

**АНГЛІЙСЬКА МОВА ДЛЯ СТУДЕНТІВ 2 КУРСУ СПЕЦІАЛЬНОСТІ
«ЛІКУВАЛЬНА СПРАВА»**

ENGLISH FOR 2nd YEAR MEDICAL STUDENTS

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ ДЕРЖАВНИЙ ВИЩИЙ
НАВЧАЛЬНИЙ ЗАКЛАД «УЖГОРОДСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ»
КАФЕДРА ІНОЗЕМНИХ МОВ**

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Ужгород – 2020

УДК 811.111 : 616 -08 С81

Англійська мова для студентів 2 курсу спеціальності «лікувальна справа» (English for 2nd year medical students): Методичні рекомендації до курсу / Стойка О.Я.,Чейпеш І.В. Ужгород: УжНУ, 2020. 60 с.

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Мета методичних рекомендацій – забезпечити практичне оволодіння студентами лексичними та мовленнєвими моделями, необхідними для вільного спілкування англійською мовою за фахом. Матеріали методичних рекомендацій сприятимуть оволодінню навичками та вмінням читання, мовлення (діалогічного і монологічного) та письма на фахову тематику. Методичні рекомендації призначені для широкого кола читачів: слухачів курсів іноземних мов, студентів та аспірантів, викладачів вищих навчальних закладів.

Рекомендовано до друку Вченою радою факультету іноземної філології ДВНЗ «УжНУ» від 15 вересня 2020 року, протокол № 6

ПЕРЕДМОВА

З прискоренням глобалізації і поширенням міжнародних ділових зв'язків України з іншими державами на політичному та економічному рівнях зростає потреба у висококваліфікованих фахівцях, які здатні вільно володіти основами професійного іншомовного спілкування. За таких умов важливим є усвідомлення майбутніми фахівцями різних галузей необхідності їх майбутніх зв'язків із міжнародним середовищем, а одним з першочергових завдань освіти стає якісна іншомовна підготовка фахівців, володіння комунікативною культурою, що забезпечує здатність до успішної професійної діяльності в межах світової спільноти. В цьому контексті істотно змінюються вимоги до володіння іноземною мовою фахівцями різних напрямів професійної підготовки, а першорядного значення набувають практичні навички, що передбачають знання ділової іноземної мови в усному та писемному мовленні, вміння використовувати іноземну мову у власній професійній діяльності.

Пропоновані методичні рекомендації мають на меті ознайомити студентів-медиків з основами іншомовного професійного спілкування, розширити активний словниковий запас за рахунок спеціальної професійної лексики, формувати комунікативні мовленнєві уміння і навички письма.

Методичні рекомендації складаються з тематичних розділів, кожен з яких містить:

- 1) тексти інформативного характеру, які допоможуть орієнтуватися в певних ситуаціях професійної сфери;
- 2) лексичний матеріал з найчастіше вживаними мовленнєвими конструкціями відповідної тематики, які допоможуть у побудові діалогів та монологічних повідомлень;
- 3) систему вправ для успішного засвоєння та вдосконалення комунікативних навичок професійно орієнтованого спілкування.

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Список використаних джерел та літератури

Unit1.Infectious Diseases**Active vocabulary:**

Infection - інфекція

Infectious- інфекційний

Fungus (pl. Fungi) - грибок, грибки

Harmless- нешкідливий

To cause- спричиняти

Causative agent- збудник

To transmit- передавати, заражати

Insect- комаха

Contaminated- заражений, забруднений

Sign- ознака, симптом

Fever- лихоманка, гарячка

Measles- кір

Chickenpox- вітрянка

To prevent- запобігати

Fatigue- втома

Rash- висип

Swelling- набряк

Hazardous- небезпечний

To rely- покладатися

HIV- ВІЛ

Utensil- посуд

Typhoid fever- черевний тиф

Clinical manifestation- клінічний прояв

Complication- ускладнення

Inflammation- запалення

1. Read and translate the text.

Overview

Infectious diseases are disorders caused by organisms — such as bacteria, viruses, fungi or parasites. Many organisms live in and on our bodies. They're normally harmless or even helpful. But under certain conditions, some organisms may cause disease.

Some infectious diseases can be passed from person to person. Some are transmitted by insects or other animals. And you may get others by consuming contaminated food or water or being exposed to organisms in the environment.

Signs and symptoms vary depending on the organism causing the infection, but often include fever and fatigue. Mild infections may respond to rest and home remedies, while some life-threatening infections may need hospitalization.

Many infectious diseases, such as measles and chickenpox, can be prevented by vaccines. Frequent and thorough hand-washing also helps protect you from most infectious diseases.

Symptoms

Each infectious disease has its own specific signs and symptoms. General signs and symptoms common to a number of infectious diseases include:

- Fever
- Diarrhea
- Fatigue
- Muscle aches
- Coughing

When to see a doctor

Seek medical attention if you:

- Have been bitten by an animal
- Are having trouble breathing
- Have been coughing for more than a week
- Have severe headache with fever
- Experience a rash or swelling
- Have unexplained or prolonged fever
- Have sudden vision problems

Infectious diseases can be caused by:

- **Bacteria.** These one-cell organisms are responsible for illnesses such as strep throat, urinary tract infections and tuberculosis.
- **Viruses.** Even smaller than bacteria, viruses cause a multitude of diseases ranging from the common cold to AIDS.
- **Fungi.** Many skin diseases, such as ringworm and athlete's foot, are caused by fungi. Other types of fungi can infect your lungs or nervous system.
- **Parasites.** Malaria is caused by a tiny parasite that is transmitted by a mosquito bite. Other parasites may be transmitted to humans from animal feces.

Direct contact

An easy way to catch most infectious diseases is by coming in contact with a person or an animal with the infection. Infectious diseases can be spread through direct contact such as:

- **Person to person.** Infectious diseases commonly spread through the direct transfer of bacteria, viruses or other germs from one person to another. This can happen when an individual with the bacterium or virus touches, kisses, or coughs or sneezes on someone who isn't infected.

These germs can also spread through the exchange of body fluids from sexual contact. The person who passes the germ may have no symptoms of the disease, but may simply be a carrier.

- **Animal to person.** Being bitten or scratched by an infected animal — even a pet — can make you sick and, in extreme circumstances, can be fatal. Handling animal waste can be hazardous, too. For example, you can get a toxoplasmosis infection by scooping your cat's litter box.
- **Mother to unborn child.** A pregnant woman may pass germs that cause infectious diseases to her unborn baby. Some germs can pass through the placenta or through breast milk. Germs in the vagina can also be transmitted to the baby during birth.

Indirect contact

Disease-causing organisms also can be passed by indirect contact. Many germs can linger on an inanimate object, such as a tabletop, doorknob or faucet handle.

When you touch a doorknob handled by someone ill with the flu or a cold, for example, you can pick up the germs he or she left behind. If you then touch your eyes, mouth or nose before washing your hands, you may become infected.

Insect bites

Some germs rely on insect carriers — such as mosquitoes, fleas, lice or ticks — to move from host to host. These carriers are known as vectors. Mosquitoes can carry the malaria parasite or West Nile virus. Deer ticks may carry the bacterium that causes Lyme disease.

Food contamination

Disease-causing germs can also infect you through contaminated food and water. This mechanism of transmission allows germs to be spread to many people through a single source. *Escherichia coli* (*E. coli*), for example, is a bacterium present in or on certain foods — such as undercooked hamburger or unpasteurized fruit juice.

Risk factors

While anyone can catch infectious diseases, you may be more likely to get sick if your immune system isn't working properly. This may occur if:

- You're taking steroids or other medications that suppress your immune system, such as anti-rejection drugs for a transplanted organ
- You have HIV or AIDS
- You have certain types of cancer or other disorders that affect your immune system

In addition, certain other medical conditions may predispose you to infection, including implanted medical devices, malnutrition and extremes of age, among others.

Complications

Most infectious diseases have only minor complications. But some infections — such as pneumonia, AIDS and meningitis — can become life-threatening. A few types of infections have been linked to a long-term increased risk of cancer:

- Human papillomavirus is linked to cervical cancer
- *Helicobacter pylori* is linked to stomach cancer and peptic ulcers
- Hepatitis B and C have been linked to liver cancer

In addition, some infectious diseases may become silent, only to appear again in the future — sometimes even decades later. For example, someone who's had chickenpox may develop shingles much later in life.

Prevention

Follow these tips to decrease the risk of infection:

- **Wash your hands.** This is especially important before and after preparing food, before eating, and after using the toilet. And try not to touch your eyes, nose or mouth with your hands, as that's a common way germs enter the body.
- **Get vaccinated.** Vaccination can drastically reduce your chances of contracting many diseases. Make sure to keep up to date on your recommended vaccinations, as well as your children's.
- **Stay home when ill.** Don't go to work if you are vomiting, have diarrhea or have a fever. Don't send your child to school if he or she has these signs, either.
- **Prepare food safely.** Keep counters and other kitchen surfaces clean when preparing meals. Cook foods to the proper temperature, using a food thermometer to check for

- doneness. For ground meats, that means at least 160 F (71 C); for poultry, 165 F (74 C); and for most other meats, at least 145 F (63 C).

Also promptly refrigerate leftovers — don't let cooked foods remain at room temperature for long periods of time.

- **Practice safe sex.** Always use condoms if you or your partner has a history of sexually transmitted infections or high-risk behavior.
- **Don't share personal items.** Use your own toothbrush, comb and razor. Avoid sharing drinking glasses or dining utensils.
- **Travel wisely.** If you're traveling out of the country, talk to your doctor about any special vaccinations — such as yellow fever, cholera, hepatitis A or B, or typhoid fever — you may need.

2. Answer the following questions.

1. What are the causative agents of infectious diseases?
2. What are the ways of infection transmission?
3. What are the most common symptoms of infectious diseases?
4. What are the risk factors of infectious diseases?
5. What infections can be life-threatening?
6. What are the preventive measures at infectious diseases?

3. Fill in the missing words.

Germs, sneezing, babies, microbes, body, helpful, infectious, soil, indirect, touch, symptoms, treats, bites

Germs, or are found everywhere - in the air,, and water. There are also germs on your skin and in your Many of them are harmless, and some can even be..... . But some of them can make you sick. Infectious diseases are diseases that are caused by

There are many different ways that you can get an disease:

- Through direct contact with a person who is sick. This includes kissing, touching,, coughing, and sexual contact. Pregnant mothers can also pass some germs along to their.....
- Through contact, when you touch something that has germs on it. For example, you could get germs if someone who is sick touched a door handle, and then you it.
- Through insect or animal
- Through contaminated food, water, soil, or plants

There are four main kinds of germs:

Infectious diseases can cause many different Some are so mild that you may not even notice any symptoms, while others can be life-threatening. There are treatments for some infectious diseases, but for others, such as some viruses, you can only your symptoms.

4. Match the terms with their definitions.

a)Viruses, b)Malaria, c)Parasites, d)Fungi, e)Bacteria, f)Strep throat

- 1. one-celled germs that multiply quickly. They may give off toxins, which are harmful chemicals that can make you sick.
- 2. and urinary tract infections are common bacterial infections.
- 3. tiny capsules that contain genetic material. They invade your cells so that they can multiply. This can kill, damage, or change the cells and make you sick.
- 4. primitive plant-like organisms such as mushrooms, mold, mildew, and yeasts.
- 5. animals or plants that survive by living on or in other living things.
- 6. is an infection caused by a parasite.

5. Translate into English.

1. Висипка, яка з'являється по всьому тілу пацієнта, є симптомом багатьох інфекційних хвороб.
2. З огляду на те, що температура тіла пацієнта поступово знижувалась, йому дозволили змінити дієту пацієнта.
3. Багато дитячих інфекційних хвороб мають подібні клінічні прояви - підвищення температури і висипку.
4. Інфіковані черевним тифом - є загрозою для оточуючих, оскільки в їхньому травному тракті живуть збудники цього важкого захворювання.
5. Для того щоб не виникли такі ускладнення, як запалення легенів, потрібно лікуватися від грипу.

6. Read and guess the diseases described in the text.

It is an [infection](#) caused by the [bacterium](#) *Corynebacterium* Signs and symptoms may vary from mild to severe. They usually start two to five days after exposure. Symptoms often come on fairly gradually, beginning with a sore throat and [fever](#). In severe cases, a grey or white patch develops in the throat. This can block the airway and create a barking cough as in [croup](#). The neck may swell in part due to enlarged [lymph nodes](#). A form of diphtheria which involves the skin, eyes or genitals also exists. Complications may include [myocarditis](#), [inflammation of nerves](#), [kidney problems](#), and bleeding problems due to [low levels of platelets](#). Myocarditis may result in an [abnormal heart rate](#) and inflammation of the nerves may result in [paralysis](#).

It is usually spread between people by direct contact or [through the air](#). It may also be spread by contaminated objects. Some people carry the bacterium without having symptoms, but can still spread the disease to others. The three main types of *C.* cause different severities of disease. The symptoms are due to a [toxin](#) produced by the bacterium. Diagnosis can often be made based on the appearance of the throat with confirmation by [microbiological culture](#). Previous infection may not protect against future infection.^[2]

Unit 2. Microbiology.

Active vocabulary:

Virology- вірусологія

Prevention- профілактика

Contribution- внесок

Viral- вірусний

Ensure- забезпечити

Appropriateness- відповідність, доречність

Antibiotic-resistant- стійкий до антибіотиків

Blood-borne infections- інфекції, що передаються через кров

SARS- ГРВІ

Avian flu- пташиний грип

1. Read and translate the text.

Medical microbiology and virology (MMV) involve the diagnosis, treatment and prevention of the spread of infection in hospitals and the community. Both these specialties are laboratory-based, but make a major contribution to clinical infection management.

