

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ОДЕСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

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Кафедра філософії, біоетики та іноземних мов

ЗАТВЕРДЖУЮ

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**МЕТОДИЧНІ РЕКОМЕНДАЦІЇ ДО ДО ПРАКТИЧНИХ ЗАНЯТЬ З НАВЧАЛЬНОЇ
ДИСЦИПЛІНИ**

Факультет **МЕДИЧНИЙ**

Курс **ДРУГИЙ**

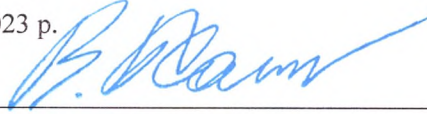
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Затверджено

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Практичне заняття № 1

Тема 1: DISEASES OF THE UPPER RESPIRATORY TRACT

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: upper respiratory diseases, tonsillitis, pharyngitis, laryngitis, inflammation

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
What does the upper respiratory tract consist of?
What is inflammation?
What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

adenopathy, n	[ə'denə,pæθɪ]	large or swollen lymph nodes
aphonia, n	[æ'fəuniə]	loss of the voice
crypt, n	[kript]	any small recess, pit or cavity in the body
dysphagia, n	[dis'feɪdʒiə]	difficulty in swallowing
dyspnea, n	[disp'niə]	breathlessness or shortness of breath; labored or difficult breathing.
edema, n	[i'di:mə]	swelling of soft tissues as a result of excess fluid accumulation
erythema, n	[eri'θi(:)mə]	redness of the skin that results from capillary congestion
exudate, n	['eksjudeɪt]	fluid that leaks out of blood vessels into nearby tissues
hoarseness, n	['hɔ:snɪs]	abnormal voice changes manifested as a voice that sounds breathy, strained, rough, or has a higher or lower pitch; dysphonia
hyperemic, adj	[,haɪpə'ri:mɪk]	denoting hyperemia - an excess of blood in the blood vessels in a specific part of the body
malaise, n	[mə'leɪz]	a general feeling of being unwell
purulent, adj	['pjʊərələnt]	containing, discharging or causing the production of pus

Exercise 2. Read the word combinations and explain them:

Звернути увагу на сполучуваність слів та їх вживання у реченні

Membrane: thin membrane, mucous membrane, cellular membrane, permeable membrane
Treatment: long-term treatment, in-patient treatment, surgical treatment, hormone treatment, ineffective treatment, adequate treatment
Fever: slight fever, persistent fever, high fever, to cause fever, to suffer from fever
Inflammation: joint inflammation, acute inflammation, chronic inflammation, to reduce inflammation, signs of inflammation
Sign: apparent sign, visible sign, early sign, external sign, unmistakable sign

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

Model: bleed →bleeding

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

Exercise 4. Explain the following word combinations:

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

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

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

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

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

DISEASES OF THE UPPER RESPIRATORY TRACT

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

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

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

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

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

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

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

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

Exercise 6. Answer the questions:

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

Exercise 7. I. Memorize that *-itis [aitis]* means *inflammation of an organ, tissue, etc.* Give the terms using this term-element:

Після виконання вправи запропонувати здобувачам утворити інші назви запальних захворювань

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

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

Model: tonsillectomy is excision of the tonsils

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

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

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

1. Inflammation of the trachea	
2. Making an opening in the anterior part of the trachea for tube introduction in order to facilitate breathing	

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

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

<i>Bleeding</i>	leading
<i>Edematous</i>	pertussis
<i>Examination</i>	application
<i>Fever</i>	breathlessness
<i>Whooping cough</i>	hemorrhage
<i>Hoarseness</i>	reddened
<i>Prominent</i>	inspection
<i>Use</i>	temperature
<i>Dyspnea</i>	swollen
<i>Hyperemic</i>	dysphonia

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

Model: I stick a label.

The label is stuck by me.

A)

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

B)

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

Exercise 11. Put questions to the underlined words:

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

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

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

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

Роботу з кейсом можна організувати у вигляді рольової гри “лікар-хворий”

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

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

Patient	Symptoms/ Complaints	Laboratory tests	Physical examination	Presumptive diagnosis

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; **Lazor, N. V.**; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

1. Одеський національний медичний університет: <https://onmedu.edu.ua/>
2. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 2

Тема 2: DISEASES OF THE LOWER RESPIRATORY TRACT

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: lower respiratory diseases, bronchitis, pneumonia, inflammation

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the lower respiratory tract consist of?
 - What do the lungs consist of?
 - What kinds of lung diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

Exercise 1. Topic vocabulary:

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

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

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

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

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

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

disease

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

Exercise 3. Explain the following word combinations:

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

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

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

DISEASES OF THE LOWER RESPIRATORY TRACT

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

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

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

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

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

It is important to understand the different classifications of pneumonia.

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

mechanically ventilated.

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

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

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

Exercise 5. Answer the questions:

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

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

Model: face →facial

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

Exercise 7. Memorize the meaning of the following term-elements.

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

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

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

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

(Bronchoedema, bronchoplasty, bronchogenic, bronchoconstriction, pneumoalveology, pneumobilia, pneumocardial, pneumodynamics, pneumoectomy, pulmonary, pulmonologist, pulmohepatic)

1. Pertaining to the lungs and heart	
2. X-ray examination of the air sacs of the lungs	

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

Exercise 8. Match the terms to their definitions:

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

Exercise 9. Use correct verb forms:

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

Exercise 10. Put questions to the underlined words:

1. Acute bronchitis may develop after a common cold.
2. Diagnosis is usually based on the symptoms and signs.
3. Oral fluids are advised during the febrile course.
4. Antibiotics are indicated when there is concomitant chronic obstructive pulmonary disease.
5. Persistent chills suggest an alternative diagnosis.
6. Lab studies usually show leukocytosis with a shift to the left.
7. Antibiotic treatment is not useful in treating simple chronic bronchitis.
8. Symptoms are caused by inflammation of the mucous membranes in the upper respiratory tract.

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

by (2)	on	during	to (2)	for (2)	from
--------	----	--------	--------	---------	------

1. Bacteria can become resistant ... the antibiotic.
2. Pneumonia affects about 450 million people globally per year, and results ... about 4 million deaths

3. If the pneumonia is severe, the affected person is admitted ... hospital.
4. Acute bronchitis is characterized... the development of a cough or small sensation in the back of the throat, with or without the production of sputum.
5. Cigarette smoking is the most common cause of chronic bronchitis, followed ... exposure to air pollutants.
6. Treatment of pneumonia depends ... the underlying cause.
7. Acute bronchitis often develops ... an upper respiratory infection such as the common cold or influenza.
8. Most people with URIs may visit their doctor ... relief ... symptoms.

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

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

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

	Common cause	Classification	Symptoms	Diagnosis	Treatment
Bronchitis					
Pneumonia					

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

Роботу з кейсом можна організувати у вигляді рольової гри “лікар-хворий”

CHIEF COMPLAINT: Cough and fever for four days

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

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

Patient	Complaints	Past history	Diagnosis	Treatment

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

3. Одеський національний медичний університет: <https://onmedu.edu.ua/>
4. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Тема 3: PULMONARY TUBERCULOSIS

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: infectious disease, Mycobacterium tuberculosis, BCG vaccine

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What do you know about pulmonary tuberculosis?
 - What do you know about transmission of TB?
 - What do you know about epidemic situation with TB in Ukraine?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

Exercise 1. Topic vocabulary:

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

Exercise 2. a) Memorize the plural forms of nouns of the Latin and Greek origin:

Latin	
singular	plural
-us [ʊs] bacillus	-i [ai] bacilli
-a [ə] vertebra	-ae [i:] vertebrae
-um [ʊm] bacterium	-a [ə] bacteria
Greek	
-sis [sis] synthesis	-ses [siz] syntheses

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

Diagnosis -
Stimulus -
Datum -
Formula -
Nucleus -
Analysis -
Spirillum -

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

Model: to infect – infection

інфікувати – інфекція

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

Exercise 4. Explain the following word combinations/phrases:

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

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

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

PULMONARY TUBERCULOSIS

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

In pulmonary tuberculosis the bacillus is inhaled into the lungs where it sets up a primary tubercle and spreads to the nearest lymph nodes. Natural immune defenses may heal it at this stage. Alternatively, the disease may smoulder for months or years and fluctuate with the patient's

resistance. Many people become infected but show no symptoms. Others develop a chronic infection and can transmit the bacillus by coughing and sneezing.

