn't) a pharmacist.
2. He passed his exam well.	Did he pass his exam well?	He did not (didn't) pass his exam well.
3.They went abroad.	Did they go abroad?	They did not (didn't) go abroad.

THE PAST SIMPLE TENSE is used:

1) for actions which happened at a stated time in the past.

They conducted the experiment yesterday.

2) To express a past state or habit.

When Alan was a student he lived in a small room.

3) For past actions which happened one after the other.

Helen put on her coat, took her bag and left the room.

Time adverbs and expressions used with Past Simple:

Yesterday, last year/ month/ week/ Monday, …ago, in 2020, then, when.

We visited Warsaw last spring.

They finished school two years ago.

Exercise 77. Complete the tables below and make up sentences of your own with italicized verbs:

Present	***Past***	***Present***	***Past***
1.Hear		11..	**Wrote**
2.	Shut	12.	Brought
3. Dig		13. Put	
4.	Stole	14. Ring	
5. Swim		15. Go	
6. Fly		16. Break	
7.	**Left**	17. Take	
8. **See**		18.	**Woke**
9. Run		19.	Slept
10.	**Came**	20.Dive	

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6.

Exercise 78. Choose the correct form of the verb.

1. The sky _____ clear yesterday. (were, was)
2. Students _____ their first credit last Friday. ***(pass, passed)***
3. We _____ the chemical properties of the compound last lesson. ***(learning, learnt)***

4. He _____ the job, so he felt depressed. ***(loosed, lost)***

5. She _____ the exam, so she didn't enter the university. ***(didn't passed, didn't pass)***

6. The doctor _____ aspirin to relieve the pain. ***(prescribes, prescribed)***

7. _____ you _____ the lecture yesterday? ***(did / attended; did /attend)***

8. The nurse _____ the wound before the operation. ***(cleand, cleaned)***

9. I looked for my dictionary but I _____ it. ***(didn't found; didn't find)***

10. People _____ how to treat many diseases fifty years ago. ***(didn't known; didn't know)***

Exercise 79. First, put the verbs in brackets in the Past Simple, than match the beginning of the sentences with their endings.

1.Nick _____(to work) long hours, so	*a) she _____(to catch) cold.*
2. I _____(not/ feel) well, so	*b) _____(to recover) soon.*
3. I_____ (to begin) to take a good care of myself so	*c) he _____ (to look) tired.*
4. She _____(to stay) at home because	*d) they _____(to take) a taxi.*
5.Anton and Nelly _____(to miss) their last train so	*e) he _____(not/ to find) the necessary word.*
6. Students _____(to conduct) the experiment and	*f) I _____(to make) an appointment with my doctor.*
7.He _____(to consult) the dictionary but	*g) we _____(to get) much useful information.*
8.Our monitor _____(to prepare) good report so	*h) they _____ (to reveal) some properties of the medicine.*

Exercise 80. Read about Japanese poet Matsuo Basho and use verbs in the correct tense form. Put six questions to the text.

Matsuo Basho (to write) more than 1,000 three-line poems, or "haiku". He (to choose) topics from nature, daily life, and human emotions. He (to become) one of Japan's most famous poets, and his work (to establish) haiku as an important art form. Matsuo Basho was born near Kyoto in 1644. His father (to want) him to become a samurai (warrior). Instead, Matsuo (to move) to Edo (present-day Tokyo) and (to study) poetry. By 1681 he (to have) many students and admirers. Basho's home (to burn) down in 1682. Then, in 1683, his mother (to die). After these events, Basho (to feel) restless. Starting in 1684, he (to travel) on foot and on horseback all over Japan. Sometimes his friends (to join) him, and they (to write) poetry together. Travel (to be) difficult in the seventeenth century, and Basho often (to get) sick. He (to die) in 1694, during a journey to Osaka. At that time he (to have) 2,000 students.

1. Who _____?
2. Did _____?
3. When _____?
4. _____ or_____?
5. How many _____?
6. _____, _____?

Exercise 81. Use the Past Simple in the following sentences:

1. The Cardiology department (to get) _____ modern equipment yesterday.
2. A: _____Dr. Helen (to drive) _____ to work? B: Yes, she _____. She (to come) some minutes ago.
3. They (to buy) _____ all medicines on the doctor's prescription some minutes ago.
4. They (to go) _____ to Italy to participate in the seminar on Pharmacology last month.
5. A: _____ they (to swim) _____ at the beach? B: No, they _____. The weather (to be) cold and windy that day.
6. My family and I (to see) _____ a comedy movie last night.
7. First, we (to do) _____ exercise, and then we (to drink) _____ some water.
8. Suddenly, the animal jumped and (to bite) _____ my hand then I (to go) to the First Aid Station.
9. What time _____ (you / to make) an appointment with a doctor last time?
10. The Wright brothers (to fly) _____ the first airplane in 1903.
11. I think I (to hear) _____ a strange sound outside the door one minute ago.
12. When I was ten years old, I (to break) _____ my arm. It really (to hurt) _____.
13. The police (to catch) _____ all three of the bank robbers last week.
14. How many days _____ (he / to spend) in intensive care when he _____(to suffer) from heart failure?
15. Unfortunately, I (to forget) _____ to take my prescription with me last morning so I (to return) home.

USED TO

Used to is used to talk about past habits. It has the same form in all persons, singular and plural. It forms its negative and interrogative form with **DID.**

He used to eat a lot of sweets when he was a child.
I didn't use to play computer games.
Did you use to play computer games?

Exercise 82. Make an affirmative sentence, negative sentence or question using *'used to'*.

1. I / play / volleyball in the local team when I was a student.

_____

2. We / go / to the beach every summer when we were in Greece?

_____

3. She / love / eating chocolate, but now she hates it.

_____

4. He / smoke / 10 cigarettes a day when he was young.

_____

5. I / play / tennis when I was at school.

_____

6. She / speak /French fluently, but she has forgotten it all.

_____

7. He / play /golf every weekend?

_____

8. They / spend / much time with their fellow students last summer holidays.

_____

9. Julie / study /Portuguese when she lived abroad.

_____

10. I / not / hate / my study at school.

_____

Exercise 83. Write down the following sentences according to the model.

Model. *Not so much as I _____. (send)*

Not so much as I used to send.

1. They _____ shocking things about you. (say)

2.Such things _____ in this old-fashioned place as running about the streets picking up items from people and asking personal questions for the paper to exploit the replies. (not/occur)

3. I remember how I _____ popular detective stories. (read)

4. At these Councils we meet in common morning dress, which we _____. (not/do)

5. His heart _____ at the imagination. (burn)

6. I _____much of the story of the Good Samaritan, but I believe in it now. (not/think)

7. I _____ by the open window so I often had quinsy. (stand)

8. She _____ in the glass factory to earn her life in her young years. (work)

9. I _____ about it very much, but I suppose I'm growing old now, and living surrounded by the law, as it were, I am too law-abiding. (not/worry)

10.I _____ people like that when I taught school. (see)

11.I _____ her when she was a girl. (know)

12.Children _____ their elders like they do now. (not/sass)

13.Little Susie _____ when mother took us in there because mother thought she was too young. (not/pray)

Exercise 84. Complete the dialogue with *used to* or *didn't use to*.

Mrs Mills: Do you want a cup of tea, Jenny?

Alice: No thanks, mum. Have you got any coffee instead?

Mrs Mills: But you _____ like coffee. I remember you _____ drink green tea in the morning.

Alice: Yes, but I like it now. Could you put some sugar in it?

Mrs Mills: You _____ take sugar. You _____ say it would make you put on weight. Do you want some cornflakes?

Alice: Haven't you got any cakes or biscuits? I _____ like cornflakes but I don't now.

Mrs Mills: You _____ be so fussy before you went to Paris.

Exercise 85. Use the proper tense forms according to the adverbial modifier of time.

1. Ancient Egyptians (to record) their knowledge about medicine in various papyri.
2. The goals of medicine (to be) to save lives and to relieve suffering.
3. Many prominent scientists of Ukraine (to work) at the Pharmaceutical and Medical faculties nowadays.
4. When (you / to go) abroad? I know that it was the business trip.
5. I (to fly) over the Black sea two years ago.
6. - (You /to see) the Moon last night? - It (to be) unusual.
7. The lecturers (to arrive) yesterday and (to deliver) three educational lectures to the students.
8. They (to have) a period of internship at the regional hospital some years ago.
9. (You / to hear) the speech of our President on TV last night?
10. - How (you / to get) that scar? - I (to get) it in a car accident in 2021.
11. - (You / to meet) my brother at the university conference yesterday? - Yes, I … we (to have) coffee together afterwards.
12. Alex (to phone) Alice twice yesterday and (to be) surprised because nobody (to answer).
13. Our government (to shut) many gambling clubs in our city country some years ago.
14. I can't afford to buy this book today, it's a pity, but I (to spend) much money the day before yesterday.
15. At the end of that term attendance at these classes remarkably (to fall down).

Exercise 86. Change the verbs in brackets into the past tense. Some are regular and some are irregular.

Yesterday 1) _____ (to be) a busy day. I 2)_____ (to wake) up at 6 am, 3)_____(to have) breakfast quickly and then I 4)_____(to go) to work. I 5)_____(to finish) at noon and then 6)_____(to eat) some lunch. Afterwards I 7)_____(to drive) to the shops, 8)_____ (to buy)some paint and then 9) _____(to paint) my bedroom. My housemate 10)_____(to come) home from work so I 11)_____(to help) him paint his room, then we 11)_____ (to repair) his chair as it 12) _____(to wobble) a lot. I 13)_____(to wish) I hadn't, as I hurt my hand! After that I 14)_____(to clean) my house. I 15)_____ (to vacuum) all the downstairs and then 16)_____(to tidy) up the living room and the kitchen. I was pretty tired by then so I 17)_____(to eat)

some dinner, 18)_____(to yawn), and 19)_____(to go) to bed and soon I 20)_____(to fall) asleep!

Exercise 87. Read the joke. Use the proper tense form instead of infinitives in brackets and put six questions of different types.