Nature of the work

Medical microbiologists and virologists require clinical skills, as well as laboratory knowledge. In medical virology, the focus of skills and knowledge relate to viral infection.

Medical microbiology

Medical microbiologists provide services to aid the diagnosis and management of infectious diseases and help ensure the safety of those at risk of acquiring infectious diseases, both in hospitals and the community. Although this role is laboratory-based, the microbiologist's role is increasingly clinical.

When a patient is suspected of having an infection, they provide advice on the likely causes and suggest the best tests to diagnose it. Tests may involve the identification of parasites under the microscope, the use of biochemical tests to identify colonies of bacteria or the use of molecular tests to identify organisms (or even specific genes) which may govern an organism's behaviour.

Microbiologists provide advice regarding the interpretation of results and the appropriateness of further investigations and antibiotic treatment.

Microbiologists have a hands-on role supervising the running of the diagnostic laboratory, and ensuring the delivery of prompt and accurate test results for patients. In cases where antimicrobial drugs are required, medical microbiologists provide advice concerning the choice of such drugs and the duration of treatment.

The side effects of treatment, along the potential risk of encouraging further infections (some of which may be antibiotic-resistant) must be considered, along with any medical problems or allergies the patient might have.

Medical microbiologists also play a key role in controlling the spread of infectious diseases. Microbiologists work with hospital infection control teams to reduce the spread of infections in hospitals (including hospital 'super bugs' such as MRSA and *Clostridium Difficile*).

They also contribute to the protection of public health by monitoring the patterns of infectious diseases and reporting new or unusual occurrences of infections. In their infection control activities, microbiologists work with nurses and other healthcare professionals, hospital estates departments and management.

Teaching healthcare workers, both students and qualified staff, is an important part of the work. Research is undertaken by those with particular interests.

Medical virology

Medical virologists work in the laboratory and in clinics, as well as in hospital wards and the community. They manage HIV/AIDS and other blood-borne infections such as hepatitis B and

C, as well as the challenges of the current and newly emerging viruses around the globe such as SARS and avian flu.

Medical virologists must also deal with the new threat of bioterrorism, which uses agents like smallpox. There is scope for research and teaching without compromising regular work. Virology suits people with an interest in clinical, as well as laboratory-based, activities.

Medical microbiology and virology are becoming increasingly clinical. Training is starting to converge with that of other clinical infection specialties, such as infectious diseases and genitourinary medicine. There are joint training programmes in many regions, such as combining infectious diseases with medical microbiology or virology.

2. Answer the following questions.

1. What does medical microbiology and virology involve?
2. What do medical microbiologists provide?
3. What specialists play a key role in controlling the spread of infectious diseases?
4. What issues do medical virologists deal with?
5. Who contributes to monitoring the patterns of infectious diseases?

3. Fill in the missing words.

unicellular, clinical effects, numerous, microorganisms, relied, identification, molecules, is considered

Microbiology (from Greek *μικρος*, *mīkros*, "small"; *βίος*, *bios*, "life"; and *-λογία*, *-logia*) is the study of microorganisms, those being (single cell), multicellular (cell colony), or acellular (lacking cells). Microbiology encompasses sub-disciplines including virology, parasitology, mycology and bacteriology.

Eukaryotic possess membrane-bound organelles and include fungi and protists, whereas prokaryotic organisms—all of which are microorganisms—are conventionally as lacking membrane-bound organelles and include Bacteria and Archaea. Microbiologists traditionally on culture, staining, and microscopy.

However, less than 1% of the microorganisms present in common environments can be cultured in isolation using current means. Microbiologists often rely on molecular biology tools such as DNA sequence based....., for example 16s rRNA gene sequence used for bacteria identification.

Viruses have been variably classified as organisms, as they have been considered either as very simple microorganisms or very complex Prions, never considered as microorganisms, have been investigated by virologists, however, as thetraced to them were originally presumed due to chronic viral infections, and virologists took search—discovering "infectious proteins".

The existence of microorganisms was predicted many centuries before they were first observed, for example by the Jains in India and by Marcus Terentius Varro in ancient Rome. The first recorded microscope observation was of the fruiting bodies of moulds, by Robert Hooke in 1666, but the Jesuit priest Athanasius Kircher was likely the first to see microbes, which he mentioned observing in milk and putrid material in 1658. Antonie van Leeuwenhoek a father of microbiology as he observed and experimented with microscopic organisms in 1676, using simple microscopes of his own design. Scientific microbiology developed in the 19th century through the work of Louis Pasteur and in medical microbiology Robert Koch.

4. Match the terms with their definitions.



1.Aerobes (aerobic)	a)Most common group of microbes. Essential to life; many reside naturally in the body. Cause disease when a person is compromised
2.Bacteria	b) Microorganisms that require oxygen to live and grow
3.Fungi	c)Living organisms too small to be seen with the naked eye
4.Gram negative bacteria	d)Term used when nonresident flora invade a susceptible area/host
5.Gram positive bacteria	e)Temporary flora, not part of the normal flora
6.Infection	f)The body's response to infection. Signs/symptoms: redness, heat, swelling (edema), pain, pus
7.Inflammation	g)Bacteria which appear red/pink following a staining process

8. Microorganisms	h) Eucaryotic organisms including mushrooms, molds and yeasts
9. Transient microorganism	i) Bacteria which retain a purple color when subjected to a staining process

6. Read and entitle the text.

Viruses can infect all forms of life (bacteria, plants, protozoa, fungi, insects, fish, reptiles, birds, and mammals); however, this section covers only viruses capable of causing human infections. Like other microorganisms, viruses may have played a role in the natural selection of animal species. A documented example is the natural selection of rabbits resistant to virulent myxoma virus during several epidemics deliberately induced to control the rabbit population in Australia. Indirect evidence suggests that the same selective role was played by smallpox virus in humans. Another possible, though unproved, mechanism by which viruses may affect evolution is by introducing viral genetic material into animal cells by mechanisms similar to those that govern gene transfer by bacteriophages. For example, genes from avirulent retrovirus integrated into genomes of chickens or mice produce resistance to reinfection by related, virulent retroviruses. The same relationship may exist for human retroviruses, since human leukemia-causing retroviruses have been reported.

Viruses are small, subcellular agents that are unable to multiply outside a host cell (intracellular, obligate parasitism). The assembled virus (virion) is formed to include only one type of nucleic acid (RNA or DNA) and, in the simplest viruses, a protective protein coat. The nucleic acid contains the genetic information necessary to program the synthetic machinery of the host cell for viral replication. The protein coat serves two main functions: first, it protects the nucleic acid from extracellular environmental insults such as nucleases; second, it permits attachment of the virion to the membrane of the host cell, the negative charge of which would repel a naked nucleic acid. Once the viral genome has penetrated and thereby infected the host cell, virus replication mainly depends on host cell machinery for energy and synthetic requirements.

Unit 3. The work of an in-patient department

Active vocabulary:

ambulatory care - амбулаторна допомога

referral - направлення

admission note – амбулаторна картка

provided – за умови

advocate - захисник

notoriety – слава, знаменитість

nursing – догляд, сестринство

make rounds – робити обхід пацієнтів

to admit a patient – приймати пацієнта

primary care physicians – лікарі первинної ланки

approach- підхід

to discharge - виписувати

re-injury – повторна травма

to be implemented – бути втіленим

reduction in costs - зменшення витрат

1. Read and translate the text.

Patients enter inpatient care mainly from previous ambulatory care such as referral from a family doctor, or through emergency medicine departments. The patient formally becomes an "inpatient" at the writing of an admission note.

History

Inpatient care goes back to 230 BC in India where Ashoka founded 18 hospitals.

The Romans also adopted the concept of inpatient care by building a specialized temple for sick patients in 291 AD on the island of Tiber.

It is believed the first inpatient care in North America was provided by the Spanish in the Dominican Republic in 1502; the Hospital de Jesús Nazareno in Mexico City was founded in 1524 and is still providing inpatient care.

Perhaps the most famous provider of inpatient care was Florence Nightingale who was the leading advocate for improving medical care in the mid-19th century.

Nightingale received notoriety during the Crimean War where she and 38 women volunteer nurses traveled to Crimea to treat wounded soldiers. During her first winter at the hospital 4077 soldiers died in the hospital there. She would use this experience to change the course of inpatient care by focusing on improving sanitary conditions and better living conditions within the hospital.

Nightingale became known as "The Lady with the Lamp" and is still considered the founder of modern nursing. The Nightingale School of Nursing continues today and her image is the one depicted each year on nurses' day.

Hospitalist medicine

The original model for inpatient care required a family physician to admit a patient and then make rounds and manage the patient's care during their hospital stay. That model is rapidly being replaced by hospitalist medicine a term first used by Robert Wachter in an article written for the *New England Journal of Medicine* in 1996.

The concept of hospitalist medicine provides around the clock inpatient care from physicians whose sole practice is the hospital itself. They work with the community of primary care physicians to provide inpatient care and transition patients back to the care of their primary care provider upon discharge. Using this approach, primary care physicians are no longer required to make rounds or be on call.

Today, hospitalist medicine is the fastest growing segment of medicine and is being adopted by hospitals worldwide for inpatient care.

Planning for patient discharge

Health care professionals involved in rehabilitation are often involved in discharge planning for patients. When considering patient discharge, there are a number of factors to take into consideration: the patient's current state, their place of residence and the type of support available. When considering the patient's current state, although the patient may be eligible for discharge it is important to examine factors such as the likelihood of re-injury to avoid higher health care costs. Patients' homes should also be visited and examined before they are discharged from the hospital to determine any immediate challenges and corresponding goals, adaptations and assistive devices that need to be implemented. Follow-up appointments should also be coordinated with the patient prior to discharge to monitor the patient's progress as well as any potential complications that may have arisen. A 2016 Cochrane review showed some benefit to patient health when using individualised discharge planning over a standard format, though no reduction in health care costs

2. Answer the following questions.

1. When does a patient become the "inpatient"?
3. What are the ancient facts about inpatient care?
4. What do you know about Florence Nightingale ?
5. What is the duty of the primary care physicians?
6. What factors are taken into consideration for patient discharge?

3. Fill in the missing words.

factors, to determine, rehabilitation, health care, discharge, current state, follow-up, complications, benefit, costs.

Health care professionals involved in are often involved in discharge planning for patients. When considering patientthere are a number of factors to take into consideration: the patient's..... their place of residence and the type of support available. When considering the patient's current state, although the patient may be eligible for discharge it is important to examine such as the likelihood of re-injury to avoid highercosts. Patients' homes should also be visited and examined before they are discharged from the hospitalany immediate challenges and corresponding goals, adaptations and assistive devices that need to be implemented.appointments should also be coordinated with the patient prior to discharge to monitor the patient's progress as well as any potentialthat may have arisen. A 2016 Cochrane review showed someto patient health when using individualized discharge planning over a standard format, though no reduction in health care

4. Read and enact a dialog.

Patient: Nurse, I think I might have a fever. It's so cold in here!

Nurse: Here, let me check your forehead.

Patient: What do you think?

Nurse: You feel a bit warm. Let me get a thermometer to check.

Patient: How do I raise my bed? I can't find the controls.

Nurse: Here you are. Is that better?

Patient: Could I have another pillow?

Nurse: Certainly, Here you are. Is there anything else I can do for you?

Patient: No, thank you.

Nurse: OK, I'll be right back with the thermometer.

Patient: Oh, just a moment. Can you bring me another bottle of water, too?

Nurse: Certainly, I'll be back in a moment.

Nurse: (coming in the room) I'm back. Here's your bottle of water. Please put the thermometer under your tongue.

Patient: Thank you. (puts the thermometer under the tongue)

Nurse: Yes, you have a slight fever. I think I'll take your blood pressure as well.

Patient: Is there anything to worry about?

Nurse: No, no. Everything's fine. It's normal to have a bit of fever after an operation like yours!

Patient: Yes, I'm so glad everything went well.

Nurse: You're in good hands here! Please hold out your arm...

Key Vocabulary

- **to take someone's blood pressure** = (verb phrase) to check someone's blood pressure
- **operation** = surgical procedure
- **fever** = (noun) temperature that is much higher than normal
- **to check someone's forehead** = (verb) to put your hand between the eyes and hair to check for a temperature
- **slight fever** = (adjective + noun) a body temperature that is slightly higher than normal
- **thermometer** = instrument used to measure a temperature
- **to raise / lower the bed** = (verb) putting the bed up or down in a hospital
- **controls** = the instrument that allows a patient to move the bed up or down
- **pillow** = a soft object that you put under your head when sleeping

5. Comprehension Quiz

Choose the best answer from the choices below.

1. **We don't need to take Peter to the hospital. He only has a _____ fever.**

- slight
- teeny
- high

2. **What problem does the patient think she has?**

- A fever
- Vomiting
- A broken bone

3. **You can use these _____ to raise and _____ the bed.**

- levers / higher
- controls / lower
- button / lower

4. **What does the nurse think?**

- That the patient has a slight fever
- That the patient needs to see the doctor immediately
- That the patient should eat something

5. Could you check my _____ to see if it feels warmer than usual?

- elbow
- wrist
- forehead

6. Don't forget to put a soft _____ under your head before you go to bed.

- rabbit
- pillow
- stone

7. What other problem is the patient having?

- She's very hungry.
- She can't find the bed controls.
- She can't sleep.

8. What request does the patient make?

- She asks for an magazine.
- She asks for an extra blanket.
- She asks for an extra pillow.