In the early stages of pulmonary tuberculosis the patient usually complains of general malaise, fatigue, loss of appetite and as a result loss of body weight, caused by tuberculous intoxication. The subfebrile fever persists for a long time. Then cough superadds.

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

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

Recently, there has been a resurgence of pulmonary tuberculosis in immunocompromised patients (i.e. who have HIV or AIDS). The number of patients with the disease has also increased due to patients not completing drug courses.

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

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

Exercise 6. Answer the questions:

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

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

1. X-ray screening	a) a method of skin testing aimed at detecting tuberculosis, named after the French physician
2. Vaccination	b) examination by touch for the purpose of diagnosing disease
3. Mantoux test	c) the procedure during which a patient is thoroughly examined from head to toes
4. physical examination	d) the laboratory analysis of specimen taken from the patient for culturing the Mycobacterium tuberculosis organisms
5. Auscultation	e) laboratory examination of physical / chemical properties and the number of erythrocytes, leukocytes, etc.
6. Palpation	f) process of giving injections of a killed microbe in order to stimulate the immune system against it, thus, preventing disease
7. blood analysis	g) the act of listening, either directly or through a stethoscope or other instrument, to sounds within the body as a method of diagnosis
8. sputum analysis	h) a radiographic image of the body internal organs and structures, usually used for diagnostic purposes

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

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

Exercise 9. Insert the necessary preposition:

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

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

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

- She ... not go to the library because she has no time. (logical conclusion)
- “You ... go for a walk every day,” the doctor said. (obligation)
- He ... go to the movies in the evening. (hypothetic possibility)
- You ... work more at your pronunciation. (advice)
- He ... invite you to the theatre. (hypothetic possibility)
- The child ... not walk though he is 2 years old. (capability)
- ... I take your pencil? (permission)
- You ... follow his instructions. (certainty without fail)

Exercise 11. Put questions to the underlined words:

- Mycobacterium tuberculosis causes pulmonary tuberculosis.
- This disease may affect bones, joints, lymphatic glands, kidneys.
- Coughing can become worse at night and in the morning.
- A considerable elevation of temperature is observed in pneumonic forms of TB.

5. Loss of body weight may be the typical sign of pulmonary tuberculosis.
6. Natural immune defenses can sometimes heal the disease in the early stages.
7. There is a resurgence of pulmonary TB among immunocompromised patients.
8. Millions of tiny tubercles are carried throughout the body by the blood stream.

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

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

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

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

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

Роботу з кейсом можна організувати у вигляді рольової гри “лікар-хворий”

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

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

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

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

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелащенко. Видавництво «Медицина», 2018. 312 с.
4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

5. Одеський національний медичний університет: <https://onmedu.edu.ua/>
6. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 4

Тема 4: HYPERTENSION

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: blood pressure, hypertension, hypotension, primary and secondary hypertension

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

1. Організаційні заходи (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

2. Контроль опорного рівня знань.

What is systolic and diastolic blood pressure?

How is blood pressure measured?

What is normal blood pressure?

3. Формування професійних вмінь, навичок: сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

Exercise 1. Topic vocabulary:

asymptomatic, <i>adj</i>	[æ, simptə' mætik]	without symptoms
confusion, <i>n</i>	[kən' fju:z(ə)n]	change in mental status in which a person is not able to think with his or her usual level of clarity; feeling disoriented
drowsiness, <i>n</i>	['draʊzɪnəs]	a feeling of being sleepy and lethargic; sleepiness
life expectancy, <i>n</i>	[ik' spɛkt(ə)nsɪ]	the number of years a person can expect to live
moderate, <i>adj</i>	['mɒdərɪt]	average in amount, intensity, quality, or degree
persistent, <i>adj</i>	[pə' sɪstənt]	continuing to exist or occur over a prolonged period
potassium, <i>n</i>	[pə' tæsɪəm]	a chemical element with the symbol K (from Neo-Latin kalium) and atomic number 19
sedentary, <i>adj</i>	['sedntəri]	characterized by much sitting and little physical exercise
stroke, <i>n</i>	[strəʊk]	when a blockage or bleed of the blood vessels either interrupts or reduces the supply of blood to the brain

Exercise 2. Pronounce correctly:

Hydargyrum [hai 'drɑ: dʒɪrəm], thiazide-diuretics ['θaɪəzɪ:(aɪ)d ,dɑɪju'retɪks], calcium channel blockers ['kalsɪəm 'tʃænl 'blɒkəs], beta blockers ['bi:tə 'blɒkəs], vasodilators [veɪzəʊ daɪ 'leɪtəs], angiotensin-converting enzyme (ACE) inhibitors [ændʒiəʊ'tensɪn kən'vɔ: tɪŋ 'enzɑɪm ɪn 'hɪbɪtəs], angiotensin receptor blockers [ændʒiəʊ'tensɪn rɪ 'septə 'blɒkəs].

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

Model: tension – hypertension

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

Model: tension – hypotension

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

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

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

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

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

HYPERTENSION

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

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

Persistent hypertension is one of the risk factors for stroke, myocardial infarction and heart failure, and is a leading cause of chronic kidney failure. Moderate elevation of arterial blood pressure leads to shortened life expectancy. Dietary and lifestyle changes can improve blood pressure control and decrease the risk of associated health complications, although drug treatment may prove necessary in patients for whom lifestyle changes are ineffective or insufficient.

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

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

Lifestyle changes and medications can lower blood pressure and decrease the risk of health complications. Lifestyle changes include:

- salt intake reduction
- fat intake reduction
- weight loss
- getting regular exercise
- quitting smoking
- reducing alcohol consumption
- managing stress

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

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

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

Calcium channel blockers. These medications (e.g. amlodipine) help relax the muscles of your blood vessels. Some slow your heart rate.

Beta-blockers (e.g. bisoprolol) reduce blood pressure by blocking the effects of certain stress hormones, such as epinephrine.

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

Exercise 6. Answer the questions to the text:

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

Exercise 7. Find the opposites to the following words:

1. effective	a) shortened
2. prolonged	b) secondary
3. decreased	c) hypotension
4. hypertension	d) ineffective
5. deteriorate	e) elevated
6. sufficient	f) insufficient
7. primary	g) congenital
8. inherited	h) improve

Exercise 8. Match the words to their definitions:

1. diuretic	a) drug, agent, or nerve that can cause dilatation of the walls of blood vessels
2. calcium	b) any of a group of complex proteins or conjugated proteins that are produced by living cells and act as catalysts in specific biochemical reactions
3. vasodilator	c) a peptide of physiological importance that is capable of causing constriction of blood vessels, which raises blood pressure
4. angiotensin	d) a substance that inhibits a metabolic or physiological process
5. enzyme	e) a sensory nerve ending that changes specific stimuli into nerve impulses
6. receptor	f) a malleable silvery-white metallic element of the alkaline earth group
7. inhibitor	g) an agent that blocks a physiological function
8. beta-blocker	h) acting to increase the flow of urine

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

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

Exercise 10. Put questions to the underlined words:

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

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

1. Occupation (not to play) an important role in the etiology of hypertension.
2. Hypertension in the older age group (to associate) with loss of elasticity of the aorta and its main branches.
3. Hypertension (to be) more common in the female than in the male.
4. Hypertension (to tolerate) better during the child-bearing years in the female than hypertension in male.
5. Lifestyle changes (to recommend) together with me
6. Making healthy lifestyle changes can sometimes (to help) reduce your chances of getting high

blood pressure.