THE DOCTOR'S RECOMMENDATION

Once an old gentleman _____ (to come) to see the doctor. The man 1)_____ (to be) very ill. The doctor 2)_____ (to look) at him and said, "No medicine can help you. If you 3)_____ (to want) to be well again, you must have a good rest. Go to a quiet place for a month, go to bed early, eat more roast beef, drink lots of milk but don't smoke more than one cigarette a day."

A month later the gentleman 4)_____ (to come) into the doctor's office. He 5)_____ (to be) a different man.

"Oh, doctor!"- he 6)_____ (to say). "Thank you very much. Everything 7)_____ (to be) fine and I 8)_____ (to be) well again. But, doctor, It's not easy to begin smoking at my age."

What do you think of such type of patient?

1) Who _____?
2) What _____?
3) _____?
4) When _____?
5) _____, _____?
6) _____or_____?

Exercise 88. Translate the following questions:

1. Вступна лекція з патології була дуже цікавою.
2. Студенти склали першу свою сесію успішною
3. Всі життєві показники пацієнта були в нормі і лікар виписав його з лікарні.
4. Стан хворого погіршився два дні тому.
5. Фізіотерапевт запропонував мені певний курс лікування на відновлення рухомості суглобів.
6. Пацієнт поскаржився на безсоння і його сімейний лікар приписав йому заспокійливі ліки приймати за 1 годину до сну.
7. Вона відчувала нудоту під час подорожі в горах.
8. Лікар діагностував у хворого скарлатину.
9. Медсестра уважно прочитала всі призначення лікаря та зробила хворому укол.
10. Хворий отримав повний курс лікування і лікар виписав його з лікарні.

Exercise 89. <u>The Twenty Questions Game.</u> One player chooses a famous person in the field of Chemistry, Medicine or Pharmacology. The others try to guess who he/ she was by asking the first player questions. If they fail to guess correctly, the first player gives them hints.

Play this game asking: - only general questions;
- all types of questions.

PAST CONTINUOUS

Утворення	Заперечна ма	Питальна ма	Слова-маркери
be+V_{ing} **Was (were)+V_{ing}**	**S wasn't V_{ing}** **S (weren't) V_{ing}**	**Was S V_{ing} ?** **Were S. V_{ing}?**	***yesterday at 6 ock*** ***while*** ***all night/morning*** ***when she phoned*** ***all day yesterday as***

We use **the past continuous** for:

- an action which was in progress when another action interrupted it. We use the past continuous for the action in progress (the longer action), and the past simple for the action which interrupted it (shorter action). *While our teacher **was giving** us our homework, the bell **rang**.*
- two or more simultaneous actions in the past. *John **was playing** the keyboard while Jenny **was walking** the dog.*
- an action which was in progress at a stated time in the past. We don't mention when the action started or finished. *I **was watching** my favourite TV programme at 9:00 last night.*
- to describe the atmosphere, setting, etc and to give background information to a story. *The wind **was blowing** and it **was** still **raining** when I woke up that morning.*

Note: When there are two past continuous forms in a sentence with the same subject, we can avoid repetition by just using the present participle (-ing form) and leaving out the subject as well as the verb to be. *He was singing while he was having a shower. = He was singing while having a shower.*

Exercise 90. Make the Past Continuous (choose positive, negative or question):

1. (they / take the exam?) _____
2. (when / he / work there?) _____
3. (you / make dinner?) _____
4. (they / drink coffee when you arrived?) _____
5. (when / we / sleep?) _____
6. (they / study last night.) _____
7. (we / talk when the accident happened.) _____
8. (he / not / exercise enough.) _____
9. (He / run high temperature.) _____
10. (Doctor Brown / examine the victim carefully.) _____

Exercise 91. Complete the sentences with the Past Continuous form.

1. I _____ (run) when you saw me because I was late.
2. They _____ (wait) for a bus when the car crashed.
3. Gabi and Laura _____ (consult) the cardiologist at 4pm yesterday.
4. Tomek _____ (wait) for his X-ray result when his phone range loudly.
5. What _____ Carol and Jack _____ (do) the Dean entered the classroom?

6. Doctor Paul _____ (explain) treatment options to the patient when somebody knocked the door.

7. Pedro and Tomek _____ (not / laugh) when Ben fell in the river.

8. We _____ (go) to the mall last night at 8 o'clock.

9. She _____ (talk) to the police officer last week when I met her.

10. Helen _____ (fill) the patient's prescription when we entered the pharmacy.

Exercise 92. Put the verbs in the brackets into the Past Simple or Continuous.

1. George ___ off the ladder while he ____ the ceiling. (fall, paint)
2. Last night I _____ in bed when I suddenly _____ a scream. (read, hear)
3. _____ TV when I __ you? (you watch, phone)
4. Ann _____ for me when I _____ from polyclinic. (wait, arrive)
5. Maisie ___ up the kitchen when John ___ her to marry him. (clean, ask)
6. That cosmetic surgery _____ great money in 2003. (cost)
7. The fire _____ at six in the morning and many firemen _____ there. (still burn, work)
8. My brother _____ a position of therapist in the local hospital a week ago. (get)
9. Fleming ____ antibiotics in 1929. (discover)
10. She _____ not interested in analytical chemistry because she _____ it. (be, not understand)

THE PRESENT PERFECT TENSE

Have / has + Past Participle (III форма дієслова або V+ed)

The doctor has examined the patient carefully.

I have done	*We have done*
You have done	*You have done*
He (she / it)has done	*They have done*

+We have just arrived

? Have they just arrived? **- They haven't just arrived**

THE PRESENT PERFECT TENSE is used to express:

1) Recently completed actions

*He **has finished** cleaning the room. (You can see it is clean now. – evidence in the present)*

2) Actions which happened at an unstated past time and are connected with the present

*She **has lost** her mobile phone. (She is still looking for it)*

3) Personal experiences / changes which have happened

***I've lost** five kilos of my weight.*

4) Emphasis on number or results

*The register **has written seven** referrals to the dermatologist.*

*GP **has visited ten** patients.*

Time expressions which follow this tense: *yet, already, today, this year (week, month), lately, recently, just, so far, since, ever, never, how long, still* ***(in negative sentences),*** *for.*

Note! The Present Perfect cannot be used for something that happened at a specific time in the past. That is why it cannot be used with the words or phrases of past time, which say (or ask) when something happened. After **WHEN** we always use **the Past Simple**.

Exercise 93. Change the following sentences according to the model.

Model: *I met Ann in the morning. I met her again at 9 o'clock****.(today)***

– I have met Ann twice today.

1. Peter met Helen on Monday.

Peter met Helen again on Friday. (this week)

2. They took blood test two weeks ago.

They took blood test last Tuesday. (this month)

3. They organized conference for doctors and pharmacists in April.

They organized conference for doctors and pharmacists in September. (this year)

4. Ann drank two cups of tea in the morning.

Ann drank another cup of tea in the afternoon. (today)

5. Medical students wrote a test at the first lesson.

Medical students wrote a test at the last lesson. (today)

6. Carol went to Poland last Sunday.

Carol went to Poland five months ago. (this year)

7. We went to the theatre yesterday.

We went to the theatre three weeks ago. (this month)

Exercise 94. Use the Present Perfect in the following sentences. Make these sentences negative and interrogative.

1. Alex _____ (to give up) smoking this month because of bad cough.

_____.

_____?

2. Jane _____(just / to break) her leg, it is in the plaster now.
3. They _____ (to sign) a significant document today.
4. Lilly _____(already / to pass) three exams with excellent results.
5. The Doctor _____(just / to make) a prescription.
6. They _____ (to conduct) seven experiments lately.
7. Jim _____(to loose) his documents today.
8. Mary _____(to consult) her ophthalmologist t twice this month, her sight is poor.
9. He _____(to miss) five classes this week.
10. The scientist _____(to publish) five articles this year in the foreign scientific journal.

Exercise 95. Use the Past Simple or the Present Perfect in the following sentences:

1. John _____ (to write) his scientific report last night.

2. I _____ (never / to be) in the operation theatre during surgery.
3. The train _____ (to arrive) yet.
4. Sarah _____(just / to phone) me to say the news.
5. Polly _____ (to achieve) good results this year.
6. Mr. Williams _____(to injure) his left leg in the accident two days ago.
7. Jeremy _____ (to complete) his experimental work yesterday.
8. George _____ (to create) three symphonies this year.
9. The students _____(to pass) the exams last December.
10. We _____ (seldom / to see) them lately.
11. Some students _____ (already /to complete) the first part of their course paper.
12. I _____ (just / to hear) that Peter is in the USA.
13. David Coleman _____ (just / to clean up) after the dissection.
14. It was a gloomy morning. Kent O'Donnell _____ (to get up) courteously from his office desk as the young pathologist and _____ (to enter) the room.
15. I am fully recovered. This medicine _____ (to work) wonders.

Exercise 96. Fill in in these words where necessary: lately, recently, already, just, yet, today. Some of them may be used more than once.

1. They have _____ chosen the answer.
2. The students haven't used their credits _____ .
3. They have taken the vital signs twice _____ .
4. A doctor has _____ made you diagnosis.
5. The patients have seen the doctor _____.
6. GP has written the prescription _____.
7. The doctors haven't made their daily round _____.
8. A doctor has discharged many patients from the hospital _____.
9. The cough has become worse _____.
10. Dr Jones is tired. He has performed such a difficult operation _____.

Exercise 97. Students of Volyn National University are planning the Science Day among students. In pairs ask and answer the questions. Use the MODEL.

Things to be done

- Invite students from other universities to take part +
- Organize participants into groups (sectors) -
- Advertise the event on-line +
- Prepare *the welcoming speech* -
- Prepare the general program of the event with the latest corrections +
- Prepare the agenda of the workshops -
- Prepare the reports -
- Prepare all necessary equipment +
- Make leaflets and posters -

MODEL

Student 1: *Have you invited other students to take part in the Science Day?*

Student 2: *Yes, We have already done it. We invited students from 10 universities of Ukraine some days ago.*

Exercise 98. Put the verbs in brackets into the correct tense: the Present Perfect or the Past Simple.