9. What other problem might the patient have?

- She's hungry because she asks for food.
- She's thirsty because she asks for a bottle of water.
- She's very old because she mentions her 80th birthday.

10. My knee _____ was successful! I can finally walk without pain again!

- surgery
- operation
- both are correct

11. Let me get a _____ so I can check your _____.

- thermometer / temperature
- thermometer / blood pressure
- stethoscope / hernia

12. I'd like to take your _____. Please hold out your arm.

- blood
- fortune
- blood pressure

6. Read the text and find useful words and words combinations. Make up your own sentences using them.

Hospital is an institution whose primary function is to provide in-patient services, diagnostic and therapeutic, for a variety of medical conditions, both surgical and non-surgical. In Russia hospitals are divided into general, teaching and research, specialized (infection, children) and incorporated hospitals.

In-patient clinics have different departments: therapeutic, surgical, cardiological, oncological and others. The main structural units of any hospital are reception ward, physician's room, wards, laboratories, X-ray room, medical treatment and dressing room, physiotherapy room and others.

When patients are admitted to the hospital they are received by a nurse on duty at the reception ward first of all. Those patients who are to be hospitalized have already received the direction from the polyclinic.

On admission the nurse on duty fills in patient's case histories in which she writes down their names, age, place of work, occupation, address and the initial diagnosis made by a doctor at the polyclinic. Then a doctor on duty examines a hospitalized patients.

At the in-patient departments of a hospital life begins early in the morning. The nurses on duty take the patients' temperature, give them injections and all the prescribed remedies indicated by the ward doctors.

At about 9 o'clock in the morning the doctors begin the daily rounds of the wards during which they examine all the patients. After the medical examination the doctors administer the patients different procedures.

When the course of treatment is over and the patient's condition is normal he is discharged from the hospital. Then a patient is cared for at the district polyclinic.

Unit 4. Histology

Active vocabulary:

histology slides – гістологічні слайди

physician - лікар

embedding - заливка

sectioning- різка

staining - зафарбовування

alteration - зміна

microtomes - мікротоми

trichrome - трихром

mesenchyme - мезенхіма

confusion- змішування

algae - водорості

abnormality – аномалія

1. Read and translate the text.

What is histology?

Histology is defined as the scientific study of the microscopic structure (microanatomy) of cells and tissues. The term "histology" comes from the Greek words "histos," meaning tissue or columns, and "logia," which means study. The word "histology" first appeared in a 1819 book written by German anatomist and physiologist Karl Meyer, tracing its roots back to 17th-century microscopic studies of biological structures performed by Italian physician Marcello Malpighi.

How Histology Works

Courses in histology focus on the preparation of histology slides, relying on previous mastery of anatomy and physiology. Light and electron microscopy techniques are usually taught separately.

The five steps of preparing slides for histology are:

1. Fixing
2. Processing
3. Embedding
4. Sectioning
5. Staining

Cells and tissues must be fixed to prevent decay and degradation. Processing is required to prevent excessive alteration of tissues when they are embedded. Embedding involves placing a sample within a supporting material (e.g., paraffin or plastic) so small samples can be cut into thin sections, suitable for microscopy. Sectioning is performed using special blades called microtomes or ultramicrotomes. Sections are placed on microscope slides and stained. A variety of staining protocols are available, chosen to enhance the visibility of specific types of structures.

The most common stain is a combination of hematoxylin and eosin (H&E stain). Hematoxylin stains cellular nuclei blue, while eosin stains cytoplasm pink. Images of H&E slides tend to be in shades of pink and blue. Toluidine blue stains the nucleus and cytoplasm blue, but mast cells purple. Wright's stain colors red blood cells blue/purple, while turning white blood cells and platelets other colors.

Hematoxylin and eosin produce a **permanent stain**, so slides made using this combination may be kept for later examination. Some other histology stains are temporary, so photomicrography is necessary in order to preserve data. Most of the trichrome stains are **differential stains**, where a single mixture produces multiple colors. For example, Malloy's trichrome stain colors cytoplasm pale red, the nucleus and muscle red, red blood cells and keratin orange, cartilage blue, and bone deep blue.

Types of Tissues

The two broad categories of tissues are plant tissue and animal tissue.

Plant histology usually is called "plant anatomy" to avoid confusion. The main types of plant tissues are:

- Vascular tissue
- Dermal tissue
- Meristematic tissue
- Ground tissue

In humans and other animals, all tissue may be classified as belonging to one of four groups:

- Nervous tissue
- Muscle tissue
- Epithelial tissue
- Connective tissue

Subcategories of these main types include epithelium, endothelium, mesothelium, mesenchyme, germ cells, and stem cells.

Histology may also be used to study structures in microorganisms, fungi, and algae.

2. Answer the following questions.

1. What is histology?
2. Name five steps of preparing slides for histology?
3. Why cells and tissues must be fixed?
4. What does embedding involve?
5. What do hematoxylin and eosin produce?

3. Fill in the missing words.

Archaeologists, **tissues**, **frozen**, **autopsies**, **cellular**, **humans**, **examination**, **reveal**

- Histology is taught to biologists, medical students, and veterinary students because it helps them understand and recognize different types of..... . In turn, histology bridges the gap between anatomy and physiology by showing what happens to tissues at thelevel.

- use histology to study biological material recovered from archaeological sites. Bones and teeth are most likely to provide data. Paleontologists may recover useful material from organisms preserved in amber orin permafrost.
- Histology is used to diagnose diseases in....., animals, and plants and to analyze the effects of treatment.
- Histology is used duringand forensic investigations to help understand unexplained deaths. In some cases, a cause of death may be evident from microscopic tissue..... In other cases, the microanatomy mayclues about the environment after death.

4. Match the terms with their definitions.

a)Sectioning

b)Staining

c)Embedding

d)Fixing

1. Chemical fixatives are used to preserve tissue from decay. This preserves the structure of the cell and of sub-cellular components such as cell organelles (e.g., nucleus, endoplasmic reticulum, mitochondria). The most common fixative for light microscopy is formalin (4% formaldehyde in saline).
2. After fixing, the block of tissue is embedded in paraffin wax. This holds and preserves the tissue as a block.
3. The section is cut into a series of wafer-thin slices, each of which is put on a glass microscope slide. The machine which cuts the block is a mechanical guillotine which can be set to cut at a suitable depth for the tissue in question.
4. Stains are dyes, chemicals used to make cells and tissues easy to see under a microscope. There are many tissue stains, and each of them has advantages and disadvantages.

5. Translate into English.

1. Тканини — це структури, що складаються з морфологічно та/або функціонально однакових клітин, призначених здійснювати одне чи кілька певних завдань в організмі.
2. Гістопатологія — це розділ мікроскопічного вивчення пошкодженої тканини, він є важливим інструментом патологічної анатомії, оскільки точний діагноз раку та інших захворювань зазвичай вимагає гістопатологічного дослідження зразків.
3. Кількісна гістологія вивчає закономірності розвитку та функціонування тканин, використовуючи при цьому кількісні змінні та строгі методи перевірки гіпотез.
4. У XIX столітті гістологія була академічною дисципліною з повними правами.
5. Відкриття в клітинній біології та створення клітинної теорії стимулювали розвиток гістології.

6. Read and entitle the text. Put special questions to the text.

Histology is important in science education, applied science, and medicine.

- Histology is taught to biologists, medical students, and veterinary students because it helps them understand and recognize different types of tissues. In turn, histology bridges the gap between anatomy and physiology by showing what happens to tissues at the cellular level.
- Archaeologists use histology to study biological material recovered from archaeological sites. Bones and teeth are most likely to provide data. Paleontologists may recover useful material from organisms preserved in amber or frozen in permafrost.
- Histology is used to diagnose diseases in humans, animals, and plants and to analyze the effects of treatment.
- Histology is used during autopsies and forensic investigations to help understand unexplained deaths. In some cases, a cause of death may be evident from microscopic tissue examination. In other cases, the microanatomy may reveal clues about the environment after death.

Histology is the study of tissues and their structure. The structure of each tissue is directly related to its function, so histology is related to anatomy and physiology.

Similarly, histopathology is the study of tissues affected by disease. This is something that can be very useful in making a diagnosis and in determining the severity and progress of a condition. Disease processes affect tissues in distinctive ways, which depend on the type of tissue, the disease itself and how it has progressed.

Histopathology units are found in most hospitals and there are also independent private laboratories. The services provided by these laboratories can be accessed by healthcare professionals, such as general practitioners (GPs).

Because of the great variety of tests that are available, and the high level of skill that is needed to carry them out and interpret them, many laboratories specialise in particular tissues or types of diagnosis. For example, a neuropathology laboratory will focus on understanding diseases that affect the nervous system.

Histology is also used extensively in biomedical research, to identify the causes and possible treatments for disease. This type of research may take place in a hospital laboratory but it is more often carried out in universities, research institutes and pharmaceutical companies.

The conventional view of a histopathologist is someone looking down a microscope. Most histological work does indeed involve the preparation of tissues for microscopy, observation of sections and reporting of the findings. However, a pathologist can often tell a great deal about a tissue without using a microscope.

For example, the brain of a person affected by multiple sclerosis has distinct lesions (areas of damage or injury) that are a few millimetres across. These are called plaques, and can readily be seen in a tissue sample with the human eye (see the darker areas highlighted with arrows in Figure 1 below).

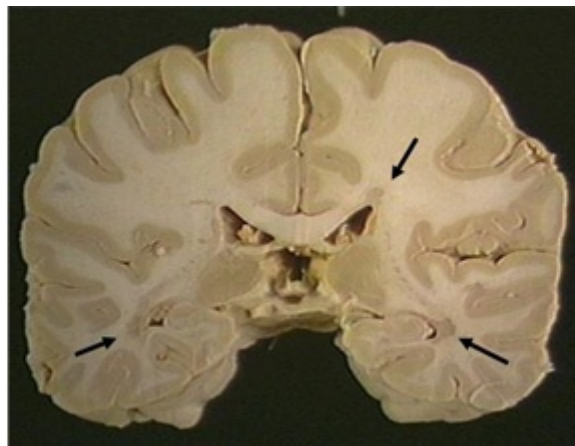


Figure 1 A cross-section through a human brain, with arrows indicating the presence of lesions (Caroldoey, 2015).

Such large specimens that can be examined macroscopically (by eye) are usually only available post-mortem (after death) or following surgical removal of tissue. In contrast, biopsy specimens, which consist of just a needleful of cells or a flake of tissue, can be extracted at any time, but can only be examined microscopically.

In this course we will first teach you how to use a basic light microscope and then show some sections of various human tissues, presented via a virtual microscope, which mirrors the functions of a real microscope.

Once you are familiar with the normal appearance of different tissues, we will start to introduce sections from diseased tissues, and relate their appearance to the normal physiology of the tissue and pathological changes that have occurred.

Note that the virtual microscope tool will work in all modern browsers on desktop computers, laptops and tablet devices. However, we recommend completing the course on a desktop computer or laptop for better viewing of the sections and to enable integration of microscopy with the course text, images and video in separate windows.

UNIT 5.VITAMINS

Active vocabulary:

substances	речовини
essential	важливий, необхідний
development	розвиток
store	накопичувати
nutrient	поживна речовина
remain	залишатися
fat-soluble vitamins	жиророзчинні вітаміни
water soluble	водорозчинний
deficiency	дефіцит
destroy	руйнувати

1. Read and translate the text.

Vitamins are substances that are essential in certain chemical transformations in the human body. They help the body process proteins, carbohydrates, and fats. Certain vitamins also contribute to the production of blood cells, hormones, genetic material, and chemicals of the nervous system. Vitamins exist in minute quantities in food. Most vitamins cannot be produced by the body and must be obtained through the diet. Since no single food item or nutrient class provides all the essential vitamins, it is necessary to eat a variety of foods. For example, vitamin A is needed for the eyes and to keep the linings of the bronchial, urinary, and intestinal tracts healthy; vitamin C is needed for the development of bones, teeth, blood vessels, and other tissues; vitamin K is necessary for blood clotting; and vitamin D is also needed for the development of bones and teeth. The principal vitamins are: vitamin A, vitamin B1, vitamin B2, pantothenic acid (part of the B2 complex), vitamin B3, vitamin B6, folic acid, vitamin B12, vitamin C, vitamin D, vitamin E, vitamin H (often considered part of the B-vitamin group), and vitamin K. Some vitamins (e.g., vitamin K) are produced by intestinal bacteria, and a few can be formed by the body from substances called provitamins (portions of vitamins that can be assembled or modified by the body into functional vitamins). Carotene is an example of a provitamin that can be modified by the body to form vitamin A. Vitamins are used by the body in their original or slightly modified forms. Once the chemical structure of a vitamin is destroyed, its function is usually lost. The chemical structure of many vitamins is destroyed by heat (e.g., when food is overcooked). There are two major classes of vitamins: fat soluble and water soluble. Fat-soluble vitamins such as vitamins A, D, E, and K are absorbed from the intestine along with lipids, and some of them can be stored in the body for a long period of time. Because they can be stored, it is possible to accumulate an overdose of these vitamins in the body (hypervitaminosis) to the point of toxicity. Water-soluble vitamins such as the B complex and C are absorbed with water from the intestinal tract and remain in the body only a short time before excreted. The absence of a specific vitamin in the diet can result in a specific deficiency disease.

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

Зберігати; сприяти; живлення, їжа; пантотенова кислота; збирати; кількість; неістотний, незначний; брак, дефіцит; компонент їжі; фолієва кислота; згорання; розчинний.