7. Dietary and lifestyle changes (to decrease) the risk of associated health complications.
8. No direct cause for hypertension (to identify) yet.

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

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

Blood pressure measurement

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

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

How to Prepare for the Test

Before you measure your blood pressure:

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

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

How the Blood pressure measurement is performed

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

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

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

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

Роботу з кейсом можна організувати у вигляді рольової гри “лікар-хворий”

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

Medication Therapy

Bisoprolol Fumarate 5mg OD (*daily*)

Amlodipine 5 mg OD

Sitamet Sitagliptin + Metformin HCl 50mg +1000mg BD (*twice a day*) to lower blood sugar

Care Plan

Lifestyle modifications:

Exercise and walk to reduce body weight

Proper diet rich in fruits, vegetables, whole grains, low fat poultry and fish

Low dietary salt and sugar intake

Avoid red meat, fats and alcohol

<https://medwinpublishers.com/VIJ/VIJ16000211.pdf>

Patient	Symptoms/ Complaints	Past medical history	Diagnosis	Recommended lifestyle changes

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для

- студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
 6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
 7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

7. Одеський національний медичний університет: <https://onmedu.edu.ua/>
8. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 5

Тема 5: MYOCARDIAL INFARCTION

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: heart diseases, heart attack, myocardial infarction, emergency medical condition,

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the upper respiratory tract consist of?
 - What is inflammation?
 - What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувані і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

angina (pectoris)	[an'dʒɪnə 'pektərɪs]	the medical term for chest pain or discomfort due to coronary heart disease
consciousness, <i>n</i>	['kɒnʃənsɪs]	the state of being conscious; fully alert, aware, oriented, and responsive to the environment
indigestion, <i>n</i>	[ɪndɪ'dʒɛstʃən]	a condition of impaired digestion
ischemia, <i>n</i>	[ɪs'ki:mɪə]	inadequate blood supply to a local area due to blockage of blood vessels leading to that area
palpitation, <i>n</i>	[pæl'pɪ'teɪʃ(ə)n]	an abnormally rapid or irregular beating of the heart
plaque, <i>n</i>	[plɑ:k]	a semi-hardened accumulation of substances, e.g cholesterol plaque
recurrent. <i>adj</i>	[rɪ'kʌr(ə)nt]	appearing or occurring again
rupture, <i>n</i>	['rʌptʃə]	a break or tear in any organ or soft tissue

Exercise 2. Pronounce correctly:

Myocardial infarction [maɪə'kɑ:dɪəl ɪn'fɑ:kʃ(ə)n], blood supply [blʌd sə'plʌɪ], epigastrium [ɪ'pɪ'gɑstrɪəm], echocardiography [ɪkəʊkɑ:dɪ'ɒgrəfi], dispnea [dɪsp'ni:ə], erythrocyte [ɪ'ɪθrə(ʊ)saɪt], thrombus ['θrɒmbəs], accelerated heartbeat [æk'seləreɪtɪd 'hɑ:tbɪ:t].

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

component	meaning	example
CARDIO-	heart	echocardiogram = sound wave image of the heart.
CYTE-	Cell	thrombocyte = clot forming cell.
HAEM-	blood	haematoma - a tumor or swelling filled with blood.

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

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

Interruption of blood supply; rupture of an atherosclerotic plaque; chronic kidney disease, heart failure; sensation of tightness, pressure, or squeezing; angina pectoris; feeling of indigestion; a recurrent myocardial infarction.

Exercise 5. Read and translate the text:

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

MYOCARDIAL INFARCTION

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

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

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

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

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

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

A number of different medications can also be used to treat a heart attack:

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

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

Exercise 6. Answer the questions:

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

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

1. dyspepsia	a) gases
2. thrombus	b) vomiting
3. flatulence	c) shortness of breath
4. emesis	d) eating disorder
5. palpitation	e) nausea
6. retching	f) accelerated heartbeat
7. dyspnea	g) indigestion
8. anorexia	h) clot

Exercise 8. What clinical term is described?

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

1. Difficulty in breathing;
2. Process of eliminating fluid through the pores of the skin;
3. Burning sensation beneath the breastbone caused by irritation of the esophagus;
4. Feeling of unease or a mild sickness;
5. Difficulty in digesting food, accompanied by abdominal pain, belching, etc.;
6. Pressure in the chest;

- 7. Abnormal sound heard through a stethoscope over the region of the heart;
- 8. Any deviation from the normal rhythm in the heartbeat.

Exercise 9. What disease is described?

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

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

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

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

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

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

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

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

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

Exercise 13. Put questions to the underlined words:

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

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

Роботу з кейсом можна організувати у вигляді рольової гри “лікар-хворий”

An 80-year-old man with multiple **comorbidities** was admitted into the coronary care unit at Ibn Sina Medical College Hospital (Dhaka, Bangladesh) with severe central chest pain and respiratory distress after receiving the first dose of Moderna vaccine on July 26, 2021. On admission, his blood pressure was 110/70 mmHg, pulse 90 beats/min, respiratory rate 22 breaths/min, temperature 36.7°C. He had a vesicular breath sound with **bilateral basal crepitations** and normal heart sounds. On the ECG, significant changes were observed. Other lab findings were significant troponin-I: 1.72 ng/ml, trace protein and glucose in the urine, total **white blood cell count**: 12820/cm³; HbA1c, 7.5%; serum creatinine, 1.56 mg/dl; serum electrolytes: sodium 133 mmol/L, chloride 92 mmol/L. The patient had a medical history of prior myocardial infarction, diabetes mellitus, and hypertension but no chronic kidney disease, cerebrovascular disease, or bronchial asthma. After admission, he was treated conservatively with necessary medications and monitored periodically. The patient was diagnosed with acute myocardial infarction with **left ventricular failure** with acute kidney injury on chronic kidney disease with diabetes mellitus and hypertension. He was discharged from the hospital on day six with proper medicinal support with full recovery.

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

Patient	Symptoms/ Complaints	Past medical history	Vital signs on admission	Examination	Diagnosis

4. Підбиття підсумків.**5. Список рекомендованої літератури****Основна:**

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

9. Одеський національний медичний університет: <https://onmedu.edu.ua/>
10. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 6

Тема 6: DISEASES OF THE STOMACH

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: stomach diseases, gastritis, gastric ulcer, Helicobacter pylori

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

1. Організаційні заходи (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

2. Контроль опорного рівня знань.

What does the alimentary tract consist of?

What is digestion?

What digestive symptoms do you know?

3. Формування професійних вмінь, навичок: сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

antacid, <i>n</i>	[,ænt'æsid]	any substance used to counteract or neutralize gastric acids and relieve the discomfort caused by gastric acidity
belching, <i>n</i>	[belʃɪŋ]	voluntary or involuntary, sometimes noisy, release of air from the stomach or esophagus through the mouth.
bloating, <i>n</i>	[bloʊtɪŋ]	retention of gas in the stomach or GI tract
cytoprotective, <i>adj</i>	['saitə(u)prə'tektɪv]	descriptive of a drug or agent protecting cells from damage expected to occur
gastroscopy, <i>n</i>	[gæ'strɒskəpi]	examination of the inside of the stomach using a gastroscope passed through the mouth and esophagus
heartburn, <i>n</i>	['hɑ:tbɜ:n]	a burning sensation behind the sternum due to spasmodic reflux of acid from the stomach into the esophagus
perniciousanaemia, <i>n</i>	[pə'niʃəs ə'ni:mɪə]	a decrease in red blood cells that occurs when the intestines cannot properly absorb vitamin B12
reflux, <i>n</i>	['ri:flʌks]	a backward or return flow

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

E.g. Pertaining to the caecum - caecal

1. Pertaining to the intestines –

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

Exercise 3. Explain the following word-combinations:

chronic bile reflux; blood-streaked vomiting; complete blood count test; over-the-counter antacids, life-threatening consequences of the disease; ulcer recurrence; to aggravate the pain

Exercise 4. Read and translate the text:

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

The diseases of the Stomach

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

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

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

The causes of these two diseases are very much alike.