1. ***Ann:*** Hello, Jack! I _____(not / to see) you for ages! Where you _____ (to be)?

Jack: I _____(to be) in Dresden. I _____ (to mean) to send you a letter and some postcards but I _____ (not / to have) your address with me.

Ann: Never mind. You _____ (to have) a good time in Switzerland? How long you _____ (to be) there?

Jack: I _____ (to be) there for a month. I _____ (to have) my practical training in the private clinic. I Only just _____ (to come) back. My trip _____ (to be) very useful for me I _____(to get) great experience there.

2. **Nick:** You _____ (just / to agree) to go, so why aren't you getting ready?

Andrew: But I _____(not / to realize) that you (to want) me to start at once!

3. - I just_____ (to have) my first driving lesson.
- How it (to go)? You (to enjoy) it?
- Well, I actually (not / to hit) anything but I (to make) every other possible mistake.

4. My parents (to buy) a new house last year, but they (not / to sell) our old house yet, so at the moment we have two houses.

5.Ann (to go) to Canada six months ago. She (to work) in Canada for a while and then (to go) to the United States.

9. - Mary _____(to be) in Japan for two years. She is practicing the alternative medicine there.
- How she _____(to go) there?
- Due to the International project.

10. When Paul _____(to come) into the room, Ann was sitting in an armchair just behind the door. Paul, not noticing Ann, _____(to go) to the window and _____ (to look) out. Ann _____ (to cough) and Paul _____ (to spin) round. " Hello, Ann!" he _____ _____(to claim), "I _____ (not / to see) you !"

11. – You _____(to see) Philip lately? I (to ring) his flat several times last week but _____ (to get) no answer.
- Oh, he _____ (to be) in America for the last month. He _____(to fly) out on the first for a seminar and then (to decide0 to stay for six weeks.

12. - You ever _____(to be) to France?
- Yes, I (to spend) last July and August in Grenoble. I _____ (to go) to improve my French but everyone I _____(to meet) _____(to want) to improve his English so I _____ (not / to get) much practice.

13. A woman _____(to come) in with a baby, who just _____ (to swallow) a safety pin.

Exercise 99. Put the sentences into all the other tenses (Past Simple; Present, Past Progressive and the Present Perfect) and mind the time expressions.

1. He takes medicine three times a day.
2. She studies tumors.
3. The pharmacists always dispense drugs on prescription.
4. She suffers from angina pectoris.
5. They wear medical uniform every day.

Exercise 100. Tell your fellow-students what you have ever done /never have done / have already done / just have done / lately, recently have done. Try to use your active vocabulary.

1) **_____.**
2) **_____.**
3) **_____.**
4) **_____.**
5) **_____.**

Exercise 101. Translate into English:

1. Я щойно записалась на прийом до стоматолога.
2. Пацієнт має вже другий серцевий напад сьогодні.
3. Лікар не заповнив історію хвороби ще.
4. Студенти старших курсів мали практику у муніципальній аптеці минулого року.
5. Вчені зробили вагомі відкриття у галузі медицини останнім часом.
6. В давні часи люди знали багато рослин з лікувальними властивостями.
7. Розробники використовують отруйні гриби для виготовлення сильнодіючих препаратів, зокрема при лікуванні онкології.
8. Фізіотерапевти розробили спеціальні курси лікувальної фізкультури для різних категорій пацієнтів в цьому році.
9. Вона не зверталась до свого сімейного лікаря протягом тривалого часу.
10. Розвиток суспільства вплинув на розвиток методів діагностики та лікування.

THE PRESENT PERFECT PROGRESSIVE

Have (has) + been +V ing

e.g. I have been travelling for five days.

+ It has been raining for two days.
- It has not (hasn't) been raining for two days.
? *Has it been raining for two days?*

TIME EXPRESSIONS:

for, how long, recently, lately, since.

THE PRESENT PERFECT PROGRESSIVE is used to express:

1) Actions started in the past and continuing up to the present

He has been working in the lab for three hours.

2) Past actions of certain duration having visible results or effects in the present.

A child has been crying. (Her eyes are red.)

3) Emphasis on duration (usually with for, since or how long)

They have been compounding medicine since the morning.

4) Actions expressing anger, irritation, annoyance, explanation or criticism.

Who has been using my hairbrush? ***(annoyance)***

Note!

Live, feel and work can be used either in the Present Perfect or the Present Perfect Progressive.

I've been living in Lutsk for twenty years.

I've lived in Lutsk for twenty years.

Exercise 102. Match the sentences with the meaning of the tense used in each of them.

1. He takes medicine every day.	*a. emphasis om duration*
2. Milk contains a lot of vitamins.	*b. temporary situation*
3. He is getting stronger.	*c. repeated action expressing annoyance*
4. She has just passed her exams.	*d. emphasis on number*
5. Doctor is examining a patient at the moment.	*e. habitual action*
6. He has been working all day.	*f. recently completed action*
7. She has phoned her manager three times this morning.	*g. permanent truth*
8. He is always borrowing money from me.	*h. changing or developing situation*
9. She has been walking all morning. (Her feet are aching.)	*i. fixed arrangement in the near future*
10. They are getting married next week. (They've already sent the invitations.)	*j. past action of certain duration having visible results in the present*

Exercise 103. Use the Present Simple, Present Progressive, Present Perfect or Present Perfect Progressive.

Tom : 1)_____ (you / to see) the state of this kitchen? Someone 2)_____ (to wash) clothes in the sink and they're still there!

Fred: Yes, I know. I usually 3) _____ (to use) the bath, but it 4) _____ (to be) too dirty at the moment.

Tom: Why didn't you clean it? You 5) _____ (to live) here for two months now, and I

6)_____ (never / to see) you do any housework.

Fred: What do you mean? I 7)_____ (to wash) the dishes at least three times and I always 8)_____ (to make) my bed.

Tom: Rubbish! You 9)_____ (always / to make) a mess and not cleaning up afterwards.

Fred: What about you? You 10) _____ (always / to drink) my milk!

Tom: Don't be ridiculous! Where 11) _____ (you / to go)?

Fred: Out! I 12) _____ (to see) my girlfriend this evening.

Tom: What about the kitchen?

Fred: Bye!

Exercise 104. Put the verbs in brackets into the correct form.

1. We 1_____ (to investigate) the problem since November.
2. Larry _____ (to conduct) the experiments for a year.
3. How long _____ (you / to study) Chemistry?
4. They _____ (to translate) the pharmacological documents for a month.
5. Why _____ (you / to follow) me for an hour? I'll call the police.
6. Carol _____ (not / work) here since December.
7. Naomi _____ (to sit) there for two hours waiting for her doctor.
8. How long _____ (Patrick / to work) for famous pharmacological company abroad?
9. They _____ (to argue) since morning.
10. Alan's leg aches. He _____ (to walk) all day.
11. You _____ (to chat) on the phone for an hour. It's time to stop.
12. The telephone _____ (to ring) for twenty minutes. Can anybody answer it?

Exercise 105. Fill in the correct form of the present perfect tense.

1. I'm so tired because I _____ (to work) so hard lately.
2. The new midfielder _____ (to score) 5 goals so far this season, and we're only halfway through it.
3. There's no apple juice left in the fridge. I _____ (to drink) both bottles.
4. Jenifer is getting fatter and fatter all the time. She _____ (probably / to eat) too much.
5. I _____ (just / to buy) a new pair of shoes. How do you like them?
6. _____ (you / to finish) reading the newspaper? Could you give it to me then?
7. I'm writing a new scientific article at the moment. So far, I _____ (only / to write) the introduction.
8. Look at how she's sweating. She _____ (probably /to run) for hours.
9. How long _____ (you / to learn) Latin?
10. I am not surprised your eyes are hurting. You _____ (work) on computer ever since you got up.

11. We _____ (to study) Anatomy for 2 years.

12. Where is my new watch? I _____ (to look; not /to find) for it for hours and _____ it yet.

13. There's nothing on your exam paper. You started an hour ago. What ____ (you /to do) up to now?

14. I _____ (to find) a new job and I can start next Wednesday.

15. I _____ (not /to see) Patricia since we were in kindergarten together. What _____ (she / to do) all these years?

16. I _____ (to change) all my passwords recently, but I forgot to write them down.

Exercise 106. Put the verbs in brackets into the correct form.

1. _____ (you / to buy) your train ticket yet?

2. You _____ (not / to eat) enough lately. How long _____ (you / to keep) to a diet?

3. Julie _____ (to learn) to drive for six years!

4. Amanda _____ (to have) lunch for an hour, so we are sick and tired waiting for her.

5. How much coffee _____ (she / to drink) this morning?

6. Simon _____ (to write) three articles about influence of homeopathy on the human body recently. He _____ (to research) this problem for two years.

7. I _____ (to do) everything I needed to do today!

8. It _____ (not / to rain) all summer, so the garden is dead.

9. I _____ (to read) your book. I _____ (to find) much useful information.

10. She _____ (to forget) how to get to my house.

11. I _____ (to work) in the lab compounding ointments for soldiers all day and I need a rest.

12. She _____ (to make) two reports this term. She is a hard-working student!

13. David feels great these days. He _____ (to get) up early lately.

14. We _____ (always /to hate) rush hour traffic.

15. Recently, I _____ (to study) a lot. My exams are in a few weeks.

16. We _____ (to write) this book for months and months.

17. I _____ (always / to love) chocolate.

18. I _____ (to want) to go back to university for a long time.

19. What's that delicious smell? _____ (you / to cook)?

20. I _____ (to watch) seven films this week!

Exercise 107. Fill in: *yet, already, since, for, usually, tonight, how long, ever, at the moment or still.*

1. I don’t think Frank has _____ been to a live concert. Why don’t we take him to one for his birthday?

2. I haven’t seen Louise _____ Jeff’s wedding. I wonder what’s happened to her.

3. I don't know _____ Jack's been working on that project, but it seems like weeks.

4. Mr. Alex hasn't rung me back about the contract _____ .

5. We're meeting some friends for a meal _____. Would you like to come along?

6. Pam has _____ finished her test and I've only done half of mine.

7. Patrick gets to school at eight o'clock sharp, but it's half past and he hasn't arrived yet.

8. Is Jill _____ going out with Mark, or have they split up?

9. I'm trying to finish cleaning up _____ . Can you ring back later?

10. My neighbor has lived in that house _____ nearly 60 years.

Exercise 108. Put the verbs in brackets into the correct present forms. Put five questions to the text.