3. Insert the missing words:

1. Vitamins are _ that are essential in certain chemical transformations in the human body. 2. They help the body process _, carbohydrates, and fats. 3. Most vitamins cannot be produced by the body and must be obtained through the _. 4. Vitamin A is needed for the eyes and to keep the _ of the bronchial, urinary, and intestinal tracts healthy; vitamin C is needed for the development of bones, teeth, blood vessels, and other tissues; and vitamin D is also needed for the development of _ and teeth. 5. Some vitamins are produced by intestinal bacteria, and a few can be formed by the _ from substances called provitamins. 6. Once the chemical structure of a vitamin is _, its function is usually lost. 7. There are two major classes of vitamins: _ -soluble and _ -soluble. 8. _-soluble vitamins are vitamins A, D, E, and K. 9. _-soluble vitamins are the B complex and C.

4. Answer the following questions:

1. What are vitamins? 2. What is the function of vitamins? 3. What principal vitamins do you know? 4. How are some vitamins produced by the body? 5. In what form are vitamins used by the body? 6. What classes are the vitamins divided into?

5. Insert the prepositions:

1. Vitamins A and D are stored _ the liver. 2. Reserves of vitamins A and D may be sufficient _ 6 months. 3. Vitamins A and D can produce toxic effects when taken _ excessive amounts. 4. Although it is popularly believed that the water-soluble vitamins are harmless when taken _ large amounts, this is not always true. 5. Some of the water-soluble vitamins may have strong medicinal effects – good and bad – when taken _ large amounts. 6. _ large doses, B vitamin can cause nerve damage.

6. Fill in the table:

Name of vitamin	Functions of vitamin	Products containing vitamin	Conditions caused by lack of vitamin
Vitamin A			
Vitamin B2			
Vitamin E			
Vitamin B12			
Vitamin K			
Vitamin D			

7. Read the following abstract and entitle it:

Calcium is essential for strong bones, but to enhance the amount of calcium that ultimately reaches your bones you also need vitamin D. Your body makes vitamin D from two sources – sunlight and food. Most of the vitamin D the body makes starts with the sun. When you are exposed to ultraviolet (UV) light rays, a chemical in the skin is changed into an inactive form of vitamin D. Butter, eggs, and fatty fish such as herring, mackerel, and salmon naturally contain vitamin D. Other food sources are foods fortified with vitamin D such as milk, margarine, and some breakfast cereals. The liver and kidneys work to change vitamin D into the active form the body can use. Despite the availability of the sun and vitamin D-rich foods, several factors can interfere with obtaining enough of this essential nutrient: Age. As you get older, your body turns UV rays into vitamin D less efficiently. If you spend limited time outdoors exposed to the sun and don't drink 2 or more cups of milk a day, you may want to consider a supplement. Don't take more than 400 IU (units) of vitamin D a day unless prescribed by your physician. Illness. Kidney or liver disease reduces the ability to change vitamin D into its usable form. Medications such as phenytoin, prescribed for seizure disorders, can also lead to vitamin D deficiency. Vitamin D is like no other nutrient in that one of the best ways to obtain it has nothing to do with food. Although excessive sun exposure isn't healthful for your skin, a little bit of sun good for your bones.

Unit 6. TheFirstAid

Active vocabulary

adhesive plaster	лейкопластир
ampoule	ампула
antibiotics, pl.	антибіотики
artificial	штучний
antipyretics, pl.	жарознижувальні засоби
disposable syringe	одноразовий шприц
emetics, pl.	засоби, які викликають блювоту
enema	клизма
first-aid kit	медична аптечка
injury	пошкодження, травма
iodine	йод
non-registered nurse	молодша медична сестра
paramedic	фельдшер
severe	серйозний
suppository	свіча
team	бригада (швидкої допомоги)
tourniquet,	джгут
vial	флакон

I. Read and translate the text.

Always keep in mind that in any emergency situation, you should keep your wits about you. Be aware of your surroundings, and ensure that you yourself are not in danger. Survey the scene, call for help and perform first aid depending on the situation.

Essentially, first aid is the initial assistance given to a victim of injury or illness, before he or she can be attended to by a professional team. Very often quick medical treatment carried out with a clear head and presence of mind can save the life of the patient, and therefore the importance of first aid cannot be understated.

First aid courses would normally cover basic life support scenarios such as resuscitation, choking, slings and bandaging, CPR, shock, bleeding, fractures, bites and stings, foreign bodies among others. The care given is usually temporary, till proper medical treatment by a qualified doctor can be availed of. Nurses should be calm and confident and establish a human connection with the victim as soon as possible. Patients may be in shock and will require a firm yet compassionate hand and emotional support. Nurses will need to gather any helpful medical information as soon as possible and note it down correctly so that the doctor can take over as required. In case of disasters, there will be a profound psychological impact also which needs to be handled with care.

In just six minutes, the human brain can become incapacitated due to lack of oxygen. Nurses administering first aid should have enough knowledge and expertise to ensure that the right methods of administering medical assistance are provided. An inept nurse who is unable to quickly assess and respond to the emergency need will be of no help in such a situation. When the right care is given, the severity of the emergency can be curtailed.

Nurses at all levels in their career should keep themselves updated with the latest techniques and best practices in emergency care. Explore various first aid courses which should have topics ranging from primary assessment and accepted methodology in first aid for adults and children, right from basics through to the management of emergency disaster situations. Undertake a professional development course in First Aid, and help to save lives!

Since historic times, first aid has been an important component of medical care. Nurses are often the first to deal with patients who are in need of immediate care, and it is vital for them to be updated with knowledge of emergency care practices.

Why is first aid so important for nurses? Emergency care centres are more often than not buzzing with action; and in the event of any serious mishap or disaster they will need all the expertise and skilled hands they can find. In such situations, the first aid and emergency care measures administered by nurses can often mark the difference between life and death. Nurses who are experienced in first aid become an invaluable support not only to the patients, but the information they can provide proves to be critical to professional emergency responders and medical practitioners. Potential tragedies can be downscaled into something that is manageable.

Should be noted that there is emergency medical service (EMS). It is a special medical service that provides out-of-hospital medical care and transportation of patients with illnesses and injuries to hospitals. It is carried out by the specialized facility called the First Aid Station. It is on duty all day long. Calls are made to the First Aid Station in case of an accident or a sudden severe illness. There are a lot of ambulances at the First Aid Station. They all are well-equipped with first-aid kits. First-aid kit is a special case which contains all the necessary things for rendering the first aid and making a diagnosis: ampoules, boxes, vials with different drugs and tubes with liniment; alcohol, cotton wadding, disposable syringes for IV and IM injections; antiseptics, brilliant green, iodine, adhesive plasters to clean and close wounds; bandage and tourniquet to stop bleeding; inhalers for people suffering from respiratory diseases; enema, probe, hot water bottle for those who have troubles with the gastrointestinal tract; masks and gloves for the first-aid doctors for their personal protection. Among medicines, there are pain-killers, tonics, antibiotics, anti-inflammatory remedies, emetics and anti-emetics, antipyretics, sedatives and hypnotics, laxatives and suppositories in the first-aid kit. It may contain even narcotic medicines to relieve pain in severe cases.

The ambulances also carry artificial respiration apparatus, sets of splints and stretchers, thermometers to take the temperature, tonometers to measure blood pressure, portable electrocardiograph to monitor a patient's heart work.

There are several kinds of ambulance teams that are trained to deliver specialized medical aid: cardiac intensive care teams, psychiatric care teams, children's emergency, etc. Each ambulance is equipped with appropriate instruments according to their qualification.

All ambulances are radio equipped. To call in an ambulance it is necessary to dial up 103. The dispatcher is responsible for the "pre-arrival" instructions: he receives the call, asks for all the important details (for example, the address of an accident, types of injuries) and then directs the corresponding ambulance.

The ambulance team usually consists of an ambulance doctor, medical assistant (or paramedic), and non-registered nurse. The main thing in the work of the ambulance doctor is to make a correct diagnosis quickly. That's why the doctor must have deep knowledge of emergency surgery, toxicology, emergency therapy, obstetrics and gynecology. The paramedic helps the doctor and usually prepares the necessary instruments for a certain procedure. The duty of the non-registered nurse is to keep the first-aid kit in order. There is also an ambulance driver who is trained to transport people carefully.

In Ukraine there are government-financed and private ambulance services. The main function of the latter is mainly to transport a patient to the hospital.

II. Answer the questions.

1. What is the first aid?
2. Why is first aid so important for nurses?
3. What is Emergency medical service?
4. What does the emergency medical service provide?
5. How many hours a day do the First Aid Stations work?
6. What are the ambulances equipped with?
7. What medical things does the first-aid kit contain?
8. What drugs are there in the first-aid kit?
9. What are the members of the ambulance team? What are their duties?
10. What types of ambulance services are in Ukraine?

III. Match the terms with their definition.

1. anti-inflammatory drugs	a) medicines that decrease fever;
2. antipyretics	b) medicines that are used to calm down and relax the patient;
3. analgesics	c) medicines for relieving constipation;
4. emetics	d) solid medicines that are inserted into the rectum where they melt and affect the body;
5. hypnotics	e) medicines that relieve pain, they are also called pain-killers;
6. laxatives	f) medicines that produce vomiting;
	g) medicines that help to reduce inflammation;
7. sedatives	h) medicines that produce sleep.
8. suppositories	

1.	2.	3.	4.	5.	6.	7.	8.

IV. Match the parts of expressions. Translate into Ukrainian.

1. out-of-hospital	a) nurse
2. disposable	b) remedies
3. non-registered	c) services
4. pre-arrival	d) kits
5. government-financed	e) syringes
6. anti-inflammatory	f) diseases
7. first-aid	g) medical care
8. respiratory	h) instructions

V. Right or wrong?

1. Masks and gloves in the first-aid kit are necessary for the doctor's personal protection.
2. The patient's blood pressure is measured with the help of the portable electrocardiograph.
3. To take the temperature, nurses use thermometers.
4. Bleeding can be easily stopped with brilliant green or iodine or some other antiseptic.
5. Stretchers are used when a person has broken his leg.
6. Gastrointestinal disorders can be relieved with the help of enema, probe, hot water bottle.
7. The ambulance doctor monitors the patient's heart work with portable artificial respiration apparatus.
8. A person suffering from asthma needs to use a set of splints.

VI. Translate the words in italics into English.

1. Out-of-hospital medical care is provided by *станцією швидкої допомоги*.
2. Each ambulance has *медичні аптечки* with *антисептиками, знеболюючими, заспокійливими, жарознижувальними засобами*, etc.
3. The First Aid Stations are *чергуванні* all day long, and they are always ready *надати першу медичну допомогу*.
4. There are several kinds of ambulance teams: *кардіо-реанімаційні, психіатричні дитячі*, so on.

5. It is the dispatcher who *відповідає за* the “pre-arrival” instructions.
6. An ambulance doctor, *фельдшер* and *молодша медична сестра* are the members of an ambulance team.
7. The main thing in the work of the ambulance doctor is *поставити правильний діагноз* quickly.
8. In Ukraine there are *державні та приватні* ambulance services.

VII. Match the terms with their definitions.

1. anti-inflammatory drugs	a) medicines that decrease fever;
2. antipyretics	b) medicines that are used to calm down and relax the patient;
3. analgesics	c) medicines for relieving constipation;
4. emetics	d) solid medicines that are inserted into the rectum where they melt and affect the body;
5. hypnotics	e) medicines that relieve pain, they are also called pain-killers;
6. laxatives	f) medicines that produce vomiting;
7. sedatives	g) medicines that help to reduce inflammation;
8. suppositories	h) medicines that produce sleep.

VIII. Put the verbs into the correct form.

1. Emergency medical service always (to provide) out-of-hospital medical care.
2. Yesterday, the ambulance (to transport) him to the trauma unit.
3. I (to call) in an ambulance, if the temperature (to keep) rising.
4. The nurse (to close) the wound with adhesive plaster after she’s cleaned it.
5. Emetics are the drugs that (to make) you vomit.
6. The dispatcher (to be) responsible for the “pre-arrival” instructions.
7. All the ambulances (to have) first-aid kits.
8. The ambulance driver (to transport) patients carefully.

IX. Translate into English.

1. Як правило, швидка допомога приїздить негайно.
2. Його миттю госпіталізували з такими ушкодженнями.
3. Її обережно транспортували до реанімаційного відділення.
4. Зеленка є одним з найкращих коли-небудь відомих антисептиків.
5. Щоб заспокоїти пацієнтів, лікарі іноді дають їм заспокійливе.
6. В машинах швидкої допомоги завжди є тонометр, термометр, набір шин, носилки.

Unit 7. How to Write Medical Papers.

Active vocabulary

establish	встановлювати
initial	початковий; попередній
affect	вразити
fits	конвульсії
faint	знепритомніти; непритомність, зомління
disturbance	порушення
vertigo	запаморочення
clue	ключ (до розгадки)
elicit	установлювати, виявляти
relevant	доречний; що стосується справи
obtain	отримувати
intolerance	нетерпимість
indigestion	розлад травлення
heartburn	печія
account	звіт

I. Read and translate the text.

How to Write Medical Papers

Taking a patient's history is the initial part of clinical examination and its main aim is to find out the patient's present problem and how it affects the quality of their life.

The history is a review of the patient's current state of health and past medical condition. When taken carefully, it may give valuable information about the nature of the patient's problem and provide the

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necessary clues to help the doctor establish a preliminary or differential diagnosis.

The history-taking process is a well established and commonly used sequence.

1. History of presenting complaint (HPC). The main symptoms should be clearly defined as soon as possible, to find out the cause of admission or seeking medical advice. The onset, severity, progression, associated features or symptoms are all important. A special focus is also made on pains associated or not with specific organs.