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

Gastritis and gastric ulcers are often linked to heavy alcohol consumption. Caffeine stimulates acid secretion in the stomach aggravating the pain and contributes to recurrence.

People with gastritis and peptic ulcers experience dull, burning, sharp or gnawing abdominal pain between the breastbone and the navel. The patient may suffer from nausea, belching, bloating and heartburn.

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

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

Once the cause of the disease is identified, exposure should be avoided. If some food is triggering the inflammation, you should exclude it. Over-the-counter antacids in liquid or tablet forms treat

mild gastritis and peptic ulcer. Antacids neutralize stomach acid and can provide fast pain relief. Proton pump inhibitor appears to inhibit H.pylori activity.

Cytoprotective agents protect the tissues lining the stomach. Consumption of hot or spicy food is contraindicated. Patients with pernicious anemia are given B₁₂ injections. Most patients use a combination of antibiotics and a proton pump inhibitor to treat H.pylori infection.

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

Exercise 5. Answer the following questions:

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

Exercise 6. Match the following terms to their definition:

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

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

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

1. or smoking can make gastritis worse.
2. Consumption of and alcohol should be strictly prohibited in patient with gastritis.
3. You're more likely to develop gastritis if you're at risk of
4. You may need surgery if your ulcers, bleed or obstruct the stomach.
5. weakens the lining so acid can reach the stomach and duodenal wall.
6. are a class of drugs that provides analgesic (pain-killing) and antipyretic (fever-reducing) effects, and, in higher doses, anti-inflammatory effects.
7. Chronic cause of gastritis may be that is a backflow of bile into the stomach.
8. occurs when the stomach lacks red blood cells or hemoglobin needed to properly absorb and digest vitamin B12.

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

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

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

1. Ulcer and cirrhosis are not (rare, rear) diseases among those who are prone to alcohol.
2. The animal insulin can (course, cause, coarse) allergic reactions.
3. At later stages gastric cancer can be treated but rarely can be (diagnosed, cured).
4. When gastric cancer is found at an early stage, there is better chance of (convalescence, premature death).
5. Smokers, who have stopped smoking, (lower, increase) their risk of getting gastritis.
6. Stomach cancer is a disease in which (malignant, benign) cells appear in the stomach.
7. Chemotherapy is a treatment that uses (chemical drugs, rays) to stop the growth of cancer cells.
8. After the stomach surgery the patient should take vitamin (supplements, addition) and injections of vitamin B₁₂.

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

- _____ algia – pain in an organ
_____ scope – denotes a viewing instrument, used for examining smth
_____ itis - denotes inflammation of an organ
_____ logy – denotes a branch of science
_____ tomy - combining form meaning “cutting, incision” of an organ
_____ ectomy - meaning “excision” of the part specified by the initial element
_____ rrhagia – means “profuse discharge,” “abnormal profuse flow”
_____ malacia – means softening, or loss of consistency, of an organ or tissue

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

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

Exercise 12. Put questions to the underlined words:

1. Stomach acids contribute to ulcer formation.

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

Exercise 13. Open the brackets using the verbs correctly:

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

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

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

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

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

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

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

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

Patient	Symptoms	Past history	Examinations	Treatment
			- physical exam - laboratory studies - instrumental studies	

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

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3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

11. Одеський національний медичний університет: <https://onmedu.edu.ua/>
12. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 7

Тема 7: CHOLECYSTITIS

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: gall bladder, cholecystitis, gall stones, catarrhal, purulent and gangrenous cholecystitis

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - Where is the gall bladder located?
 - What is the function of bile?
 - What diseases hepatobiliary system do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

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

Exercise 2. Pronounce correctly:

Cholecystitis [ˌkɒlɪsɪsˈtaɪtɪs], catarrhal [kəˈtɑːr(ə)l], gangrenous [ˈgæŋgrɪnəs], bilirubin [ˌbɪlɪˈruːbɪn], alkaline phosphatase [ˈælkəlaɪn ˈfɒsfəteɪz], cholecystectomy [kəˈlɪsɪstˈektəmi], hypochondrium [haɪpəˈkɒndrɪəm]

Exercise 3. Explain the following word-combinations:

obstruction of the cystic duct; accumulation of bile; swelling of the gallbladder; uncomplicated cholecystitis; insufficient oxygen; tender and distended; severe tenderness; slight jaundice of sclerae; surgical site infection

Exercise 4. Read and answer the questions below:

Під час читання і перекладу тексту виділяти ключові слова і систематизувати їх за групами: етіологічні чинники, симптоми, діагностика, лікування, тощо

Acute Cholecystitis

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

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

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

Diagnosis. A doctor will normally ask if a patient has a history of cholecystitis because it often recurs. A physical examination will reveal how tender the gallbladder is.

The following tests may also be ordered:

Ultrasound: This can highlight any gallstones and may show the condition of the gallbladder.

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

Computerized tomography (CT) or ultrasound scans: Images of the gallbladder may reveal signs of cholecystitis.

Hepatobiliary scan: this scan creates pictures of the liver, gallbladder, biliary tract and small intestine.

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

Surgery is recommended for acute cholecystitis because there is a high rate of recurrence from inflammation related to gallstones. However, if there is a low risk of complications, surgery can be done as an outpatient procedure.

If there are complications, such as gangrene or perforation of the gallbladder, the patient will need immediate surgery to remove the gallbladder. If the patient has an infection, a tube may be inserted through the skin into the gallbladder to drain the infection.

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

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

The benefit of laparoscopy is that the incisions are small, so patients usually have less pain after the procedure and less scarring as well as fewer long-term complications and less disability following the surgery. Additionally, laparoscopic surgery is associated with a lower rate of surgical site infection.

After surgically removing the gallbladder, the bile will flow directly into the small intestine from the liver. This does not normally affect the patient's overall health and digestive system. Some patients may have more frequent episodes of diarrhea.

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

Exercise 5. Answer the questions to the text:

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

Exercise 6. Memorize the meaning of the following term-elements:

Chole- [kɒlɪ] - combining form of Greek origin denoting **bile**

Hepato- [hepatɔ] - combining form of Greek origin denoting **liver**

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

1. A malignant tumor of the liver in newborns or children

2. A specialist in liver diseases
 3. Any disease of the liver
 4. The scientific study of liver diseases
 5. Gallbladder
 6. A malignant tumor of the liver
 7. Inflammation of the liver
 8. The surgical cutting (incision) of the gallbladder
 9. Surgical removal of the gall-bladder
 10. Any disease of the gallbladder
 11. Originating in the liver
 12. An abnormal enlargement of the liver caused by congestion, inflammation, or a tumor
 13. Inflammation of the gallbladder, characterized by fever, jaundice and weakness
 14. Radiography of the gallbladder after administration of a contrast medium
- (hepatology, hepatitis, hepatoblastoma, hepatoma, hepatologist, hepatopathy, hepatomegaly, hepatogenous, cholecystitis, cholecyst, cholecystectomy, cholecystopathy, cholecystotomy, cholecystography)*

Exercise 7. Match the words to their definitions:

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

Exercise 8. Open the brackets using the proper tense and voice form of the verbs:

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

Carl Langenbuch (to perform) the first successful cholecystectomy at the Lazarus hospital in Berlin on July 15, 1882. Before this, surgical therapy for symptomatic gallstones (to limit) to cholecystostomy, or gallstone removal.