Dear Sir /Madam!

I 1) _____ (to write) on behalf of Midfield School. Every year, our students 2) _____ (to choose) a project on an environmental problem. Then, they 3)_____ (to work) to raise money to help solve this problem. We 4) _____ (recently / to see) your advertisements about protecting dolphins, so, for the last few weeks, we 5) _____ (to try) to learn about the dolphins that 6) ____ (to live) in the sea near here. We 7) _____ (already / to be) on two boat trips and 8)_____ (to persuade) local fishermen to change their fishing nets because the ones they 9)_____ (to use) at the moment can trap dolphins. Could you please send the children some World Wildlife Fund poster to add to the work that they 10) _____ (to do) so far?

Yours faithfully, Hopkins (Teacher)

1)Who _____?

2)What _____?

3)Why _____?

4)_____ or _____?

5)_____,_____?

Exercise 109. Complete the following sentences paying your attention to the adverbial modifier of time :

1. Pharmacologists _____. (for many years)
2. A nurse _____. (since the morning)
3. A patient _____. (for fortnight)
4. They _____ (some years ago)
5. The doctors _____. (at the moment)
6. A neurologist _____. (usually)
7. Dermatologist _____. (just)
8. Pharmacists _____ (always)
9. Patients _____. (every morning)
10. Number of covid infections _____. (nowadays)

Exercise 110. Translate into English:

1. Дослідження виявило негативний вплив ліків з цією діючою речовиною на травну систему людини.
2. Багато людей страждають від зловживання ліками останнім часом.
3. Над яким проектом ви працюєте з часу останньої нашої зустрічі?
4. Лікар вже прооперував трьох людей сьогодні.
5. Фізіотерапевти працюють над реабілітацією важкопоранених бійців протягом останнього року.
6. Скільки проти ковідних вакцин розробили фармацевтичні компанії за останніх три роки?
7. Які побічні ефекти викликають ці ліки?
8. Лікар Сміт щойно повернувся з щорічної медидичної конференції у Празі.
9. Інфікована людина може передати вірус великій кількості людей за короткий проміжок часу.
10. Коли вчені виявили перші випадки ВІЛ інфекції?

THE PAST PERFECT TENSE

had +past participle of the notional verb (III форма дієслова)

Eg. The students had completed the test by 2 o'clock.
The students had completed the test before the bell rang.

+ The seminar had already started by the time he arrived.

-The seminar hadn't (had not) already started by the time he arrived.

? Had the seminar already started by the time he arrived?

THE PAST PERFECT TENSE is used to express:

1) an action, which happened before another past action, or before a stated time in the past;

They had left by the time we got there.
She had arrived by 7 p. m.

2) a completed past action, which had visible results in the past;

She was upset because she had failed her last exam.
A child had cried, his eyes were red.

3) The Past Perfect is the past equivalent of the Present Perfect;

He can't find his key. He has lost it. (actions refer to the present)
He couldn't find his key. He had lost it. (actions refer to the past)

Time expressions: after, before, by, by the time, just, already, never.

Exercise 111. Change the following sentences according to the model.
Model: *The train came at 8. We left at 8.30. –* ***The train had come before we left.***

1. The students wrote the task. Then the dean came.
2. A doctor examined the patient. Then he made a diagnose.
3. A nurse took the vital signs of the patient. Then the doctor came.
4. She made an appointment with a doctor. Then she felt chest discomfort.
5. Cardiologist listened to the patient symptoms. Then he examined the patient carefully.
6. An allergist inspected the person. Then doctor asked her some important questions.
7. Pharmacist took the prescription. Then the pharmacist compounded some lotion for patient.
8. A gastroenterologist palpated the patient's abdomen. Then filled in the patient's card.
9. Doctors made the daily ward round. Then they prescribed some new procedures to the patients.
10. Mark graduated from the university. Then he started to work for famous international pharmaceutical company.

Exercise 112. Put the sentences into the Past Perfect and mind the time expressions.

1. A pharmacist paid her attention to the expiration date.
2. Physiotherapist prescribed the patient the manual therapy to relieve the pain.
3. The nurse wrote out referrals to the dermatologist and the allergist.
4. They conducted pharmaceutical research in pharmacy laboratory.
5. They raised some herbs with healing properties indoor.
6. A stress test showed how the heart performance under stress or work.
7. A child coughed badly.
8. The girl in blue jeans had some bruises on her face.
9. A man spent some days in the hospital.
10. A doctor prescribe a patient some antiviral drugs.

Exercise 113. Make up sentences using verbs in the Past Perfect Tense.

1. I couldn't take the flask because I _____(to break) it.
2. The laboratory was full of smell. What _____ (to happen)?
3. The apparatus wasn't working because the technician _____ (to spill) water on it.
4. She didn't conduct the experiment because she _____ (not /to have) all necessary reagents.
5. They couldn't publish their report. They _____ (not /to complete) their investigation.

6. Nobody understood how she _____ (to get) her high position in the pharmaceutical company.

7. She was injured because she (not / to study) the rules of work with chemicals.

8. The reaction as shown to the students despite the fact somebody _____ (to break) the apparatus.

9. The skin of the patient was red. What _____ (to inject) you?

10. We _____ (to finish) the important research on analytical chemistry by January, 2.

Exercise 114. Fill in the correct form of the verb in brackets: Past Simple, Past Progressive or Past Perfect Tense.

1. After I _____ the letter, I _____ that I _____ the wrong address on it. (to post, to realize, to write)

2. Dr. John asked me where I _____ the day before. (to be)

3. At this time yesterday, we _____ remedial gymnastics. (to do)

4. When I _____ through the streets of Lutsk, I _____ about the magnificent time I _____ there as a student. (to walk, to think, to spend)

5. It was the first time that she _____ me to dinner. (to invite)

6. As soon as the maid _____ scrubbing the kitchen floor, she _____ working in the garden. (to finish, to start)

7. We started to worry about Jimmy because he _____ some serious traumas in the accident. (to get)

8. They _____ their way out of town before the sun _____. (already / to make; to rise)

9. The surgeon and his assistant _____ the operation theatre after the nurse _____ the patient's skin. (to enter; to prepare)

10. When I _____ home, I saw that my roommate _____ (to arrive, to leave)

11.I _____ out of the window because I _____ some noises. (to look, to hear)

12.We _____ TV when we saw that a devastating earthquake _____ California. (to watch, to hit)

13.The police told me that someone _____ into the neighbor's house. (to break)

14.When we finally _____ at the airport, he _____ for us. (to arrive, to wait)

15.Patricia _____ English and German before she _____ her position in that company. (to study, to get)

Exercise 115. Fill in the Past Simple or the Past Perfect.

The biggest event in Tom's life _____ (to happen) by chance. He _____ (to be) 22 and he _____ (just / to leave) college. He _____ (to get) his degree and he was looking for a job. He _____ (to want) to be a journalist but he _____ (to know) he _____ (not / to have) enough experience. You see, as a student, he _____ (to spend) most of his time in the university theatre. He _____ (to write) to all the newspapers but he _____ (not/ to receive) any replies. Then one day, the phone _____ (ring). It was a woman who _____ (to offer) him a job as an actor. She _____ (to see) him in a play at the university and _____ (to enjoy) the performance. He _____ (to take) the job and since then he's been very successful. Last night he _____ (to discover) he _____ (to win) an award for his performance in the play.

Exercise 116. Complete the sentences using any appropriate past forms.

1. She ***went to the pharmacy*** and bought all prescribed medicines.
2. What _____ when the fire started?
3. I could tell she _____ because her eyes were red.
4. She _____ when she slipped and landed on the ice.
5. My arm _____for two weeks, before I went to the doctor.
6. She took her sick-leave and _____ away.
7. He _____ the road when a flower-pot fell on his head.
8. While doctor on duty _____ the nurse was taking blood samples.
9. The patient _____ in hospital for five weeks before he fully recovered.
10. He was upset because he _____ the final exam.
11. Nobody knew where Jane _____ the front door key.
12. Tom _____ experiments every day for long time before he made significant scientific report with his conclusions.

Exercise 117. Put the verbs in the brackets into the Past Simple, Past Continuous or Past Perfect tense.

1.When the manager _____ (to come up) to the boss, he _____ (to speak) to somebody on the phone.

2.Jane _____ (to pay) for the dress she _____ (to choose) some minutes before.

3. Jim _____ (to read) the article and _____ (to return) me the magazine.

4. It _____ (still to rain) when we _____ (to get) home yesterday.

5. Dave _____ (to cheek) the mail before he _____ (to turn off) his computer.

6. While the professor _____ (to give) a lecture he _____ (to realize) that his wife _____ (not to remind) him about one important appointment.

7. While Mrs Simpson _____ (to cook) dinner she _____ (to understand) that she _____ (not to buy*)* potatoes.

8. When Laura _____ (to come) to the hospital, all the doctors _____ (to discuss) the medicine for cancer which the scientists _____ (to invent) some days before.

9. Sam _____ (to get) to the airport after the plane _____ (to fly up).

10. When little Betty _____ (to play) with her toys yesterday evening she _____ (to find) the key her mother _____ (to lose) a week before.

Exercise 118. Fill in the correct form of the verb in brackets.