2. History of present illness (HPI). The patient is requested to give an account of recent events in their own words which in this way may be recorded in the history sheet.

3. Systemic enquiry (SE) also known as the review of systems (RoS). The history is taken of the main symptoms of the major bodily systems:

General: mood, fatigue, anorexia, fever, night sweats, rashes, heat/cold intolerance.

Cardiovascular system (CVS): chest pain, palpitations.

Respiratory system (RS): shortness of breath, cough, sputum, wheeze, hemoptysis.

Gastrointestinal system (GS): nausea, vomiting, indigestion, abdominal pain, heartburn, change in bowel habit.

Genitourinary system (GUS): nocturia, frequency, incontinence, change in color/smell of urine, menstrual difficulties.

Central nervous system (CNS): headaches, weakness, dizziness, fits, faints, vertigo.

4. Past medical history (PMH). Patients are asked about their previous medical/surgical diseases.

5. Drug history (DH) and allergies (ALL). Information is obtained on any medication prescribed, self-administered drugs.

6. Family history (FH) provides information about any predisposition to disease, and relevant information on relatives.

7. Social history (SH). Information is collected about the patient's occupational, social, personal factors, such as habits, employment, housing, interests, sports, hobbies, physical exercises, the use of alcohol, tobacco, recreational drugs.

To accomplish the purpose, a set of the following practical tips has been developed:

- Show the patient your attention;
- Start by eliciting the presenting complaint;
- Let the patient tell story in their own words;
- Try not to interrupt;
- Use the language which the patient understands;
- Summarize the story for the patient to check, correct and add more relevant details;
- Obtain the patient's history also from other sources of information.

Having completed history taking, the doctor will perform the next stage of clinical examination, which is physical examination. The diagnostic process will proceed, but the first clues have already been obtained to formulate a preliminary diagnosis, which will help the doctor to develop their own approach to the patient's problem during physical examination.

II. Answer the questions.

1. What are the main components of clinical examination?
2. Why does taking history come first?
3. How does an interview usually start?
4. Why are systems reviewed?
5. Why are patients asked about their previous medical diseases?
6. What may drug history reveal?
7. What recommendations should be followed to get accurate information?
8. What is crucial in history taking?
9. Is it necessary to obtain the patient's history from different sources of information?
10. What information should be defined during taking history of presenting complaint?

III. Match English and Ukrainian.

1. біль в черевній порожнині	a. to provide information
2. порушення мови	b. present problem
3. генетичне захворювання	c. abdominal pain
4. причина госпіталізації	d. speech disturbance
5. поставити діагноз	e. genetic diseases

6. диференціальний діагноз	f. present complains
7. надавати інформацію	g. previous diseases
8. теперішня скарга	h. differential diagnosis
9. дана проблема	i. cause of admission
10. попереднє захворювання	j. to establish diagnosis

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

IV. Match expressions with their definitions.

1. present complaint	a. details of patient's medical records over a period of time				
2. history of present illness	b. all the symptoms of the diseases are present				
3. systemic enquiry	c. recent events in the case history				
4. past medical history	d. review of systems				
5. family history	e. records of earlier illnesses				
6. drug history	f. information about parents, relatives				
1.	2.	3.	4.	5.	6.

V. Complete the following sentence choosing suitable words from the box.

disturbance initial give vertigo genetic previous abdominal obtained
--

- The patient gives a month's history of _____ pain.
 - These results are consistent with _____ disease.
 - On a recent visit he complained of nausea, vomiting and speech _____.
 - A thorough inquiry elicited relevant symptoms: _____, faints and fits.
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- Having completed history taking the doctor made _____ diagnosis.
 - Family history provided information about _____ disease.
 - There was _____ detailed information on patient's relatives.
 - Practical recommendations have been developed which help to _____ diagnosis.

VI. What body systems are these questions related to?

Cardiovascular system (CVS)

Respiratory system (RS)

Gastrointestinal system (GS)

Genitourinary system (GUS)

Central nervous system (CNS)

Endocrine system (ES)

Ear, nose and throat (ENT)

1. Do you have any nausea, vomiting, diarrhea, dyspepsia?
2. Does your pain behind your breastbone irradiate to your back, neck, arm?
3. How long have you been having these headaches?
4. Do you keep awake at night?
5. Have you any trouble with your stomach or bowels?
6. What's your appetite like?
7. Do you have any problems with your waterworks?
8. Are you still having your periods regularly?
9. Do you have pain in the chest, palpitation, swelling of the ankles?
10. What about coughs or wheezing or shortness of breath?
11. Are you diabetic?
12. Have you ever had nose bleeding?

Unit 8. Cardiovascular diseases

Active vocabulary:

1. Exertion – напруження
2. Bloating – здуття
3. Fluidbuildup – скупчення рідини
4. Fainting – непритомність
5. Fluttering – тремтіння
6. Acquired – набутий
7. Inherited – успадкований
8. Thyroid disease – захворювання щитоподібної залози
9. Pregnancy – вагітність
10. Thickening – потовщення
11. Rigid – жорсткий
12. To expand – розширюватися
13. Plaques – бляшки
14. To fill – заповнювати
15. Scar tissue – рубцева тканина
16. Heart failure – серцева недостатність
17. Cardiac arrest – зупинка серця
18. Dye – барвник
19. Pacemaker – кардіостимулятор
20. Anti-platelet – антитромбоцитарний

I. Read and translate the text:

Cardiovascular disease is the leading cause of death for both men and women. It encompasses a broad range of conditions and diseases, some of which are genetic, and many of which are the result of lifestyle choices. There are many different types of diseases that can affect the heart and vascular system.

Coronary Artery Disease (CAD)

This type of cardiovascular disease involves atherosclerosis—hardening and narrowing—of the coronary arteries, producing blockages in the vessels that carry blood to the heart. Atherosclerosis happens over time, slowly blocking arteries and eventually restricting blood flow to the heart. It is usually the cause of heart attack, stroke, and peripheral vascular disease.

Heart Attack

Also called "myocardial infarction" (MI), a heart attack happens when blood flow to the heart is severely reduced or cut off, due to the hardening and narrowing of the coronary arteries from the build-up of fat, cholesterol, and other substances, known together as "plaque." A blood clot forms around the plaque, blocking blood flow. This results in permanent damage or death of part of the heart muscle.

Arrhythmia

This condition refers to any change in the normal sequence of the heartbeat. It involves the electrical impulses of the heart—not the arteries or blockages. These electrical impulses may happen too fast, too slow, or irregularly, which causes the heart to beat the same way. When the heart doesn't beat normally, it can't pump blood effectively to the lungs, brain, and other organs, causing them to potentially shut down or become damaged.

Heart Failure

While a serious condition, heart failure does not mean that the heart is no longer working. Heart failure is when the heart's ability to pump is weaker than normal. Blood moves through the heart and body at a slower rate, pressure increases in the heart, and the heart can't supply enough blood and oxygen to the body's cells, resulting in fatigue and shortness of breath.

Congenital Heart Defects

Different than other types of heart conditions, congenital heart defects are present at birth. These defects are not a disease, but rather an abnormality that occurs while a fetus is developing.

Examples include a leaky heart valve or malformations in the walls that separate the heart chambers. Some heart defects may produce symptoms at birth or during childhood, while others aren't discovered until a person is an adult. Treatment may or may not be needed, depending on the severity of the defect.

Cardiomyopathy

A progressive disease that causes the heart to become abnormally enlarged, thickened, and/or stiffened, cardiomyopathy (also known as heart muscle disease) limits the heart muscle's ability to pump blood effectively. This often leads to other heart conditions such as heart failure or arrhythmia.

Peripheral Artery Disease

A type of vascular disease (diseases that affect the circulatory system), peripheral artery disease occurs when fat and cholesterol deposits, or "plaque," build up in the peripheral arteries, which are the blood vessels outside the heart. This build up (also called atherosclerosis) narrows the artery walls, restricting the amount of blood flow to the body's tissues. Depending on the arteries where the blockage occurs, this can lead to stroke, heart attack, renal (kidney) artery disease, and other serious conditions.

Questions:

1. What is cardiomyopathy?
2. What are the symptoms of cardiomyopathy?
3. Can COVID-19 cause cardiomyopathy?
4. What are the symptoms of heart attack?
5. How to diagnose heart attack?
6. What is normal blood pressure? How can it change?
7. What causes hypertension?
8. What are the symptoms of hypertension?
9. What is myocarditis?
10. Can viral infections or drug cause myocarditis?
11. What symptoms does myocarditis have?
12. What is heart failure?
13. What are the symptoms of heart failure?

II. Translate the words:

To dilate –

obesity –

blood clots –

measure –

ischemic heart disease –

to supply –

to interfere –

extreme pain –

myocardial Infarction –

angina pectoris –

unstable angina –

occurrence -

palpitation –

backache –

shortness of breath(breathlessness) –

nausea –

loss of appetite –

dizziness –

sweating –

exhausted –

heart rate –

insufficient supply of oxygen –

inadequate flow of blood –

permanently –

due to –

obstruction –

failure of the heart –

heart attacks –

III. Fill in the gaps:

Secondary hypertension: Some people have high blood caused by an underlying condition. This type of high blood pressure, called secondary....., tends to appear suddenly and cause higher blood pressure than does hypertension. Various and medications can lead to secondary hypertension, including:

..... sleep apnea;

Kidney problems;

Adrenal..... ;

Thyroid problems;

Certain defects you're born with (congenital) in blood vessels;

Certain medications, such as birth control pills, cold..... , decongestants, over-the-counter pain relievers and some prescription drugs;

Illegal drugs, such as cocaine and amphetamines.

Most people with high blood pressure have no or symptoms, even if blood pressure readings reach dangerously high levels. A few people with high blood pressure may have headaches, or nosebleeds, but these signs and symptoms aren't specific and usually don't occur until high blood pressure has reached a severe or stage.

a)pressure, b)signs ,c)primary,d) conditions,e) life-threatening, f)shortness of breath, g)obstructive,h) gland tumors, i) hypertension, j)remedies

IV. Read and discuss the text:

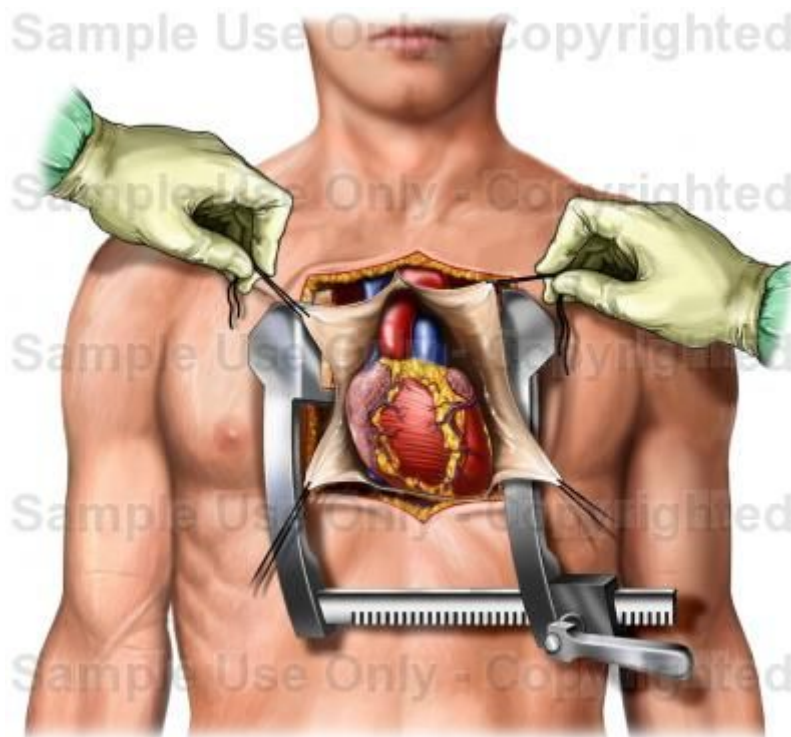
CARDIOSURGERY (CARDIAC SURGERY)

Is surgery on the heart or great vessels performed by cardiac surgeons. It is often used to treat complications of ischemic heart disease (for example, with coronary artery bypass grafting); to correct congenital heart disease; or to treat valvular heart disease from various causes, including endocarditis, rheumatic heart disease, and atherosclerosis. It also includes heart transplantation.

Open-heart surgery

Open-heart surgery is any kind of surgery in which a surgeon makes a large incision (cut) in the chest to open the rib cage and operate on the heart. "Open" refers to the chest, not the heart. Depending on the type of surgery, the surgeon also may open the heart.

During such surgery, the heart is temporarily stopped, and the patient is placed on cardiopulmonary bypass, meaning a machine pumps their blood and oxygen. Because the machine cannot function the same way as the heart, surgeons try to minimize the time a patient spends on it.