Erich Mühe (to perform) the first laparoscopic cholecystectomy on September 12, 1985 in Böblingen, Germany. Mühe (to inspire) to develop a technique for laparoscopic cholecystectomy by the first laparoscopic appendectomy, performed by gynecologist Kurt Semm in 1980.

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

Exercise 9. Put questions to the underlined words:

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

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

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

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

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

Physical Exam

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

HR: 106

RR: 16

BP: 148/95

Temp: 38.1° C (100.6° F)

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

Laboratory Tests

Abnormal Laboratory Values

WBC – 15.4

CRP – 18.3

**C-reactive protein

Normal Laboratory Values

Hgb, Hct, Platelets

AST, ALT, ALP, GGT

Amylase, Lipase

serum HCG – not present

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

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

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

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3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

13. Одеський національний медичний університет: <https://onmedu.edu.ua/>
14. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 8

Тема 8: RENAL DISEASES

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: urinary system diseases, nephritis, pyelonephritis, nephrolithiasis

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 4. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 5. Контроль опорного рівня знань.**
What does the urinary system consist of?
What is the structure of the kidneys?
What is the function of the kidneys?
- 6. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

albuminuria, <i>n</i>	[æɪ'bjʊ:mi'nju:riə]	more than the normal amount of albumin in the urine
ascending, <i>adj</i>	[ə'sendiŋ]	rising upward
bacteriuria, <i>n</i>	[,bæktiri'ju:əriə]	the presence of bacteria in the urine
calculus, -i (pl.), <i>n</i>	['kælkjʊləs, -lai]	a stone
concomitant, <i>adj</i>	[kən'kɒmitənt]	occurring during the same time period
haematuria, <i>n</i>	[,hemə'tjuəriə]	any condition in which urine contains blood or red blood cells
penetrate, <i>v</i>	['penitreit]	to enter by force; to infiltrate
persistent, <i>adj</i>	[pə'sistənt]	existing or remaining in the same state for an indefinitely long time

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

E.g. calculus – calculi [...ai]

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

Exercise 3. Match the term element to its meaning:

1. pyel(o)	a. heart
2. hepato	b. lung
3. cardio	c. nerve
4. angio	d. liver
5. pulm(o)	e. chest
6. neuro	f. brain
7. pector	g. kidney pelvis

Exercise 4. Explain the following word-combinations:

Renal failure, the non-functional tissue, an ascending infection of the kidney, concomitant diseases, resultant stasis, frequency of urination, urgency of urination.

Exercise 5. Read the text and answer the questions below:**RENAL DISEASES**

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

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

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

Acute pyelonephritis often begins suddenly with chills. The patient has a general set of symptoms: malaise, headache, profuse sweating, nausea and vomiting. Then, the fever raises rapidly up to 39-40 °C. It is usually accompanied with the dull pain in the loins on the side of the affected kidney. The urine is cloudy and bloody due to the presence of bacteria, protein, and erythrocytes in it. **Chronic pyelonephritis** results from the undertreated acute form of the disease. It is often asymptomatic and can be detected only by means of urinalysis or if the patient has persistent hypertension. In chronic pyelonephritis, the normal renal tissue is replaced by the connective non-functional one. The kidney becomes small and scarred that leads to renal failure. Among other complications are pyonephrosis and urosepsis (presence of urine waste products throughout the body).

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

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

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

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

Exercise 6. Answer the questions:

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

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

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

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

Exercise 8. Guess the renal / urinary disease:

1. malignant tumour of a kidney that leads to death;

2. purulent inflammation of a kidney;
3. presence of stones in the kidney;
4. inflammation of small round filters, located in the kidneys;
5. accumulation of fluid in the renal pelvis due to outflow obstruction;
6. ascending renal infection caused by bacteria that penetrate through the urethra;
7. inability of the kidneys to perform their functions;
8. penetration of urine waste products into the blood.

Exercise 9. Insert the preposition where necessary:

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

Exercise 10. Put questions to the underlined words:

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

Exercise 11. Re-write sentences using the appropriate tense form. Translate them:

1. Purulent inflammation of kidney (to know) as pyonephrosis.
2. Persistent hypertension (to indicate) the problems with kidneys.
3. He (to suffer) from obtuse pain in the loins since last month.
4. People with renal pathology (to recommend) to avoid spicy and fatty food.
5. The detection of pyelonephritis (to be) always possible due to urinalyses.
6. During the previous examination the patient (to complain) of painful urination.
7. The patient (to recover) quickly from pyelonephritis, if he (to complete) his treatment.
8. The onset of pyelonephritis (to accompany) with malaise, profuse sweating, nausea and vomiting.

Exercise 12. a) Describe the terms *glomerulonephritis, pyelonephritis, nephrolithiasis* using the plan below:

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

b) Describe the terms *bacteriuria*, *haematuria*, *albuminuria* completing the sentences below.

- 1) ... is a sign of urinary tract infection.
- 2) It can be observed in such renal diseases as ... and....
- 3) ... is presence of ... in the urine.
- 4) ... is detected by urinalysis.

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

A 69-year-old woman with 25-year history of renal insufficiency with hypertension was hospitalized for worsening renal function, back pain and fever on September 21, 2017. Her past history included extracorporeal shock wave lithotripsy for left renal stone and percutaneous nephrolithotomy for right ureteral stone. In addition, 5 years earlier she had been admitted to our department for anemia, high level of serum creatinine. At that time, serum creatinine was 160 $\mu\text{mol/l}$, hemoglobin was 80 g/l, 24-h proteinuria 0.65 g, Urine leukocytes were 2-3 per high power field and urine culture was negative. Kidney ultrasonic showed right kidney was smaller than the left. The patient was discharged with the diagnosis of chronic renal insufficiency and hypertensive nephropathy. At the time of this admission, the blood pressure 129/77 mmHg, temperature 38.5°C, physical examination was unremarkable. Laboratory data revealed ESR 98 mm/h, CRP 51 mg/l, urine osmotic pressure 388 mosm/kg, Hb 74 g/l, serum creatinine 410 $\mu\text{mol/l}$, Urine leukocytes 2-3/HP and urine culture was negative. Kidney MRI showed enlargement of renal pelvis and distortion of calyces and scarring of the overlying of two kidneys. On the basis of clinical history and kidney MRI, we diagnosed primary chronic pyelonephritis with active episode. Antibiotics and support treatment were administered. The temperate went back to normal and serum creatinine decreased to 314 $\mu\text{mol/L}$.