1. My friend Tim _____ well yesterday because he _____ too many sweets. (not /to feel; to eat)
2. After she _____, she _____ much better. (to rest, to feel)
3. She _____ him for a year before they finally _____ on holidays together. (to know, to go)
4. I asked him what _____ because I _____ strange noise in the hall. (to happen, to hear)
5. That morning I realized that someone _____ our new equipment. (to steal)
6. After she _____ her first major tournament, she _____ from a series of injuries. (to win, to suffer)
7. Our manager told us that the company _____ bankrupt. (to go)
8. I _____ to pass the test because I _____ hard. (to manage, to study)
9. I told the police that I _____ the man in the photo before. (not / to see)
10. Sampson _____ his report by the time Dean _____ home. (to finish, to come)

Exercise 119. Complete the sentences using any appropriate tense forms.

1. Ben couldn’t write the letter because _____.
2. His head was bandaged because _____.
3. They were tired because _____.
4. He had a black eye because _____.
5. Jennifer got sunburnt because _____.
6. He had a stomach-ache because _____.
7. He was wet with sweat because _____.
8. A doctor was tired because _____.
9. They couldn’t start transcutaneous electrical nerve stimulation because ____.
10. Physiotherapist changed the course of treatment because _____.

Exercise 120. Translate into English:

1. Вони зібрали матеріали перед тим, як почати своє дослідження.
2. Професор уважно прочитав історію хвороби до того як оглянув пацієнта і поставив йому кілька запитань.
3. Вони були дуже здивовані, що Еліс ніколи не працювала раніше.
4. Я ніколи не шкодувала, що обрала професію фармацевта.
5. Ми випили каву до того як розпочати нашу розмову.
6. Лаборант помила всі скельця та пробірки, а також вимкнула все обладнання до того як завершила свою роботу.
7. Вони завершили реабілітацію до першого грудня.
8. Хвора прийняла нітрогліцерин до того як викликати лікаря.
9. Стоматолог зробив знеболення пацієнту до того як видалити зуб.
10. Лікар поставив остаточний діагноз після того як вивчив всі результати аналізів та результати томографії мозку.

THE PAST PERFECT PROGRESSIVE TENSE

Had +been +Verb(ing)

Eg. She had been working as a clerk for ten years before she registered.

+ They had been investigating new methods of treatment for five years before they got some positive results.

-They hadn't (had not) been investigating new methods of treatment for five years before they got any positive results.

? Had they been investigating new methods of treatment for five years before they got any positive results.

THE PAST PERFECT PROGRESSIVE TENSE is used to express:

1) Actions continuing over a period up to a specific time in the past.

She had been working as a clerk for ten years before she resigned.

2) Past action of certain duration which had visible results in the past.

They were wet because they had been walking in the rain.

3) The Past Perfect Progressive is the past equivalent of the present Perfect Progressive.

(She is going to the doctor. Her leg has been aching for two days.)
She went to the doctor .Her leg had been aching for two days.

TIME EXPRESSIONS: for, since

Exercise 121. Use the Past Perfect Progressive in the following sentences.

1. Sandra's face was red because she _____ .(to cry)
2. It was noon. I _____ (to study) since morning.

3. Henry was hot. He _____. (to jog)
4. He _____ (to study) chemistry for seven years before he entered the pharmaceutical department.
5. Leticia was too tired because she _____ (to write) her course paper for the whole night.
6. I was exhausted. I _____ (to translate) the scientific article for five hours.
7. She looked pale. She _____ (to suffer) from heart failure for many years.
8. They _____ (to shoot) that project for many years before the government stopped financing them.
9. The team of scientists _____ (to carry) out the experiment for two years before they got the results.
10. The bell _____ (to tinkle) for some minutes before the door opened.

Exercise 122. Use the Past Perfect Progressive or the Past Perfect in the following sentences.

1. They _____ (to discuss) the question for an hour when I came to the room.
2. We _____ (to be) in Paris for three days when the head of cardiology department called on.
3. I _____ (to wait) for that letter for a month when I got it.
4. Only she dared to tell him the truth, as she _____ (to know) him for many years.
5. They _____ (to be) married for three years when they graduated from the university.
6. A patient _____ (to unpack) her things for half an hour when a nurse called her to the examination room №3.
7. They left the flat where they _____ (to live) for twenty years.
8. A doctor _____ (to sew) up the wound for half an hour in the manipulation room when somebody knocked the door.
9. They _____ (to serve) in Lutsk military base for five years when the war began.
10. They _____ (to live) in that house for many years before the bomb ruined it.

Exercise 123. Complete the sentences using the simple form of the past or past perfect tense.

1. By the time we _____ to the stadium, the performance _____, so we missed the first two songs. (to get; already / to start)
2. When we _____ in Barcelona the airport management told us that they _____ our luggage. (to arrive, to lose)
3. After a child _____ a large meal, he _____ to feel sick and mum _____ for a doctor. (to have, to start, to call)
4. The shoes were very clean because he _____ hours cleaning them. (to spend)
5. It _____ his first trip to India. He _____ all necessary vaccinations before he left Ukraine. (not / to be; to get)

6. My neighbor told me that she _____ for French Pharmaceutical company for seven years. (to work)

7. Yesterday I _____ downtown to see Peter. I _____ him for months. (go; not / meet)

8. I _____ exhibition of medical equipment in Kyiv for the first time yesterday. I _____ it before. (to visit ; never /to visit)

9. She _____ him for very long when she _____ to get married. (not / to know; to decide)

10. When he _____, the party was over. Everyone _____. (to arrive; already / to leave)

11. I was happy after I _____ my first operation on the patient's knee. (to conduct)

12. I visited the hospital where the ambulance _____ my mother. (to take)

Exercise 124. Complete the following situations using the Past Perfect Progressive.

1. He had a bad backache. He _____.
2. He was angry. _____.
3. They were tired. _____.
4. She had a splitting headache. _____.
5. His leg was in a plaster. _____.
6. He was awarded._____.
7. She was rather exhausted _____.
8. He achieved great success in the compounding antiviral drugs. _____.
9. A young lady was rather thin and her face was white as a sheet. _____.
10. She appeared to have some blisters on her feet. _____.

Exercise 125. Fill in with Past Perfect or Past Perfect Progressive.

When I entered the house something smell awful. Someone _____ (to cook) and _____ (to burn) the meal. I _____ (to visit) the house once before and _____ (meet) the family but I didn't know what _____ (to happen) since then. The house was a mess. The children _____ (to play) in the living room and _____ (to leave) their toys all over the floor. Someone _____ (to leave) all windows open. It _____ (to rain) for hours and all the curtains _____ (to get) wet and dirty. I asked the children where their parents were. They told me that their mother _____ (to be) in hospital for past two weeks. Their father _____ (to look) after them since then. Obviously he _____ (to do) his best, he couldn't do any better since he worked all morning and had to leave them alone most of the day. I had to do something to help them.

Exercise126. Put the verbs in brackets into the correct past form.

I remember when I _____ (to go) on holidays abroad for the first time. I _____ (just /to leave) school. I _____ (to study) very hard for my final exams and I _____ (to feel) that I needed a holiday. A friend of mine _____ (to want) to come as well so we _____ (to look) at some brochure from the travel agent's. We

_____ (to read) for about an hour when my friend _____ (to find) perfect holiday – two weeks in Hawaii. We _____ (to be) very excited about it. Finally the day of our holiday _____ (to arrive). We _____(just / to leave) the house when the phone _____ (to ring). I _____ (to run) back into the house, but the phone _____ (to stop) by the time I _____ (to reach) it. When we _____ (to arrive) at the airport we _____ (to sit) in the cafeteria. The airline _____ (just / to make) an announcement. Our flight was delayed for eight hours. We _____ (to getup) very early and rushed to the airport, all the morning.

Exercise 127. Translate into English.

1. Дитина кашляла і температурила всю ніч поки медсестра не зробила знеболюючий укол.
2. Вчора я була приємно вражена. Всі працювали продуктивно поки не завершили завдання.
3. Анна виглядала стурбованою. Вона годину шукала призначення лікаря поки знайшла його.
4. Ольга сиділа під кабінетом лікаря протягом години, коли медсестра покликала її в оглядову кімнату.
5. У вас були втомлені очі. Як довго ви працювали?
6. Влад був засмучений. Він чекав на результати томографії з ранку.
7. Діагноз був не втішний. Нора плакала з самого ранку, поки лікар не заспокоїв її.
8. Юлія страждала від нестерпного болю протягом години, поки не приїхала швидка допомога.
9. Сандра була дуже роздратована. Хтось гучно хропів у сусідній палаті протягом ночі.
10. Рут була справді щаслива. Вона старанно готувалась до державних іспитів протягом місяців і склала іспити блискуче.

PASSIVE VOICE

To be +Past Participle (3 форма дієслова)

Tense forms in Active and Passive Voice

Tense	**Active Voice**	**Passive Voice**	**Time Expressions**
Present Simple	*She conducts the research.*	*Am/ is/ are + Past Participle* *The research is conducted*	Always, usually, normally, sometimes, rarely, seldom, every (day, week, month, year**)**
Past Simple	*She conducted the research.*	*Was/ were+ Past Participle* *The research was conducted*	Yesterday, last (week, year, month), … ago, in 2019

Future Simple	*She will conduct the research.*	*Will be+ Past Participle* *The research will be conducted*	Tomorrow, next **(**week, month, year**)**
Present Continuous	*She is conducting the research.*	*Am/is/are +being+ Past Participle* *The research is being conducted*	At present, right now
Past continuous	*She was conducting the research.*	*Was/were +being+ Past Participle* *The research was being conducted*	At that time yesterday, from 10 to 12, when the Dean came
Future Continuous	*She will be conducting the research.*	___	At noon, (midnight) at that moment *tomorrow,* at 5 *next Sunday*
Present Perfect	*She has conducted the research*	*Have/has+been+ Past Participle* *The research has been conducted*	Ever, never, just, already, yet, (how) many times, before, lately, recently
Present Perfect Continuous	*She has been conducting the research*	___	For an hour (month, year, long time), since 5 o'clock, all my life
Past perfect	*She had conducted the research*	*Had been+ Past Participle* *The research had been conducted*	Yet, so far, by then
Past Perfect Continuous	*She had been conducting the research*	____	For 2 weeks (month, some time)
Future Perfect	*She will have ducted the research*	*Will have been+ Past Participle* *The research will have been conducted*	By 5 o'clock tomorrow (noon, Sunday, that time)
Future Perfect Continuous	*She will have been conducting the research*	____	For (2 hours, 10 years, more than hour), since

We use Passive :

1) When the person who carries out the action is unknown, unimportant or obvious from the context.