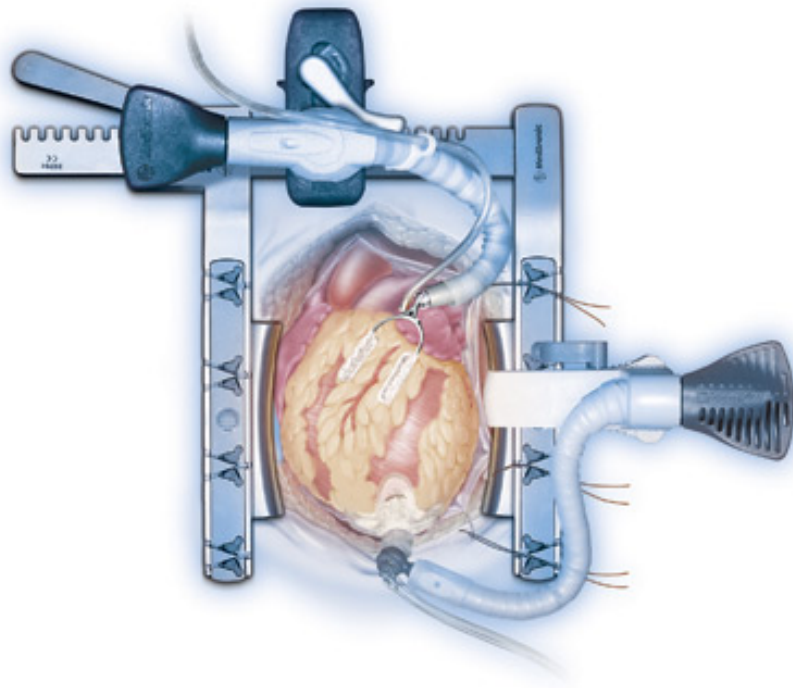


Modern beating-heart surgery

In the early 1990s, surgeons began to perform off-pump coronary artery bypass, done without cardiopulmonary bypass.

In these operations, the heart continues beating during surgery, but is stabilized to provide an almost still work area in which to connect a conduit vessel that bypasses a blockage.

The conduit vessel that is often used is the saphenous vein. This vein is harvested using a technique known as endoscopic vessel harvesting (EVH).

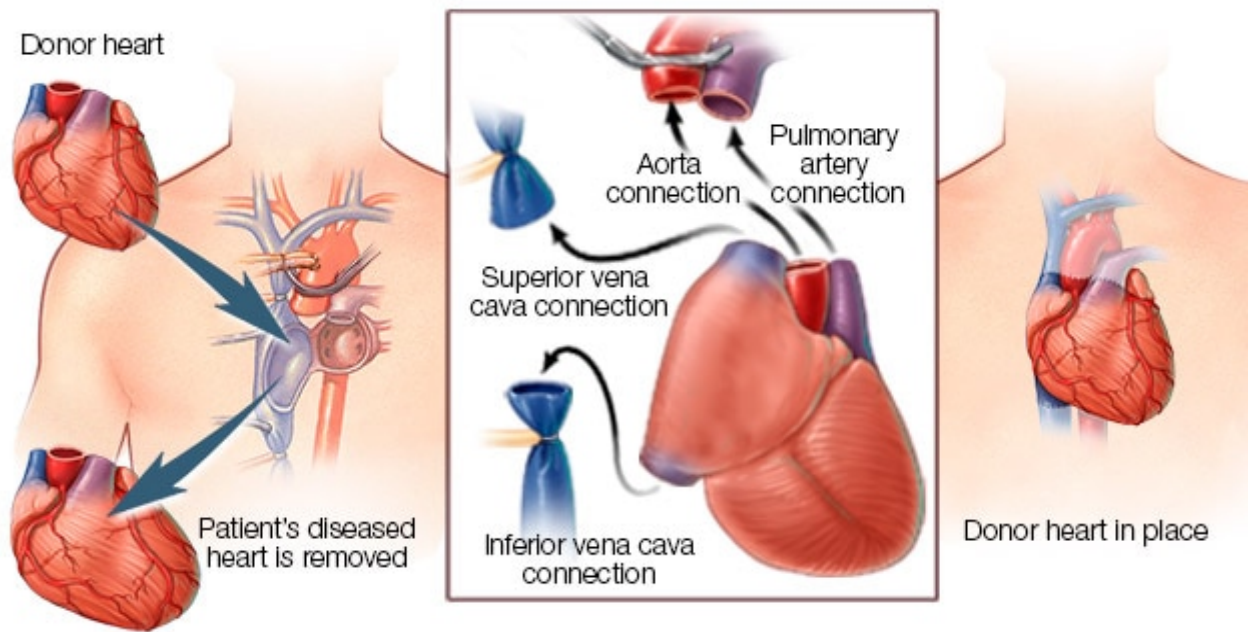


Heart transplantation

In 1945, the Soviet pathologist Nikolai Sinitsyn successfully transplanted a heart from one frog to another frog and from one dog to another dog.

Shumway performed the first adult heart transplant in the United States on 6 January 1968 at Stanford University Hospital.

Heart transplant procedure



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Coronary artery bypass grafting

Coronary artery bypass grafting, also called revascularization, is a common surgical procedure to create an alternative path to deliver blood supply to the heart and body, with the goal of preventing clot formation. This can be done in many ways, and the arteries used can be taken from several areas of the body. Arteries are typically harvested from the chest, arm, or wrist and then attached to a portion of the coronary artery, relieving pressure and limiting clotting factors in that area of the heart.

The procedure is typically performed because of coronary artery disease (CAD), in which a plaque-like substance builds up in the coronary artery, the main pathway carrying oxygen-rich blood to the heart. This can cause a blockage and/or a rupture, which can lead to a heart attack.

Minimally invasive surgery

As an alternative to open-heart surgery, which involves a five- to eight-inch incision in the chest wall, a surgeon may perform an endoscopic procedure by making very small incisions through which a camera and specialized tools are inserted.

In robot-assisted heart surgery, a machine controlled by a cardiac surgeon is used to perform a procedure.

The main advantage to this is the size of the incision required: three small port holes instead of an incision big enough for the surgeon's hands.

The use of robotics in heart surgery continues to be evaluated, but early research has shown it to be a safe alternative to traditional techniques.

Unit 9.Nervous System Diseases.

Active vocabulary:

1. viable – життєздатний
2. neuronal death – смерть нейронів
3. amyotrophic lateral sclerosis – амітрофічний бічний склероз
4. cholinergic – холінергічний
5. dementia – божевілля
6. protein clumps – згусток білка
7. obsessive compulsive disorder – обсесивно-компульсивний розлад
8. recurrent seizures – періодичні напади
9. stroke – інсульт
10. confusion.– спантеличеність

I.Read and translate the text:

A nervous system that functions correctly is a fantastically complex, well-oiled machine—synapses fire appropriately, muscles move when needed, memories are formed and stored, and emotions are well regulated. Unfortunately, each year millions of people **all over the world** deal with some sort of nervous system disorder. While scientists have discovered potential causes of many of these diseases, and viable treatments for some, ongoing research seeks to find ways to better prevent and treat all of these disorders. Neurodegenerative disorders are illnesses characterized by a loss of nervous system functioning that are usually caused by neuronal death. These diseases generally worsen over time as more and more neurons die. The symptoms of a particular neurodegenerative disease are related to where in the nervous system the death of neurons occurs. Spinocerebellar ataxia, for example, leads to neuronal death in the cerebellum. The death of these neurons causes problems in balance and walking. Neurodegenerative disorders include Huntington's disease, amyotrophic lateral sclerosis, Alzheimer's disease and other types of dementia disorders, and Parkinson's disease. Here, Alzheimer's and Parkinson's disease will be discussed in more depth.

Alzheimer's Disease

Alzheimer's disease is the most common cause of dementia in the elderly. In 2012, an estimated 5.4 million Americans suffered from Alzheimer's disease, and payments for their care are estimated at \$200 billion. Roughly one in every eight people age 65 or older has the disease. Due to the aging of the baby-boomer generation, there are projected to be as many as 13 million Alzheimer's patients in the United States in the year 2050.

Symptoms of Alzheimer's disease include disruptive memory loss, confusion about time or place, difficulty planning or executing tasks, poor judgment, and personality changes. Problems smelling certain scents can also be indicative of Alzheimer's disease and may serve as an early warning sign. Many of these symptoms are also common in people who are aging normally, so it is the severity and longevity of the symptoms that determine whether a person is suffering from Alzheimer's.

Alzheimer's disease was named for Alois Alzheimer, a German psychiatrist who published a report in 1911 about a woman who showed severe dementia symptoms. Along with his colleagues, he examined the woman's brain following her death and reported the presence of abnormal clumps, which are now called amyloid plaques, along with tangled brain fibers called neurofibrillary tangles. Amyloid plaques, neurofibrillary tangles, and an overall shrinking of brain volume are commonly seen in the brains of Alzheimer's patients. Loss of neurons in the hippocampus is especially severe in advanced Alzheimer's patients.

One form of the disease is usually caused by mutations in one of three known genes. This rare form of early onset Alzheimer's disease affects fewer than five percent of patients with the disease and causes dementia beginning between the ages of 30 and 60. The more prevalent, late-onset form of the disease likely also has a genetic component. One particular gene, apolipoprotein E (APOE) has a variant (E4) that increases a carrier's likelihood of getting the disease. Many other genes have been identified that might be involved in the pathology.

Unfortunately, there is no cure for Alzheimer's disease. Current treatments focus on managing the symptoms of the disease. Because decrease in the activity of cholinergic neurons (neurons that use the neurotransmitter acetylcholine) is common in Alzheimer's disease, several drugs used to treat the disease work by increasing acetylcholine neurotransmission, often by inhibiting the enzyme that breaks down acetylcholine in the synaptic cleft. Other clinical interventions focus on behavioral therapies like psychotherapy, sensory therapy, and cognitive exercises. Since Alzheimer's disease appears to hijack the normal aging process, research into prevention is prevalent. Smoking, obesity, and cardiovascular problems may be risk factors for the disease, so treatments for those may also help to prevent Alzheimer's disease. Some studies have shown that people who remain intellectually active by playing games, reading, playing musical instruments, and being socially active in later life have a reduced risk of developing the disease.

Parkinson's Disease

Like Alzheimer's disease, Parkinson's disease is a neurodegenerative disease. It was first characterized by James Parkinson in 1817. Parkinson's disease causes the loss of dopamine neurons in the substantia nigra, a midbrain structure that regulates movement. Loss of these neurons causes many symptoms including tremor (shaking of fingers or a limb), slowed movement, speech changes, balance and posture problems, and rigid muscles. Patients with Parkinson's disease can also exhibit psychological symptoms, such as dementia or emotional problems.

Although some patients have a form of the disease known to be caused by a single mutation, for most patients the exact causes of Parkinson's disease remain unknown: the disease likely results from a combination of genetic and environmental factors (similar to Alzheimer's disease). Post-mortem analysis of brains from Parkinson's patients shows the presence of Lewy bodies—abnormal protein clumps—in dopaminergic neurons. The prevalence of these Lewy bodies often correlates with the severity of the disease.

There is no cure for Parkinson's disease, and treatment is focused on easing symptoms. One of the most commonly prescribed drugs for Parkinson's is L-DOPA, which is a chemical that is converted into dopamine by neurons in the brain. This conversion increases the overall level of dopamine neurotransmission and can help compensate for the loss of dopaminergic neurons in the substantia nigra. Other drugs work by inhibiting the enzyme that breaks down dopamine.

Neurodevelopmental Disorders

Neurodevelopmental disorders occur when the development of the nervous system is disturbed. There are several different classes of neurodevelopmental disorders. Some, like Down Syndrome, cause intellectual deficits. Others specifically affect communication, learning, or the motor system. Some disorders like autism spectrum disorder and attention deficit/hyperactivity disorder have complex symptoms.

Autism

Autism spectrum disorder (ASD) is a neurodevelopmental disorder. Its severity differs from person to person. Estimates for the prevalence of the disorder have changed rapidly in the past few decades. Current

estimates suggest that one in 88 children will develop the disorder. ASD is four times more prevalent in males than females.

A characteristic symptom of ASD is impaired social skills. Children with autism may have difficulty making and maintaining eye contact and reading social cues. They also may have problems feeling empathy for others. Other symptoms of ASD include repetitive motor behaviors (such as rocking back and forth), preoccupation with specific subjects, strict adherence to certain rituals, and unusual language use. Up to 30 percent of patients with ASD develop epilepsy, and patients with some forms of the disorder (like Fragile X) also have intellectual disability. Because it is a spectrum disorder, other ASD patients are very functional and have good-to-excellent language skills. Many of these patients do not feel that they suffer from a disorder and instead think that their brains just process information differently.

Except for some well-characterized, clearly genetic forms of autism (like Fragile X and Rett's Syndrome), the causes of ASD are largely unknown. Variants of several genes correlate with the presence of ASD, but for any given patient, many different mutations in different genes may be required for the disease to develop. At a general level, ASD is thought to be a disease of "incorrect" wiring. Accordingly, brains of some ASD patients lack the same level of synaptic pruning that occurs in non-affected people. In the 1990s, a research paper linked autism to a common vaccine given to children. This paper was retracted when it was discovered that the author falsified data, and follow-up studies showed no connection between vaccines and autism. Treatment for autism usually combines behavioral therapies and interventions, along with medications to treat other disorders common to people with autism (depression, anxiety, obsessive compulsive disorder). Although early interventions can help mitigate the effects of the disease, there is currently no cure for ASD.

Attention Deficit Hyperactivity Disorder (ADHD)

Approximately three to five percent of children and adults are affected by attention deficit/hyperactivity disorder (ADHD). Like ASD, ADHD is more prevalent in males than females. Symptoms of the disorder include inattention (lack of focus), executive functioning difficulties, impulsivity, and hyperactivity beyond what is characteristic of the normal developmental stage. Some patients do not have the hyperactive component of symptoms and are diagnosed with a subtype of ADHD: attention deficit disorder (ADD). Many people with ADHD also show comorbidity, in that they develop secondary disorders in addition to ADHD. Examples include depression or obsessive compulsive disorder (OCD). The cause of ADHD is unknown, although research points to a delay and dysfunction in the development of the prefrontal cortex and disturbances in neurotransmission. According to studies of twins, the disorder has a strong genetic component. There are several candidate genes that may contribute to the disorder, but no definitive links have been discovered. Environmental factors, including exposure to certain pesticides, may also contribute to the development of ADHD in some patients. Treatment for ADHD often involves behavioral therapies and the prescription of stimulant medications, which paradoxically cause a calming effect in these patients.