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

Patient	Past history	This admission
	<i>Laboratory data:</i> <i>Instrumental studies:</i> <i>Surgical interventions:</i> <i>Diagnosis:</i>	<i>Vital signs:</i> <i>Laboratory data:</i> <i>Instrumental studies:</i> <i>Diagnosis:</i>

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

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3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

15. Одеський національний медичний університет: <https://onmedu.edu.ua/>
16. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 9

Тема 9: DIABETES MELLITUS

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: diabetes mellitus, insulin, insulin-dependent diabetes mellitus, non-insulin-dependent diabetes mellitus

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the upper respiratory tract consist of?
 - What is inflammation?
 - What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

byproduct, <i>n</i>	['baɪprɒdʌkt]	a product of a chemical reaction that differs from the desired product
gestational, <i>adj</i>	[dʒe'steɪʃnəl]	pertaining to pregnancy
neuropathy, <i>n</i>	[nɪʊə'rɒpəθi]	any disease or malfunction of the nerves
polydipsia, <i>n</i>	[,pɒli'dɪpsɪə]	constant, excessive drinking as a result of thirst
polyphagia, <i>n</i>	[pɒli'feɪdʒɪə]	excessive hunger or increased appetite
polyuria, <i>n</i>	[,pɒli'jʊəriə]	the excessive passage of urine
retinopathy, <i>n</i>	[retɪn'ɒpəθi]	any disease of the retina, the light-sensitive membrane at the back of the eye
sibling, <i>n</i>	['sɪblɪŋ]	any of two or more offspring of the same parents; a brother or sister

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

VERB	NOUN	ADJECTIVE
	failure	
		inherited
	injection	
treat		
develop		
		dependent

Exercise 4. Explain the following word combinations:

Gestational diabetes, juvenile diabetes, treatable forms, inherited diabetes, blurred vision, glucose self-monitoring, diabetic retinopathy, diabetic neuropathy, diabetic nephropathy

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

DIABETES

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

There are three main types of diabetes:

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

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

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

The classical symptoms of diabetes are polyuria (frequent urination), polydipsia (increased thirst) and polyphagia (increased hunger). The other symptoms are:

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

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

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

Risk factors for Type 2 diabetes include: family history (parent or sibling) of Type 2 diabetes; overweight; high blood pressure; low HDL cholesterol (the "good" cholesterol); being physically

inactive; age 45 or older; gestational diabetes; a history of heart disease or stroke; being a smoker.

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

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

Exercise 6. Answer the questions:

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

Exercise 7. Which terms are defined below?

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

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

metabolic	sugar
to inject	resistance
gestational	condition
diabetes	changes
blood	disease
insulin	insulin
chronic	diabetes
classical	population
glucose	therapy
vision	symptoms

prescribed	self-monitoring
------------	-----------------

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

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

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

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

	Type 1	Type 2
Causes of diabetes		
Signs and symptoms		
Analyses		
Treatment		
Complications		

Exercise 11. Fill in prepositions where necessary:

- A lot of people worldwide suffer diabetes.
- Doctors should instruct their patients ... glucose self-monitoring.
- The cause of diabetes depends the type.
- Glucose absorption leads ... changes in the shape of the lenses of the eyes.
- Type 2 diabetes may be controlled ... medications.
- He complained ... splitting headache.
- I was ill ... bronchitis and had to stay out ... school ... a week.

8. Diabetes mellitus is classified ... three main types.

Exercise 12. Put the questions to the underlined words:

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

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

A 65-year-old man had been seeing his general practitioner (GP) for the treatment of **type 2 diabetes** for many years. He was advised on several occasions that the oral therapy was not controlling his **blood glucose** to the recommended levels. He had **ischaemic heart disease** and suffered from **intermittent vascular claudication**. On each occasion he would ask for a few more months to alter his lifestyle to improve the control of his diabetes rather than start **insulin**. On several occasions he was offered a referral to **dietician's** clinic or to diabetic specialist nurse's clinic, but he did not accept these. His HbA1c (*glycated haemoglobin) was persistently running around 10% (86 mmol/mol). His blood pressure and **cholesterol** remained within the suggested target, although his body mass index was 30. The clinician thought that the problem was that the patient was resistant to starting insulin.

Patient	Medical history	Present complaints	Examinations	GP's recommendations

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
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4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
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7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

17. Одеський національний медичний університет: <https://onmedu.edu.ua/>

18. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 10

Тема 10: GOITRE

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: upper respiratory diseases, tonsillitis, pharyngitis, laryngitis, inflammation

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

1. Організаційні заходи (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

2. Контроль опорного рівня знань.

What does the upper respiratory tract consist of?

What is inflammation?

What kinds of diseases do you know?

3. Формування професійних вмінь, навичок: сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

cretinism, <i>n</i>	['kretɪnɪzəm]	arrested physical and mental development with dystrophy of bones and soft tissues, due to congenital lack of thyroid gland secretion from hypofunction or absence of the gland
dwarfism, <i>n</i>	[dwo:ˈfɪzəm]	underdevelopment of the body; the state of being a dwarf
iodism, <i>n</i>	['aɪədɪz(ə)m]	an abnormal local and systemic condition resulting from overdosage with, prolonged use of, or sensitivity to iodine or iodine compounds
mental retardation	['ment(ə)l ,ri:ta:ˈdeɪʃən]	mild to severe impairment in intellectual ability equivalent to an IQ of 70 to 75 or below
miscarriage, <i>n</i>	['mɪs,kær.ɪdʒ]	the spontaneous loss of a pregnancy before the 20th week
stillbirth, <i>n</i>	['stɪl.bɜ:θ]	the death of a baby in the womb after week 20 of the mother's pregnancy

Exercise 2. Form nouns using the suffixes and words given below:

-MENT: enlarge, impair, develop, achieve, treat, require, equip, move, establish, appoint, measure, excite, argue, state.

-ISM: cretin, giant, hyperthyroid, iodine, human, alcohol, fatal, hero, Darwin, modern, criticize;

-NESS: weak, deaf, dull, cold, ill, fresh, red, tired, restless, calm, kind, polite, cool, dry, dark.

Exercise 3. Explain word combinations:

noncancerous enlargement, iodine deficiency, the most common preventable cause, table salt fortified with iodine, autoimmune disease, unintended weight loss, replacement therapy

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

GOITRE

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

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

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

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

Some other common risk factors for goiters include:

- female sex, because women are more prone to thyroid disorders;
- age: goiters are more common after age 40;
- medical history: a personal or family history of autoimmune disease increases risk;
- pregnancy and menopause;
- certain medications, e.g. some heart and psychiatric drugs;
- radiation exposure.

Not all goiters cause signs and symptoms. When signs and symptoms do occur they may include:

- a swelling at the base of your neck;
- a tight feeling in the throat;
- coughing;
- hoarseness;
- difficulty swallowing;
- difficulty breathing;
- dizziness when the arms are raised above the head

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

An excess, or a deficiency of circulating hormones causes a wide range of medical conditions, for example *hyperthyroidism* and *hypothyroidism*. Where there is an excess of hormone, one form of

treatment consists of giving the patient something which inhibits the production of hormone, as in the use of carbimazole to treat hyperthyroidism. When a hormone is deficient, treatment may be performed by replacement therapy, for example injections of insulin in the treatment of Type I diabetes.

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

Exercise 5. Answer the questions:

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

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

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

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

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

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

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

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

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

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

Exercise 9. Put questions to the underlined words:

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

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

- | | |
|---------------------|---|
| 1. diarrhea | a) Do you prefer hot weather or cold? |
| 2. eating more | b) Is your weight steady? |
| 3. heat intolerance | c) What is your appetite like? |
| 4. overactivity | d) Are your bowels normal? |
| 5. palpitations | e) Are you able to sit and relax? |
| 6. weight loss | f) Do your hands shake? |
| 7. tremor | g) Have you ever felt your heart beating rapidly? |

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

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

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

A 64-year-old hypertensive woman of African descent presented to the emergency room with a two-day history of worsening **shortness of breath** and **stridor**. She had been aware of a **recurrent goiter** for over 15 years, having had a **partial thyroidectomy** 35 years ago for **benign**

multi-nodular disease. Over the past year, she had been experiencing shortness of breath on exertion, generally relieved by rest. She did not have any hyperthyroid or hypothyroid symptoms and there was no history of fever, **dysphagia**, pain or **hoarseness**.

On presentation to the emergency department she had marked stridor, **tachypnea** (32 breaths/minute), **tachycardia** (120 beats/minute) and blood pressure of 160/95 mmHg. Her pulse oximeter **oxygen saturation** (spO2) was 78% on room air. A large multi-nodular goiter was obvious. All other examinations were normal. She was rushed to the operating theatre for intubation under general anesthesia.