Eg. You are ordered to send the results of blood tests to the GP.

2) When the action itself is more important than the person who carries it out, as in news headlines, scientific articles, formal notices, instructions, advertisements, processes, etc.

Eg. Water is avaporated carefully by the chemist.

Very few men are allowed to leave the country during the war period.

3) to make more polite or formal statements.

Eg. The car hasn't been cleaned. (more polite)

(You haven't cleaned the car. – less polite)

4) to put emphasis on the agent.

Eg. The new polyclinic will be opened by the President.

When we change a sentence from the Active to Passive:

- **The object of the active sentence becomes the subject in the passive sentence.**
- **The active verb remains in the same tense form, but changes into passive.**

The subject of the active sentence becomes the agent and is either introduced with the preposition ***by*** or omitted.

Eg*. A physiotherapist* ***examined*** *a patient*

A patient ***was examined*** *by a physiotherapist.*

BY OR WITH?

In the passive voice, we use:

- ***by*** with the agent to refer to by whom the action is being done.

Eg. The operation was conducted by famous surgeon Mr. Robinson. (Mr. Robinson = agent)

- ***with*** to refer to the instrument, object or material that was used for something to be done.

Eg. The door was locked with a key. (a key = the object that was used)

DOUBLE OBJECT VERBS

When we have verbs that take two objects like, for example, give somebody something, we can convert the active sentence into a passive one in two ways:

- by making the indirect (animate) object the subject of the passive voice sentence, which is also the way that we usually prefer.
- By making the direct (inanimate) object the subject of the passive voice.

Eg. Rick gave me (indirect object) this book (direct object).

I was given this book by Rick.

This book was given to me by Rick.

Some of the verbs that take two objects are: **give, tell, send, show, bring, write, offer, pay, etc.**

When the indirect object is alone after the verb in the passive voice sentence, it needs the preposition ***to.***

If the indirect object of the active voice sentence is a personal pronoun it has to be changed into a subject pronoun to be the subject of the passive voice sentence.

Subject	Object
I	me
you	you
he	him
she	her
it	it

Subject	Object
we	us
you	you
they	them

Some transitive verbs cannot be used in the Passive:

Have, fit, suit, resemble, disappear, arrive, sleep, happen, come, cry, exist, go, live, occur, rain, rise, stay, walk.

Exercise 128. Complete the sentences with the correct passive form of the verbs in brackets. Use the Present Simple.

1. English _____ (to speak) in many countries.
2. Solutions _____ (to involve) in most chemical reactions.
3. Plants _____ (to use) for medicine.
4. How often _____ blood pressure (to take)?
5. How _____ (your name / to spell)?
6. My salary _____ (to pay) every month.
7. This medical equipment _____ (to make) in Japan.
8. The name of the people who committed the crime _____ (not / to know).
9. His educational trip expenses _____ (not / to pay) by his company.
10. Homeopathic medicine _____ (to prescribe) according to the law of similarity.

Exercise 129. Transform these sentences into the Passive Voice.

1. Histology studies different kinds of cells.

Different kinds of cells _____.

2. Plants form the base of the natural food chain.
3. Plant pathology uses chemicals to combat diseases.
4. Patients present their symptoms to doctors.
5. Nurses looked after the patients during post operation period.
6. They gave up the search after three hours.
7. They signed the agreement in the presence of two witnesses.
8. They gave him artificial respiration.
9. A doctor explained details to the patient.
10. They declared him “persona non grata” and allowed him only 24 hours to leave Ukraine.
11. We’ll send you medicines as soon as they are available.
12. Students made the diagnose easily.

13. Pharmacists dispense over-the-counter drugs.
14. Plants maintain the living environment.
15. I expect they will present their results of experiment next meeting.

Exercise 130.Transform the sentences into Passive.

1. They are discussing the problem widely.

***The problem* _____.**

2. They were preparing the suspension when the first customer entered the chemist's.
3. We'll be watching the educational film about body regions at the moment tomorrow.
4. Mrs. Kennedy will be interviewing the chief manager at 10 am next Monday.
5. A student is pouring the liquid into a transparent glass.
6. When the professor came, the assistant was dispensing the examination questions to the students.
7. The nurse was taking the patients' vital sings when the doctor came into the ward.
8. They were investigating the problem at the seminar yesterday.
9. Students are carrying on the reaction of neutralization at the moment.
10. They were studying properties of bases the whole evening yesterday.
11. I was shaking the bottle with manganese solution when the telephone rang.
12. The nurse is sterilizing a new set of surgical equipment at the moment.
13. They were cutting the outer layer of skin when the lights went down.
14. They are cleaning the preparatory room now, o it will be ready in a few minutes.
15. A doctor was sewing the cut with catgut threads.

Exercise 131. Fill in the gaps with "by" or "with".

1. The room was cleaned _____ Kathy.
2. The injury was being treated _____ the surgeon.
3. The abrasion is being sterilized _____ the doctor.
4. Her skin is being affected _____ the dress she has on.
5. He was being operated _____ only one instrument.
6. The room is now being equipped _____ all the necessary facilities.
7. The reaction was being performed _____ technician.
8. A new case of acid usage isn't being explained now _____ our teacher.
9. These things are being thoroughly cleaned _____ a special solution.
10. Blood pressure is measured _____ tonometer.

Exercise 132. Put the verbs into the correct form.

1. Kathy _____ a medicine for asthma at the moment. (to compound)
2. The students _____ for their exam by the Professor at 2 pm yesterday. (to consult)
3. The assistant _____ medicine to the patient. (to inject)
4. The reports _____ at the Congress now. (to interpret)
5. Blind Mrs. Chilton _____by her guide dog now. (to guide)

6. The poem _____ by Judd at the concert tomorrow. (to recite)
7. Documents _____by the secretary yesterday. (to type)
8. The patient _____ on at the moment. (to operate)
9. Delegates _____ at the moment. (to register)
10. Children in Africa _____ every year. (to vaccinate)

Exercise 133. Put the verbs into the correct form.

1. When he _____ (to come) into the room, the abdominal wall _____ (to dissect) by surgeon.
2. He is crying so loudly because his bones _____ (to break) by the surgeon.
3. The surgical forceps _____ (to sterilize) in the box now.
4. He can't take the receiver as his hands _____ (to disinfect) now.
5. We put on gowns and caps but he didn't because his gown and cap _____ (to steam).
6. The basic safety rules always (keep) in the laboratory to prevent any accidents.
7. When the mother entered , the poisonous plant _____ (to bite) by the boy.
8. The results of the experiment _____ (to present) now.
9. As a doctor came into the room, the medicine _____ (to swallow) by the patient.
10. This medicine_____ (to take) twice a day.

Exercise 134. Rewrite the sentences in the Perfect Passive.

1. The scientists have carried out some new investigations.
2. The surgeon had cut the tissues with scissors by the time the patient regained his consciousness.
3. The doctor has finally inserted the needle into the skin.
4. The surgical nurse had pulled a retractor apart before the surgeon ordered.
5. He has performed the surgical fixation of the stomach to the anterior abdominal wall.
6. Today the patient has interrupted the course of treatment.
7. The doctor has used a hot water bottle.
8. Clinicians have prescribed anticonvulsants to patients with psychosomatic disorders.
9. By the time our pharmacist came, we had broken a few bottles of sedatives.
10. I have just filled in the application form for the position of leading pharmacist.

Exercise 135. Put the verbs into the Passive.

1. The students _____ (to expel) from university for inadequate behavior.
2. He _____ (to praise) for the successful laparotomy before the negative results came.
3. The patient _____ (to examine) by the time the surgeon on duty came.
4. The cancerous tumor already _____ (to resect) when the tomography _____ (to bring).
5. A 15-year old boy _____ (to transport) to the hospital unconscious.

6. The lost children _____ (to find) alive.
7. A dangerous snake bite _____ (to diagnose) in time.
8. A child _____ (to give) a lot of medications, but nothing helped the temperature was rather high.
9. A new chemist's _____ (to open) last week.
10. This case _____ (to classify) and _____ (to record) in the hospital register.

Exercise 136. Match the beginnings with the endings.

1. Thermo therapeutic procedures	a) have been given.
2. The course of treatment	b) penicillin injections.
3. The patient has been treated for	c) cleansed with alcohol sponges.
4. Steroid preparations	d) has been repeated.
5. The patient has received	e) have been ordered by a doctor.
6. The skin has been	f) complicated pneumonia.

Exercise 137. Use verbs in the brackets in the correct tense form. Both passive and active voice is possible.

1. The healing function of plants (know) many years ago.
2. The scientists (make) little progress in fundamental theory lately.
3. The research in the field of toxicology (conduct) for long time by the scientists.
4. He (offer) a good position in the pharmaceutical company last month.
5. I (work) for the pharmaceutical company since 2018.
6. 20 new elements already (discover) by modern scientists.
7. Modern scientists (discover) some new elements ten years ago.
8. Biochemistry and biophysics (achieve) remarkable results in analyzing DNA and RNA recently.
9. People (use) plants and minerals to relieve or cure diseases since ancient times.
10. Plants and minerals (use) to relieve or cure diseases in ancient times.
11. Vitamins often (buy) by customers.
12. These days medicines (become) more and more expensive.
13. A lot of money for necessary medicines (spend) by Ann yesterday.
14. Some years ago we (not/have) enough money for conducting the research.
15. The historical development of toxicology (begin) with early cave dwellers.

Exercise 138. Use verbs in the brackets in the correct tense form. Both passive and active voice is possible.

1. Standards for drugs and drug production (include) into book of Pharmacopeia.
2. Countless hours usually (spend) in the lab by most scientists.
3. Disease-causing bacteria (kill) by a large dose of penicillin or certain other antibiotics.
4. Vitamins (be) necessary for body functioning.
5. A wide range of medicines (produce) by pharmaceutical companies every year.
6. Many substances in the lab (be) hazardous.