Mental Illnesses

Mental illnesses are nervous system disorders that result in problems with thinking, mood, or relating with other people. These disorders are severe enough to affect a person's quality of life and often make it difficult for people to perform the routine tasks of daily living. Debilitating mental disorders plague approximately 12.5 million Americans (about 1 in 17 people) at an annual cost of more than \$300 billion. There are several types of mental disorders including schizophrenia, major depression, bipolar disorder, anxiety disorders and phobias, post-traumatic stress disorders, and obsessive-compulsive disorder (OCD), among others. The American Psychiatric Association publishes the Diagnostic and Statistical Manual of Mental Disorders (or DSM), which describes the symptoms required for a patient to be diagnosed with a particular mental disorder. Each newly released version of the DSM contains different symptoms and classifications as scientists learn more about these disorders, their causes, and how they relate to each other. A more detailed discussion of two mental illnesses—schizophrenia and major depression—is given below.

Schizophrenia

Schizophrenia is a serious and often debilitating mental illness affecting one percent of people in the United States. Symptoms of the disease include the inability to differentiate between reality and imagination, inappropriate and unregulated emotional responses, difficulty thinking, and problems with social situations. People with schizophrenia can suffer from hallucinations and hear voices; they may also suffer from delusions. Patients also have so-called “negative” symptoms like a flattened emotional state, loss of pleasure, and loss of basic drives. Many schizophrenic patients are diagnosed in their late adolescence or early 20s. The development of schizophrenia is thought to involve malfunctioning dopaminergic neurons and may also involve problems with glutamate signaling. Treatment for the disease usually requires antipsychotic medications that work by blocking dopamine receptors and decreasing dopamine neurotransmission in the brain. This decrease in dopamine can cause Parkinson’s disease-like symptoms in some patients. While some classes of antipsychotics can be quite effective at treating the disease, they are not a cure, and most patients must remain medicated for the rest of their lives.

Depression

Major depression affects approximately 6.7 percent of the adults in the world each year and is one of the most common mental disorders. To be diagnosed with major depressive disorder, a person must have experienced a severely depressed mood lasting longer than two weeks along with other symptoms including a loss of enjoyment in activities that were previously enjoyed, changes in appetite and sleep schedules, difficulty concentrating, feelings of worthlessness, and suicidal thoughts. The exact causes of major depression are unknown and likely include both genetic and environmental risk factors. Some research supports the “classic monoamine hypothesis,” which suggests that depression is caused by a decrease in norepinephrine and serotonin neurotransmission. One argument against this hypothesis is the fact that some antidepressant medications cause an increase in norepinephrine and serotonin release within a few hours of beginning treatment—but clinical results of these medications are not seen until weeks later. This has led to alternative hypotheses: for example, dopamine may also be decreased in depressed patients, or it may actually be an increase in norepinephrine and serotonin that causes the disease, and antidepressants force a feedback loop that decreases this release. Treatments for depression include psychotherapy, electroconvulsive therapy, deep-brain stimulation, and prescription medications. There are several classes of antidepressant medications that work through different mechanisms. For example, monoamine oxidase inhibitors (MAO inhibitors) block the enzyme that degrades many neurotransmitters (including dopamine, serotonin, norepinephrine), resulting in increased neurotransmitter in the synaptic cleft. Selective serotonin reuptake inhibitors (SSRIs) block the reuptake of serotonin into the presynaptic neuron. This blockage results in an increase in serotonin in the synaptic cleft. Other types of drugs such as norepinephrine-dopamine reuptake inhibitors and norepinephrine-serotonin reuptake inhibitors are also used to treat depression.

Other Neurological Disorders

There are several other neurological disorders that cannot be easily placed in the above categories. These include chronic pain conditions, cancers of the nervous system, epilepsy disorders, and stroke. Epilepsy and stroke are discussed below.

Epilepsy

Estimates suggest that up to three percent of people in the world will be diagnosed with epilepsy in their lifetime. While there are several different types of epilepsy, all are characterized by recurrent seizures. Epilepsy itself can be a symptom of a brain injury, disease, or other illness. For example, people who have intellectual disability or ASD can experience seizures, presumably because the developmental wiring malfunctions that caused their disorders also put them at risk for epilepsy. For many patients,

however, the cause of their epilepsy is never identified and is likely to be a combination of genetic and environmental factors. Often, seizures can be controlled with anticonvulsant medications. However, for very severe cases, patients may undergo brain surgery to remove the brain area where seizures originate.

Stroke

A stroke results when blood fails to reach a portion of the brain for a long enough time to cause damage. Without the oxygen supplied by blood flow, neurons in this brain region die. This neuronal death can cause many different symptoms—depending on the brain area affected— including headache, muscle weakness or paralysis, speech disturbances, sensory problems, memory loss, and confusion. Stroke is often caused by blood clots and can also be caused by the bursting of a weak blood vessel. Approximately 75 percent of strokes occur in people older than 65. Risk factors for stroke include high blood pressure, diabetes, high cholesterol, and a family history of stroke. Smoking doubles the risk of stroke. Because a stroke is a

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medical emergency, patients with symptoms of a stroke should immediately go to the emergency room, where they can receive drugs that will dissolve any clot that may have formed. These drugs will not work if the stroke was caused by a burst blood vessel or if the stroke occurred more than three hours before arriving at the hospital. Treatment following a stroke can include blood pressure medication (to prevent future strokes) and (sometimes intense) physical therapy.

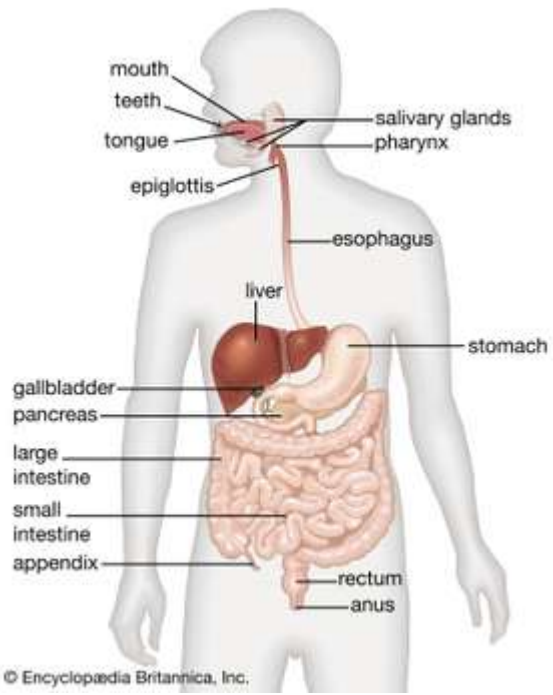
Answer the questions:

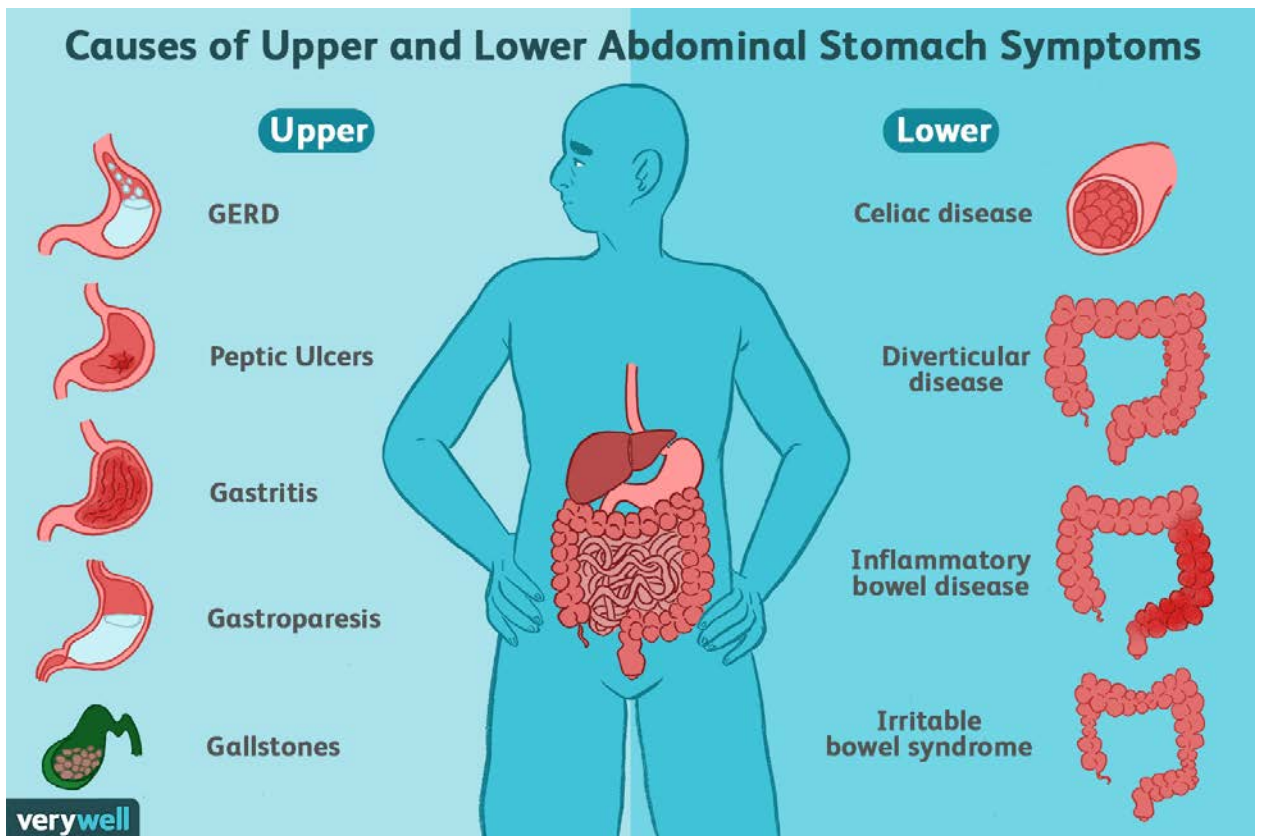
1. Parkinson's disease is caused by the degeneration of neurons that release what bioactive liquid? (dopamine)
2. Which medications are often used to treat patients with ADHD? (Stimulant)
3. What often is a cause of strokes? (blood clots or burst blood vessels)
4. What are the main symptoms of Alzheimer's disease? (Symptoms of Alzheimer's disease include disruptive memory loss, confusion about time or place, difficulties planning or executing tasks, poor judgment, and personality changes.)
5. What are possible treatments for patients with major depression? (Possible treatments for patients with major depression include psychotherapy and prescription medications. MAO inhibitor drugs inhibit the breakdown of certain neurotransmitters (including dopamine, serotonin, norepinephrine) in the synaptic cleft. SSRI medications inhibit the reuptake of serotonin into the presynaptic neuron.)
6. What is epilepsy? (neurological disorder characterized by recurrent seizures)
7. What is ASD? (autism spectrum disorder)

Unit 10.Diseases of the Alimentary Tract.

Active vocabulary:

1. gastrointestinal- шлунково-кишковий
2. heartburn - печія
3. acid - кислота
4. nausea - нудота
5. secretion – секреція, виділення
6. celiac disease- целиакія
7. constipation - закріп
8. diarrhea – діарея
9. faeces (stool) – кал, випорожнення
10. bowel movements – дефекація
11. patches of inflammation – ділянки запалення
12. noroviruses -норовіруси
13. urgently – терміново
14. beneficial - корисний
15. esophageal sphincter –стравохідний сфінктер
16. dehydration – дегідратація
17. Gastroesophageal Reflux Disease- гастроєзофагеальна рефлексна хвороба
18. diverticulitis- дивертикуліт
19. colorectal cancer – колоректальний рак
20. innermost lining – внутрішній слизова оболонка
21. involuntarily- мимоволі
22. digestive enzymes –травні ферменти
23. cyst – кіста
24. belly – живіт
25. upset stomach –розлад шлунку
26. gallstones – жовчнокам'яна хвороба
27. bile duct –жовчна протока
28. blockage – завал (блокада, закупорення)
29. malnutrition –недоїдання





1. Suggest Ukrainian equivalents to the following diseases:

1. GERD
2. Peptic ulcer
3. Gastritis
4. Gastroparesis
5. Gallstones
6. Diverticular disease
7. Inflammatory bowel disease
8. Irritable bowel syndrome
9. Constipation
10. Crohn's Disease
11. Hemorrhoids
12. Lactose intolerance
13. Malabsorption syndromes
14. Polyps and colorectal cancer

2. Match the synonyms:

Belly, feces, digestive, tract, intestine, disorder, stool, alimentary, abdomen, canal, bowl, disease

3. Read and discuss the text:

Gastrointestinal disorders is the term used to refer to any condition or disease that occurs within the gastrointestinal tract.

The gastrointestinal tract (also called the GI tract) is a series of hollow organs that form a long continuous passage from our mouth to our anus. The organs that make up our GI tract are our mouth, esophagus, stomach, small intestine, large intestine, and anus.

Our GI tract, together with our liver, pancreas, and gallbladder, make up our digestive system. An extensive network of blood vessels supply blood to these organs and also transport nutrients away to other organs in the body. Nerves and hormones work together to regulate the functioning of the digestive system and bacteria that reside within our GI tract (called our gut flora or microbiome) play a role in digestion, immunity, and our overall health. A membranous sac called the peritoneum holds all the digestive system organs in place.