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

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

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

Patient	Present complaints	Past history	Examination data	Diagnosis	Treatment

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

- Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; **Lazor, N. V.**; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
- Посібник “English grammar exercises for medical students” (для СРС). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

- Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
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Електронні інформаційні ресурси

- Одеський національний медичний університет: <https://onmedu.edu.ua/>
- Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 11

Тема 11: AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME)

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: immune system, HIV, AIDS, opportunistic infections

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

1. Організаційні заходи (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

2. Контроль опорного рівня знань.

What does the upper respiratory tract consist of?

What is inflammation?

What kinds of diseases do you know?

3. Формування професійних вмінь, навичок: сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

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

Exercise 2. Pronounce correctly:

-ea- [i:]: sick-leave, treatment, weak, speak, heat;
 -ea- [e]: head, bread, dead, death, health;
 -cian [ʃ(ə)n]: physician, obstetrician, pediatrician, phthisiatrician, musician;
 -tion [ʃ(ə)n]: examination, administration, medication, combination, injection;
 -sis (sing.) [sis] → -ses (pl.) [si:z]: analysis – analyses, diagnosis – diagnoses, crisis – crises, synthesis – syntheses, thesis – theses.

Exercise 3. Complete the table with missing forms:

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

Exercise 4. Explain the word-combinations and phrases:

A progressive failure of the immune system, life-threatening opportunistic infections, malignant tumours, transfusions of contaminated blood, swollen lymph nodes, a latency stage or window period, to eradicate the virus

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

AIDS (Acquired Immune Deficiency Syndrome)

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

HIV infection is considered a pandemic by the World Health Organization (WHO) infecting about 0.6 % of the world's population.

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

The AIDS virus is transmitted through bodily fluids such as blood, breast milk, etc. Casual contact with the infected person doesn't result in the transmission of the virus. The most efficient methods of HIV transmission include sexual, sharing needles for IV drugs, and receiving transfusions of

contaminated blood. An infected mother may pass the virus to her unborn child. Susceptibility to HIV infection increases if there is a break in the skin or mucous membrane, which allows the virus to enter the bloodstream.

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

Untreated, HIV can progress to AIDS within a decade and, without treatment, life expectancy after diagnosis is about 3 years.

This may be shorter if the person develops a severe opportunistic illness. However, treatment with antiretroviral drugs can prevent AIDS from developing.

If AIDS does develop, it means that the immune system is severely compromised, that is, weakened to the point where it can no longer successfully respond to most diseases and infections.

People living with AIDS are vulnerable to a wide range of illnesses, including:

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

The shortened life expectancy linked with untreated AIDS is not a direct result of the syndrome itself. Rather, it is a result of the diseases and complications that arise from having an immune system weakened by AIDS.

There is currently no available vaccine for HIV or cure for HIV or AIDS. The only known methods of prevention are based on avoiding exposure to the virus or an antiretroviral treatment which can just slow the course of the disease. Antiretroviral treatment reduces both the mortality and morbidity of HIV infection. But, these drugs have some side effects such as diarrhoea, malaise, nausea and fatigue. They don't completely eradicate the virus, but can greatly prolong the lives of patients infected with HIV.

Exercise 6. Answer the questions:

1. What is AIDS?
2. What systems does HIV damage?
3. What is the difference between the two HIV strains?
4. How is HIV transmitted?
5. What are the stages of HIV infection?
6. What symptoms are the HIV stages characterized by?
7. What illnesses are AIDS patients vulnerable to?

8. What treatment for HIV or AIDS exists nowadays?
9. What is the action of antiretroviral drugs?
10. What are the adverse reactions of HIV drugs?

Exercise 7. Match the terms to their definitions:

a) immune deficiency	1. the period between infection with a virus or other microorganism and the onset of symptoms
b) vulnerable	2. the protein produced in response to and counteracting a specific antigen.
c) meningitis	3. failure of the immune system to protect the body adequately from infection
d) tumour	4. it affects patients only or chiefly when the immune system is depressed
e) antibody	5. a virus which reduces people's resistance to illness
f) latency (window period)	6. an inflammation (swelling) of the protective membranes covering the brain and spinal cord.
g) HIV	7. weak and without protection
h) opportunistic infection	8. swelling of a part of the body, generally without inflammation, caused by an abnormal growth of tissue, whether benign or malignant

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

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

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

AIDS transmitted immune HIV infected opportunistic transfusion protective

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

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

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

Sharing and reusing syringes contaminated _____ HIV-infected blood represents a major risk for infection with HIV. Needle sharing is the cause _____ one-third of all new HIV infections _____ North America, China and Eastern Europe. The risk _____ being infected with HIV from a single prick _____ a needle that has been used on an HIV-infected person is thought to be about 1 in 150. Post-exposure prophylaxis _____ anti-HIV drugs can further reduce the risk. This route can also affect people who give and receive tattoos and piercing.

According _____ the WHO, the overwhelming majority _____ the world population does not have access _____ safe blood and between 5% and 10% of the world's HIV infections come _____ transfusions of infected blood and blood products.

Exercise 11. Open the brackets and use verbs in the correct tense and voice::

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

Exercise 12. Which sentences below contain incorrect verb forms? Correct them.

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

Exercise 13. Put questions to the underlined phrases:

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

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник "English grammar exercises for medical students" (для CPC). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

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1. Medical Terminology. An Illustrated Guide. Barbara Janson Cohen, Shirley A. Jones. Ninth Edition. Jones and Bartlett Learning, 2021, pp. 670
3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
4. Саблук А. Г., Левандовська Л. В. English for medical student=Англійська мова для студентів-медиків: підручник для мед. ВНЗ I—III р.а. Київ: ВСВ «Медицина», 2018. 576 с.
5. McCarter S. MEDICINE (OXFORD ENGLISH FOR CAREERS) 2. Student's Book. Oxford University Press, 2010. 144 с.
6. Whalen K. Lippincott Illustrated Reviews: Pharmacology. Lippincott Williams & Wilkins, 2018. 576 с.
7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

21. Одеський національний медичний університет: <https://onmedu.edu.ua/>
22. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 12

Тема 12: INFLUENZA

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: influenza, viral infection, influenza strains

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the upper respiratory tract consist of?
 - What is inflammation?
 - What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

advanced, <i>adj</i>	[əd'vɑ:nst]	of a disease, in a late or critical stage of development
antigenic shift		a sudden, major change in the antigenicity of a virus resulting from the recombination of the genomes of two different strains
congestion, <i>n</i>	[kən'dʒestʃən]	presence of an abnormal amount of fluid in the vessels or passages of a part or organ
outbreak, <i>n</i>	[aʊt'breik]	a sudden increase in occurrences of a disease when cases are in excess of normal expectancy
rejection, <i>n</i>	[ri'dʒekʃn]	an immune response in which foreign tissue (as of a skin graft or transplanted organ) is attacked by immune system components of the recipient organism
suppress, <i>v</i>	[sə'pres]	to inhibit the activity of something

Exercise 2. Read the word combinations and explain them:

Advanced: advanced disease; advanced carcinoma; moderately advanced atherosclerosis; advanced age;

Congestion: nasal congestion; congestion of blood; pulmonary congestion; renal congestion; sinus congestion;

Intervention: surgical intervention; minimal intervention; psychological intervention; refuse medical intervention;

Outbreak: outbreak of disease; influenza outbreak; infection outbreak; produce an outbreak; food poisoning outbreak.

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

verbs	nouns	adjectives
congest		
	experience	
		inherited
suppress		
	infection	
advance		
		productive
persist		

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

INFLUENZA

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

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

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

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

For most people, influenza resolves on its own. Influenza complications usually arise from bacterial infections of the lower respiratory tract. Signs of a secondary respiratory infection include high

fever, chills, chest pain associated with breathing, and a productive cough with yellowish-green sputum. If these symptoms appear, medical treatment is necessary. Other secondary infections, such as sinus or ear infections, and heart and lung problems, may also require medical intervention.