7. The experiment just (complete) in the lab.
8. The experiment in the lab with expected results (complete) two days ago.
9. The experiment (complete) tomorrow.
10. I (work) for the pharmaceutical company in 2018.
11. I hope I (offer) a good job on graduation from university.
12. A new project (introduce) by him next meeting.

Exercise 139. You have just entered the examination room. What analyses are being made? Make up sentences in the Passive Voice using the following word combinations.

To fill in a case history; to take the vital signs; to listen to the intestinal tone; to listen to pericardial murmur; to palpate the injured area; to perform examination of feces, sputum, blood; to make X-ray film.

The Future Simple

Positive sentences: I/We/You/He/She/It/They + **will** + **V** **Negative sentences:** I/We/You/He/She/It/They + **will not** (**won't**) + **V** **Questions: Will** I/we/you/he/she/it/they + **V**	
Meaning	**Example**
1. Promising to do something	I **won't tell** anyone what happened.
2. Offering to do something	That bag is heavy. I'**ll help** you with it.
3. Agreeing to do something	- Can you give Tom this book? - Sure? I'**ll give** it to him when I see him this afternoon.
4. Asking somebody to do something	**Will** you please **turn** the radio down? I'm trying to concentrate.
5. Refusing to do something	The car **won't start**. (= the car 'refuses' to start)
Time expressions	**tomorrow, next month, next week, soon, in two days, next year, in a year, some day, in a month**

The Future Continuous

Positive sentences: I/We/You/He/She/It/They + **will be** + **Ving** **Negative sentences:** I/We/You/He/She/It/They + **will not** (**won't**) **be** + **Ving** **Questions: Will** I/we/you/he/she/it/they **be**+ **Ving**	
Meaning	**Example**
To denote an action which will be going on at a definite moment in the future	I **will** still **be working** when you return**.** At 12 o'clock I **will be working**. What **will** you **be doing** this time tomorrow?
Time expressions	**by an adverbial phrase (at 10 o'clock, this time tomorrow / next week / next year) or by**

	another future action expressed by a verb in the Present Indefinite.

The Future Perfect

Positive sentences: I/We/You/He/She/It/They + **will** + **have** + **Ved** **Negative sentences:** I/We/You/He/She/It/They + **will not** (**won't**) **have** + **Ved** **Questions: Will** I/we/you/he/she/it/they **have** + **Ved**	
Meaning	**Example**
To say that something will already be completed before a definite moment in the future	The film **will** already **have started** by the time we get to the cinema. **By the time you receive this postcard**, I'll be back home.
Time expressions	**by that time** something happens

Exercise 140. Put the verbs in brackets into The Future Simple or The Future Continuous.

1. I want to tour the area today. _____ (you/use) the car?
2. Please don't forget your tie because you _____ (meet) the administrators during your visit.
3. The taxi driver _____(take) you to the Savoy Hotel.
4. A shuttle _____(wait) for you outside the airport building at 8:30 p.m.
5. There's s big sale at Selfridges tomorrow. I'm sure people _____(queue) up the street from early morning.
6. Put on something nice for the party. The photographers _____(take) pictures.
7. You can't stay here if you've decided not to go. We _____(look) for you.
8. It's an acceptable suggestion. I _____(think) it over.
9. The price of petrol has gone up again. People _____(ride) their bicycles soon.
10. I'm sure this statue _____(stand) here in the year 2010.
11. _____ you _____ (join) us at 3.00 p.m.? we _____ (discuss) the new plan.
12. Come to the stadium at 4:00 p.m. The world-famous football player _____(sign) the t-shirts.
13. This time tomorrow I _____(fly) across the Pacific.
14. I don't want to call Janet just now. I'm sure she _____(bathe) the baby and she _____ (be able/not) answer the phone.
15. If you need me, you _____(find) me at school. I _____(teach) in pavilion A until the lunch time.
16. The festival begins next Saturday. People _____ (dance) and _____(sing) in the streets all week.
17. I'm sure you _____(pass) your driving test, but I _____(keep) my fingers crossed for you all the same.
18. We _____(not/learn) English this month. Our teacher has left.
19. Our neighbours are having a party tonight. They _____(make) a lot of noise all night as usual.
20. You can use John's computer. He _____(not/work) here anymore.

Exercise 141. Put the verbs in brackets into The Present Simple or the Future Simple Tense.

1. Today after I (get).... out of class, I (go) ..... to a movie with some friends.

2. When you (arrive) ..... in Stockholm, call my friend Gustav. He (show)..... you around the city and help you get situated.

3. A: Do you know what you want to do after you (graduate) .....?

B: After I (receive) ..... my Master's from Georgetown University, I (go) ..... to graduate school at UCSD in San Diego. I (plan)..... to complete a Ph.D. in cognitive science.

4. If it (snow) ..... this weekend, we (go) ..... skiing near Lake Tahoe.

5. Your father (plan) ..... to pick you up after school today at 3:00 o'clock. He (meet).....you across the street near the ice cream shop. If something happens and he cannot be there, I (pick)..... you up instead.

6. If the people of the world (stop, not) ..... cutting down huge stretches of rain forest, we (experience).....huge changes in the environment during the twenty-first century.

7. If Vera (keep) ..... drinking, she (lose, eventually) ..... her job.

8. I promise you that I (tell, not) ..... your secret to anybody. Even if somebody (ask)..... me about what happened that day, I (reveal, not) ..... the truth to a single person.

9. She (make) ..... some major changes in her life. She (quit) ..... her job and go back to school. After she (finish) ..... studying, she (get)..... a better paying job and buy a house. She is going to improve her life!

10. Tom (call) ..... when he (arrive) ..... in Madrid. He (stay) ..... with you for two or three days until his new apartment (be) ..... available.

Exercise 142. Put the verbs in brackets into the Future Simple or the Future Continuous.

1. *Sandra*: Where is Tim going to meet us?

Marcus: He (wait) ..... for us when our train arrives. I am sure he (stand) ..... on the platform when we pull into the station.

Sandra: And then what?

Marcus: We (pick) ..... Michele up at work and go out to dinner.

2. *Ted*: When we get to the party, Jerry (watch) ..... TV, Sam (make)……. ... drinks, Beth (dance) ..... by herself, and Thad (complain) ..... about his day at work.

Robin: Maybe, this time they won't be doing the same things.

Ted: I am absolutely positive they (do) ..... the same things; they always do the same things.

3. *Florence*: Oh, look at that mountain of dirty dishes! Who (wash) .....all of those?

Jack: I promise I (do) ..... them when I get home from work.

Florence: Thanks.

Jack: When you get home this evening, that mountain will be gone and nice stacks of sparkling clean dishes (sit) ..... in the cabinets.

4. *Doug*: If you need to contact me next week, I (stay) ..... at the Hoffman Hotel.

Nancy: I (call) ..... you if there are any problems.

Doug: This is the first time I have ever been away from the kids.

Nancy: Don't worry, they (be) ..... fine.

5. *Samantha*: Just think, next week at this time, I (lie) ..... on a tropical beach in Maui drinking Mai Tai's and eating pineapple.

Darren: While you are luxuriating on the beach, I (stress) ..... out over this marketing project. How are you going to enjoy yourself knowing that I am working so hard.

Samantha: I 'll manage somehow.

Darren: You're terrible. Can't you take me with you?

Samantha: No. But I (send) ..... you a postcard of a beautiful, white-sand beach.

Darren: Great, that (make) ..... me feel much better.

Exercise 143. Put the verbs in brackets into the Present Simple, the Future Simple, the Present Continuous or the Future Continuous.

1. Right now I am watching T.V. Tomorrow at this time, I (watch) ..... T.V. as well.

2. Tomorrow after school, I (go) ..... to the beach.

3. I am going on a dream vacation to Tahiti. While you (do) ..... paperwork and (talk) .....to annoying customers on the phone, I (lie) ..... on a sunny, tropical beach. Are you jealous?

4. We (hiding) ..... when Tony (arrives) ..... at his surprise party. As soon as he opens the door, we (jump) ..... out and (scream) ....."Surprise!"

5. We work out at the fitness center everyday after work. If you (come) .....over while we (work) .....out, we will not be able to let you into the house. Just to be safe, we (leave) ..... a key under the welcome mat so you will not have to wait outside.

6. While you (study) ..... at home, Magda (be) .....in class.

7. When I (get) .....to the party, Sally and Doug (dance) ....., John (make) .....drinks, Sue and Frank (discuss) ..... something controversial, and Mary (complain) ..... about something unimportant. They are always doing the same things. They are so predictable.

8. When you (got) ..... off the plane, I (wait) ..... for you.

9. I am sick of rain and bad weather! Hopefully, when we (wake) ..... up tomorrow morning, the sun (shine) .....

10. If you (need) ..... to contact me sometime next week, I (stay) ..... at the Sheraton in San Francisco.

Exercise 144. Put the verbs in brackets into the Future Perfect or the Future Perfect Continuous.

1. Margaret: Do you think everything will be finished when I get back from the store?

Jerry: Don't worry. By the time you get back, I (pick) ..... up the living room and (finish) .....washing the dishes. Everything will be perfect when your parents arrive.

Margaret: I hope so. They (arrive) ..... around 6 o'clock.

Jerry: Everything (be) ..... spotless by the time they get here.

2. Nick: I just have two more courses before I graduate from university. By this time next year, I (graduate) .....and I will already be looking for a job.

Stacey: Does that scare you? Are you worried about the future?

Nick: Not really. I (go) ..... to a career counsellor and get some advice on how to find a good job.

Stacey: That's a good idea.

Nick: I am also going to do an internship so that when I leave school, I (complete, not, only) ..... over 13 business courses, but I (work, also) .....the real world.

3. Stan: Did you hear that Christine (take) ..... a vacation in South America this winter?

Fred: I can't believe how often she goes abroad. Where exactly does she want to go?

Stan: She (visit) .....Peru, Bolivia and Ecuador.

Fred: At this rate, she (visit) ..... every country in the world by the time she's 50.