A number of different conditions or diseases can affect the GI tract and have an impact on digestion and/or our overall health. Some conditions have similar symptoms, and further medical investigations may be required before a doctor arrives at a diagnosis. Common gastrointestinal disorders include:

- **Celiac disease:** Celiac disease is a serious autoimmune disorder where the small intestine is hypersensitive to gluten. Ingestion of gluten causes the immune system of the body to attack the small intestine, leading to damage to the villi of the small intestine, which are small fingerlike projections that promote nutrient absorption. Celiac disease can start at any age and symptoms include bloating, changes in bowel habit (either diarrhea or constipation), rashes, weight loss, and a poor growth rate in children. Currently, the only treatment for celiac disease is lifelong adherence to a strict gluten-free diet.
- **Constipation:** Constipation is the term used to describe difficulty or infrequency in passing stools (feces). Not everybody has a daily bowel movement, so the passage of time between bowel motions before constipation occurs varies from person to person. When somebody is constipated their stools are usually small, hard, dry, and difficult to pass. Other symptoms may include bloating or distention in the stomach and pain during a bowel movement. Hemorrhoids frequently occur with constipation. There are many different causes of constipation, such as dehydration, a lack of fiber in the diet, pregnancy, inactivity, or certain medications (such as antidepressants, iron supplements, or opioids). Laxatives can help relieve constipation and lifestyle changes can help prevent it from recurring.
- **Crohn's Disease:** Crohn's disease is a chronic bowel disease that causes patches of inflammation in the GI tract anywhere between the mouth and the anus, although the area where the small intestine joins the large intestine is most commonly affected. The exact cause remains unknown; however, it is more common in "Westernized" countries, tends to run in families, and diet and stress may aggravate the disease. Symptoms may include diarrhea that persists for several weeks, abdominal pain and weight loss. Around 50% of people with Crohn's disease notice blood or mucus in their feces and some may report an urgent need to move their bowels or a sensation of incomplete evacuation. Drug treatments may include aminosalicylates, corticosteroids, immunomodulators, and biologics. Surgery may also be an option.
- **Diarrhea:** Symptoms of diarrhea include frequent, loose, watery stools (feces) which are usually accompanied by an urgent need to go to the toilet. Abdominal pain or cramping may also occur, and sometimes nausea or vomiting. Viruses are a common cause of diarrhea, particularly noroviruses which are a common cause of diarrhea and vomiting outbreaks on cruise ships. Other common causes include bacteria, such as salmonella, campylobacter, or *Escherichia coli*; giardia; certain medical conditions (such as Celiac disease or Crohn's disease); food intolerance or medicines. Anti-diarrhea medications such as loperamide or diphenoxylate help slow down bowel movements, and electrolyte solutions are beneficial for treating dehydration, which commonly occurs with excessive diarrhea. Sometimes other medications, such as antibiotics, may also be needed.
- **Diverticular disease:** Diverticular disease is a chronic condition in which small pockets or out-pouchings, called diverticula, occur in the bowel. Diverticula can become inflamed when undigested food gets trapped within them, causing pain and constipation, and sometimes fever, nausea, or cramping. This is called diverticulitis. Diverticular disease is common, affecting half of all people over 60. A low fiber diet is thought to be the main cause, although some people have a genetic predisposition to the disease. Many people with diverticular disease don't have symptoms, and the condition is often discovered during a colonoscopy to screen for colorectal cancer. Treatment is usually with a high-fiber diet and a mild pain reliever.

- Gastroesophageal Reflux Disease (GERD)**: GERD is also known as heartburn or acid reflux. It occurs when the ring of muscle fibers that surrounds the entrance to our stomach (known as the lower esophageal sphincter) becomes weak, and instead of remaining tightly closed to prevent the backflow of food back up our esophagus, it remains partially open, allowing partly digested food and stomach acid to leak back up the esophagus, causing irritation.

The primary symptoms associated with GERD are regurgitation, heartburn, chest pain and nausea. GERD is most commonly treated with antacids, H2 blockers, or Proton Pump Inhibitors.
- Irritable Bowel Syndrome (IBS)**: IBS is defined by the American College of Gastroenterology as "*Abdominal discomfort associated with altered bowel habits*". It usually takes most people three years and at least three different doctors before they are given a diagnosis of IBS. Part of the difficulty with diagnosis rests with the many different presentations of IBS. Some people are more likely to have constipation (constipation-predominant IBS or IBS-C), others diarrhea (diarrhea-predominant IBS or IBS-D), while a few experience both constipation and diarrhea at different times (mixed IBS). Symptoms are also similar to countless other conditions, such as endometriosis, giardia, food allergies, or inflammatory bowel disease, and most of these conditions need to be excluded before a diagnosis of IBS can be made. Treatment depends on what type of IBS a person has (either constipation or diarrhea predominant) and usually includes medication and dietary changes.
- Lactose intolerance**: People with lactose intolerance do not produce enough of the enzyme lactase, and find it difficult to digest lactose, which is a type of sugar found in cows', goats' and sheep milk. It is more common in people of Asian, Middle Eastern, Mediterranean, South American, or African descent, and can also be brought on by gut damage (such as that following gastroenteritis or surgery) or with conditions such as Celiac or Crohn's disease.

Symptoms usually include wind, bloating, tummy pain, nausea, or diarrhea within 30 minutes to 2 hours after eating something with lactose.
- Malabsorption syndromes**: Malabsorption syndromes refers to a number of different conditions in which the small intestine is unable to absorb nutrients, such as proteins, carbohydrates, fats, vitamins or minerals. There are numerous causes of malabsorption syndrome, such as prolonged use of antibiotics, diseases of the gallbladder, liver, or pancreas, conditions such as Crohn's disease, celiac disease, chronic pancreatitis, and cystic fibrosis, and birth defects. Treatment depends on the underlying condition and the extent of malabsorption.
- Polyps and colorectal cancer**: Polyps are growths that occur on the inner surface of the colon. There are two main types. One type (adenomas or adenomatous polyps) have a high risk of turning into colorectal cancer and should be completely removed if found.

Colorectal cancer is the third leading cause of cancer deaths among American men and women. Most colorectal cancers grow slowly and cause few symptoms until they reach a large size, which is why colorectal cancer screening is so important because colorectal cancer is more common in people aged 45 through to 75 years. Treatment of colorectal cancer depends upon which stage the cancer is found at and may include surgery, chemotherapy, and radiation therapy.
- Peptic Ulcer Disease (PUD)**: Peptic ulcer disease is an umbrella term used to describe both gastric and duodenal ulcers, which are small holes that can occur in the lining of your stomach (gastric ulcer) or upper part of your small intestine (duodenal ulcers). Duodenal ulcers are the most common type and are more likely in men aged between 30 and 50 years. Gastric ulcers most often affect middle-aged or elderly people.

The most common cause is an infection with a bacteria called *Helicobacter pylori* (*H. pylori*), that is usually acquired in childhood, although most people never develop ulcers. Overuse of anti-inflammatory drugs such as aspirin, ibuprofen, or diclofenac, excessive acid production in the stomach, and smoking are also common causes. Symptoms typically include abdominal pain and heartburn. The pain of duodenal ulcers tends to be relieved by food, whereas the pain with gastric ulcers is worsened by eating. Treatment usually consists of medications to reduce acid production in the stomach or to protect the stomach, and therapy to eradicate *H. pylori* infection.
- Ulcerative colitis**: Ulcerative colitis affects only the innermost lining of the colon. Although the colon is the only part of the bowel affected, the whole of the colon is inflamed. Symptoms are similar to Crohn's

disease and include diarrhea and the frequent need to have a bowel movement (also called tenesmus). Pus and mucus may also occur as a result of ulcers that form in the colon. Other symptoms include rectal bleeding or bloody stools, abdominal pain, tiredness, and loss of appetite. The cause remains unknown although an abnormal immune response seems responsible for the inflammation, and diet and stress aggravate the condition. Genetics also seem to play a role. Treatment is with corticosteroids, antidiarrheal agents, immunomodulators and biologics, depending on disease severity.

- **Vomiting:** Vomiting is when the contents of the stomach are forcefully expelled through the mouth, usually involuntarily. Nausea is the term used to describe feeling sick – or like you are just about to vomit. Infection from bacteria, viruses, or other micro-organisms is one of the most common causes of vomiting. Overindulgence in alcohol, food allergies, migraines, and pregnancy may also cause vomiting. Treatment depends on the cause and may include antiemetics and rehydration solutions, depending on how suitable these are for the person with the vomiting.

4. Group the words and word combinations according to the following categories:

Diseases

Symptoms

vomiting, ulcerative colitis, upset stomach, constipation, irritable bowel syndrome, malabsorption syndrome, acid reflux, hemorrhoids, abdominal pain, gallstones, dehydration, diarrhea, nausea, fatigue

5. Answer the Questions:

1. What organs form our digestive system?
2. What are the symptoms of celiac disease?
3. What is constipation?
5. What are the symptoms of Crohn's Disease?
6. What is the common cause of diarrhea?
1. What is the main cause of diverticular disease?
9. What is the cause of peptic ulcer disease?
10. What is a polyp?
11. Which parts of the world is lactose intolerance more common?

6. Match the English and Ukrainian terms:

1. epiglottis

а) блювота

2. intestine

б) надгортанник

3. ulcer

в) жовчна протока

4. inflamed	d) кіста
5. polyp	e) запалений
6. constipation	f) випорожнення
7. vomiting	g) закреп
8. cyst	h) виразка
9. bile duct	i) поліп
10. feces	j) кишківник

7. Fill in the missing words:

Bowel, obstruction, digested, symptoms, severe, intestines, digestion, vomiting, hospital, small

Intestinal is a mechanical or functional obstruction of the intestines, which prevents the normal movement of the products of..... . Either the small bowel or large may be affected. Signs and include abdominal pain,, bloating and not passing gas. Mechanical obstruction is the cause of about 5 to 15% of cases of abdominal pain of sudden onset requiring admission to Digested food particles must travel through 25 feet or more of as part of normal digestion. These digested wastes are constantly in motion. However, intestinal obstruction can put a stop to this. An intestinal obstruction occurs when your or large intestine is blocked. The blockage can be partial or total, and it prevents passage of fluids and food.

8. Match the names with the description of the diseases:

Acute pancreatitis, Chron`s disease, GERD, gastritis, peritonitis, chronic pancreatitis

- The most common symptom of the disease is heartburn .It usually feels like a burning chest pain that starts behind your breastbone and moves upward to your neck and throat. Many people say it feels like food is coming back into the mouth, leaving an acid or bitter taste. Besides heartburn, you may also have
 - Nausea
 - Bad breath
 - Trouble breathing
 - A hard time swallowing
- Signs and symptoms of the disease can range from mild to severe. They usually develop gradually, but sometimes will come on suddenly, without warning. You may also have periods of time when you have no signs or symptoms (remission).When the disease is active, signs and symptoms may include:
 - Diarrhea
 - Fever
 - Fatigue
 - Abdominal pain and cramping

- Blood in your stool
 - Mouth sores
 - Reduced appetite and weight loss
 - Pain or drainage near or around the anus due to inflammation from a tunnel into the skin (fistula)
4. The disease is characterized by:
 - Constant pain in your upper belly that radiates to your back.
 - Diarrhea and weight loss because your pancreas isn't releasing enough enzymes to break down food
 - Upset stomach and vomiting
 5. This disease is characterized by sudden inflammation that lasts a short time. It can range from mild discomfort to a severe, life-threatening illness. Most people with recover completely after getting the right treatment. In severe cases there can be bleeding, serious tissue damage, infection, and cysts. Severe forms can make harm other vital organs such as the heart, lungs, and kidneys.
 6. This is a group of conditions with one thing in common: inflammation of the lining of the stomach. The inflammation is most often the result of infection with the same bacterium that causes most stomach ulcers. Regular use of certain pain relievers and drinking too much alcohol also can contribute to this condition. It may occur suddenly (acute form), or appear slowly over time (chronic form). In some cases, it can lead to ulcers and an increased risk of stomach cancer.
 7. Peritonitis is inflammation of the peritoneum, the lining of the inner wall of the abdomen and cover of the abdominal organs. Symptoms may include severe pain, swelling of the abdomen, fever, or weight loss. One part or the entire abdomen may be tender. Complications may include shock and acute respiratory distress syndrome.

Medical terms: formation of plural form.

RULE 1:

Terms that end in "a" , for plural add an "e".

e.g.vertebra-vertebrae

RULE 2:

Terms that end in "is" , for plural change it to "es".

e.g.diagnosis-diagnoses

RULE 3:

Terms that end in "ex" or "ix" , for plural replace it with "ices".

e.g. cervix-cervices

RULE 4:

Terms that end in “on” , for plural replace it with “a”.

e.g.criterion- criteria

RULE 5:

Terms that end in “um” , for plural replace it with “a”.

e.g.bacterium-bacteria

RULE 6:

Terms that end in “us” , for plural replace it with “i”.

e.g.bronchus-bronchi

RULE 7:

Terms that end in “itis” , for plural replace it with “itides”.

e.g.arthritis-arthrides

RULE 8:

Terms that end in “nx” , for plural replace it with “nges”.

e.g.phalanx-phalanges

RULE 9:

Terms that end in “y” , for plural replace it with “ies”.

e.g.therapy-therapies

RULE 10:

Terms that end in “x” , for plural replace it with “ces”.

e.g.thorax-thoraces

9. Form plural of the following terms:

epiglottis, appendix, esophagus, larynx, tibia, pharynx, pelvis, cervix, neurosis, virus

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