4. Judy: How long have you been in Miami?

Elaine: I have only been here for a couple of weeks.

Judy: How long do you plan on staying?

Elaine: I love Miami, so I (stay) .....here for an extended period of time. When I go back home, I (be) ..... here for more than three months.

Judy: Wow, that's quite a vacation! You (see, definitely) ..... just about everything there is to see in Miami by then.

5. Jane: I can't believe how late we are! By the time we get to the dinner, everyone (finish) ..... eating.

Jack: It's your own fault. You took way too long in the bathroom.

Jane: I couldn't get my hair to look right.

Jack: Who cares? By the time we get there, everyone (left).....Nobody (see, ever) ….. your hair.

Exercise 145. Use the proper tense form instead of infinitives.

1. The train _____ (to arrive) at 12:30.
2. We _____ (to have) medical concilium tomorrow at 10 o'clock.
3. It _____(to snow) in Lutsk tomorrow evening.
4. On Friday at 8 o'clock I _____ (to meet) my collegues.
5. Paul _____ (to fly) to London on Monday morning to tke part in the seminar.
6. Wait! I _____ (to consult) a patient in the emergency department.
7. Pathology seminar_____ (to start) at 8:45.
8. Are you still writing your essay? If you _____ (to finish) by 4pm, we can go for a walk.
9. I _____ (to see) my mother in April.
10. Look at the clouds – it _____ (to rain) in a few minutes.

11. When they _____ (to get) married in March, they _____ (to be) together for six years.
12. You're carrying too much. I _____ (to open) the door for you.
13. Do you think the professor _____ (to mark) our course papers by Monday morning?
14. When I _____ (to see) you tomorrow, I _____ (show) you my project.
15. After you _____ (to take) a nap, you _____ (to feel) better
16. I'm sorry but you need to stay in the hospital until you _____ (to recover) completely.
17. He _____ (to buy) the cigarettes from the corner shop when it _____ (to open).
18. I _____ (to let) you know when I _____ (to get) results of the analyses.
19. Before we _____ (to come) to the conclusion, we _____ (to discuss) all ideas.
20. I'm very sorry, Dr. Jones _____ (not be) back in the clinic until 2pm.

SEQUENCE OF TENSES

Direct speech	Indirect speech
I. Present Tenses	
Present Simple →	Past Simple
Present Progressive →	Past Progressive
Present Perfect →	Past Perfect
Present Perfect Progressive →	Past Perfect Progressive
II. Past Tenses	
Past Simple →	Past Perfect
Past Progressive →	Past Perfect Progressive
Past Perfect →	Past Perfect
III. Future Simple	
Future Simple →	Future-in-the-Past
Future Perfect →	Future-in-the-Past Perfect

EXEPTIONS!!!

Principal clause is in the Past Tense and the Subordinate Clause is in the Present Tense:

1)When **a universal truth** is expressed in the Subordinate Clause.

e.g. *The Lecturer told the students that heart is the main organ of the circulatory system.*

2) If there is **a comparison** in the Subordinate Clause.

e.g. The doctor said that he worked more last year than he works now.

3) If the Subordinate Clause is **an Attribute Clause**:

e.g. Horace said that he has got acquainted with the girl who is fond of conducting experiments.

4) Modal verbs ***must, ought and should*** do not change in the Indirect Speech.

e.g. Doctor said her knee must be operated.

Exercise 146. Report the following sentences, using the model.

Model: *Doctor said, "I have examined three patients".* - ***Doctor said that he had examined three patients.***

1. The medical students said, "We study Toxicology". 2. She said, "I learned Pathology at the university". 3. The man said, "I suffer from splitting headache". 4. She said, "I'll follow all doctor's prescriptions". 5. Mary said, "I had practical classes in the chemical laboratory". 6. Mark said, "I have prepared my report to the seminar in Biology". 7. The nurse said, "I do not speak Spanish". 8. The doctor said, "I'll come again in the morning". 9. The neurologist said, "Many people suffer from depression". 10. They said, "Tom has injured his leg". 11. Surgeon said, "I will operate on his heart tomorrow". 12. Ann said, "I did not learn Latin". 13. The boy said, "I am waiting for doctor Adam". 14. The lecturer said, "Pharmacology is the compulsory course". 15. Physiotherapist said, "I didn't recognize him. He was a picture of health". 16. The patient said, "My name is Paul". 17. The nurse said, "I'm taking your vital signs". 18. He said, "I graduated from Lviv Medical University in 1995". 19. She said, "I saw him at five o'clock. He looked upset". 20. The professor said, "Vaccination can prevent many infectious diseases". 21. He said, "We completed our research successfully". 22. She said, "He is going to Boston to take part in the annual medical conference tomorrow". 23. Helen said, "I was ill yesterday but I didn't call for a doctor". 24. She said, "I met them last year". 25. He said, "This experiment is very easy".

Exercise 147. Render the following sentences in the Reported Speech.

1. "My colleague lives in London," said doctor Alex. 2. "You have done your work well," said the doctor to her assistant. 3. The victim said to the doctor, "I was wounded by a robber with a knife" 4. The witness said to the judge, "This man was injured in the car accident." 5. "This man spoke to me on the road," said the woman. 6. "I can't explain all side effects of the medicine to you," said the pharmacist to me. 7. The doctor said to the colleagues, "We'll discuss this problem tomorrow." 8. The woman said to her son, "I am glad I am here." 9. Mike said, "We have bought these books on Oncology today." 10. The patient said to his doctor, "Now I can see this text easily," 11. Our professor said, "Internship will bring us good experience." 12. She said, "You will take these specialized courses in the third year of study." 13. Nellie said, "I entered the medical faculty last year." 14. Mary said,

"I usually spend my holidays in the south." 15. She said, "I worked hard in the regional hospital last year." 16. Boris said, "We spend a lot of time in the laboratory" 17. He said, "I am going to present some interesting facts about producing of antibiotics tomorrow." 18. The nurse said to us, "The surgeon haven't come yet." 19. The doctor said to me, "I will prescribe you the intravenous injections." 20. She said, "I was taken to the hospital last night. My condition was poor because of high blood pressure."

Exercise 148. Render the following sentences in the *Direct Speech*.

1.He said that while crossing the English Channel they had stayed on deck all the time. 2. The woman said she had felt sick while crossing the Channel. 3. She said she was feeling bad that day. 4. Tom said he would go to see the doctor the next day. 5. He told me he was ill. 6. He told me he had fallen ill. 7. They told me that Tom had not come to university because of bad cough the day before. 8. I told my sister that she might catch cold. 9. She told me she had caught cold. 10. The old man told the doctor that he had pain in his right side. 11. He said he had just been examined by a good doctor. 12. He said he would not come to the hospital until Monday. 13. The man said he had spent a month at a health-resort. 14. He said that his health had greatly improved since then.

Exercise 149. Render the following general questions in Reported Speech, using the model.

Model: He asked, "Is this your book on toxicology?" He asked if (whether) it was my book on toxicology.

1. She asked, "Do you study reproductive system?" 2. The physiotherapist asked the patient, "Do you go in for sports?" 3. He asked the doctor, "How long will the course of treatment last?" 4. She asked, "Are you tired?" 5. The trainer asked the doctor, "Is it a very serious injury?" 6. The doctor announced, "I've thought a great deal about your case?" 7. She asked the doctor, "Can't you do anything to ease his breathing?" 8The nurse whispered, "He wants to be pulled up" 9. He asked, "Why didn't you follow the doctor's prescription?" 10. The doctor asked me, "Do you take your medicines regularly?" 11. The professor asked, "Will you explain the main characteristic features of the skin receptors?" 12. The patient presented, "I've had heart problems for years." 13. The nurse on duty said to the cardiologist, "A 22-year-old student was admitted to the hospital with a long history of heart problem two hours ago." 14. We asked, "Has the surgeon returned from operation theatre yet?" 15. The gynaecologist asked a woman, "Did you have normal pregnancy?" 16. The doctor said, "According to the examination, she is not dehydrated." 17. The experienced traumatologist said to a young female dancer, "You have been diagnosed a stress fracture of the tibia" 18. He presented his symptoms to the doctor, "I've noticed some blood in my sputum." 19. The lecturer explained to the students, "A neoplasm is an abnormal new growth of tissue." 20. We asked, "Has the nurse already taken all her vital signs?" 21. The professor asked a student, "What are the main signs of the heart failure?" 22. The neurologist asked a patient, "Have you been suffering from sleeping sickness long?" 23. He asked, "Do you usually feel travel sickness?" 24. A young doctor asked a patient, "Have you had any serious health problems?" 25. She asked, "Will you do me a favour?"

Exercise 150. Render the following general questions in the Reported Speech.

1. I said to Boris, "Do you take part in the conference of young scientists in April?"

2. I said to the man, "What is your normal blood pressure?" 3. Nick said to his friend, "Will you do the internship in Volyn regional hospital?" 4. He said to me, "Do you often assist surgeons during operation on internal organs?" 5. He said to me, "Will you see your friends before you leave Lutsk?" 6. Mike said to Jane, "Will you come to the railway station to see me off?" 7. The doctor said to me, "Have you informed the patient's relatives about the diagnosis?" 8. She said to me, "Did you take your medicines according to the instruction?" 9. A paediatrician said to Mike's mother, "Have you got the vaccination?" 10. The professor said to Kate, "What is the role and value of trace elements?" 11. A Teacher said to medical students, "Can you give me main indications for KOFOL syrup?" 12. I asked Tom, "Have you had measles?" 13. A doctor asked a patient, "Have you ever taken DONNATAL TABLETS?" 14. I said to his mother, "Your son needs operation on his knee." 15. The doctor asked the intern, "What is the treatment of acute intoxication?" 16. The doctor said to the young man, "Your foot will be in plaster for two weeks." 17. Mary said to her doctor, "I feel much better after the course of treatment." 18. Doctor said to me, "Will you come to my office for further examination tomorrow?" 19. He said to doctor, "How are these antibiotics administered?" 20. She asked, "Have you completed your scientific project yet?"

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