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

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

Exercise 5. Answer the questions:

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

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

1. to infect	a) to lead to
2. to occur	b) aggravation
3. to cause	c) helpful
4. to subside	d) to appear
5. congestion	e) lethal
6. complication	f) obstruction
7. treatment	g) to pass off
8. fatal	h) to contract with
9. useful	i) visible
10. noticeable	j) management

Exercise 7. Match the terms to their definitions:

1. Fatigue	a) expelling air or solid matter from the lungs abruptly and explosively through the partially closed vocal cords
2. Vomiting	b) mucus and other matter brought up from the lungs by coughing
3. Sputum	c) a condition characterized by a lessened capacity for work usually accompanied by a feeling of weariness and tiredness
4. Chill	d) expelling air forcibly from the mouth and nose in an explosive, spasmodic involuntary action resulting chiefly from irritation of the nasal mucous membrane
5. Cough	e) an uncontrollable reflex that expels the contents of the stomach through the mouth
6. Sneezing	f) a sensation of coldness, often accompanied by shivering and pallor of the skin.

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

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

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

Exercise 9. Put questions to the underlined words:

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

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

- He (to be) ill with the flu since last week.
- Antiviral drugs (to use) to treat influenza.
- Influenza often (to confuse) with the common cold.
- Antibiotics (to prescribe) for the treatment of bacterial pneumonia.

5. He (to hospitalize) with a severe form of the flu last week.
6. After two days of being ill with influenza he (to start) having trouble breathing.
7. Patients with the flu (to recommend) to have plenty of rest and drink lots of liquids.
8. Influenza in which no complications occur usually (to last) from 3 to 5 days.
9. The headache and general pains (to relieve) by the use of Aspirin.
10. Many patients (to have) respiratory symptoms such as laryngitis or tracheitis.

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

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

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

The patient was a 15-year-old male with a history of sickle cell disease. He (to admit) to hospital with a 4-day history of a progressive, productive cough and 2 days of fevers. On admission, his temperature was 41.1⁰C, his respiratory rate was 40/min, pulse was 120 beats/min, and his blood pressure was 80/40 mmHg. He also (to have) a mild respiratory distress. A chest radiograph (to demonstrate) a right lower lobe infiltrate.

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

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

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

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

Vitals

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

Physical Exam

General Well nourished young woman

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

Radiology

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

Micro

Rapid Flu Swab Positive: influenza A

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

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

Patient	Symptoms	Vitals& Physical examination	Instr. studies	Microscopic exam	Diagnosis	Treatment

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
2. Посібник “English grammar exercises for medical students” (для CPC). ОНМедУ, Каф. Іноземних мов. Одеса, 2020.

Додаткова:

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3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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Практичне заняття № 13

Тема 13: TETANUS

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: tetanus, trismus, opisthotonus, risus sardonicus

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

1. Організаційні заходи (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).

2. Контроль опорного рівня знань.

What does the upper respiratory tract consist of?

What is inflammation?

What kinds of diseases do you know?

3. Формування професійних вмінь, навичок: сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

delirium, <i>n</i>	[di'liəriəm]	a serious disturbance in mental abilities that results in confused thinking and reduced awareness of the environment
lockjaw, <i>n</i>	['lɒk.dʒɔ:]	an early symptom of tetanus characterized by spasms of the jaw muscles and inability to open the jaws
opisthotonus, <i>n</i>	[ou 'pɪsθətonəs]	a great rigid spasm of the body, with the back fully arched and the heels and the head bent back
protruded (lips), <i>n</i>	[prə'tru:did]	extend beyond or above a surface
risus sardonicus	['ri:səs sɑ:'dɒnɪkəs]	a spasm of the facial muscles resulting in a permanent contorted grin
seizure, <i>n</i>	['si:ʒər]	uncontrolled electrical activity in the brain, which may produce a physical convulsion
stiffness, <i>n</i>	['stɪfnəs]	difficulty in moving a joint or stretching a muscle
trismus, <i>n</i>	[trizməs]	lockjaw

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

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

- mal: formation, nutrition, occlusion, position, treatment, presentation, rotation.

Exercise 3. Explain the word combinations:

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

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

TETANUS

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

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

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

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

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

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

Exercise 5. Answer the questions:

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

Exercise 6. Complete the following sentences using the text:

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

Exercise 7. Match the terms to their definitions:

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

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

1. Tetanus is an inherited disease characterized by painful spasms of the muscles.
2. Tetanus is caused by the *Bacillus tetani* which gains entrance into the body with contaminated food.
3. Tetanus infection has been associated with burns, animal bites and even chronic sores and infections.
4. Tetanus is a highly contagious disease.
5. Gradually all muscles of the body become affected including those of the forearm and of the hand.

6. The typical facial expression known as risus sardonicus, where the patient appears to be crying, due to the drawing up of the angles of the mouth.
7. The body is arched in the position known as opisthotonus.
8. The treatment of tetanus consists of tetanus immune globulin to neutralize the toxins that the bacteria have created in your body.

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

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

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

Exercise 10. Match two parts of the sentences:

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

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

1. Universal childhood immunization in the 1930s (to lead) to the decline in tetanus cases.
2. The patient (to suffer) from nightmares for about 10 days.
3. In this patient tetanus (to cause) by as a wound after stepping on a nail.
4. The brows (to contract), the teeth (to clench) tightly and the lips (to protrude) slightly.
5. Now the patient's body (to arch) in the position known as opisthotonus.
6. The entire body of the patient just (to go) into a convulsive seizure, accompanied by severe pain.

7. The patient (to run) a fever as high as 40°C during the attacks for a week.
8. Death (to ensue) within the first 48 hours or at any time up to one week after onset.

Exercise 12. Put questions to the underlined words:

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

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

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

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

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

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

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

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
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3. Medical English for Academic Purposes. Ю. В. Лисанець, О. М. Беляєва, М. П. Мелашенко. Видавництво «Медицина», 2018. 312 с.
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7. Swan M. Practical English Usage. Oxford University Press, 2017. 768 с.

Електронні інформаційні ресурси

23. Одеський національний медичний університет: <https://onmedu.edu.ua/>
24. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 14

Тема 14: DIPHTHERIA

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: diphtheria, pseudomembranes, pharyngeal, laryngeal and nasal forms

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the upper respiratory tract consist of?
 - What is inflammation?
 - What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

deleterious, <i>adj</i>	[ˌdɛlɪˈtɪəriəs]	causing harm or damage
dissemination, <i>n</i>	[dɪˌsemɪˈneɪʃən]	the action or fact of spreading something, especially information, widely
pillar of fauces	[ˈpɪlə ɒv ˈfəʊsiːz]	either of two curved folds on each side that bound the fauces and enclose the tonsil
predisposed, <i>v</i>	[ˈpriːdɪsˈpəʊz]	Susceptible; having a tendency to develop smth.
pseudomembrane, <i>n</i>	[ˌsjuːdəʊˈmembreɪn]	a layer which resembles a membrane, especially one forming over a mucosal surface; false membrane

Exercise 2. Pronounce correctly:

diphtheria [dɪpˈθɪəriə], fibrin [ˈfaɪbrɪn], faucal [ˈfəʊk(ə)l], pharyngeal [fəˈrɪŋ(d)ʒiəl], laryngeal [ləˈrɪŋ(d)ʒiəl], myocarditis [ˌmaɪəʊkɑːˈdaɪtɪs], neuritis [ˌnjuːəˈraɪtɪs], membranous [ˈmembrənəs]

Exercise 3. a) Make the verbs from the adjectives by the model. Use them in phrases:

Model. Weak – weaken

Fright, worse, thick, bright, dark, fast, short, moist, threat, light, loose

b) Change the words in brackets to make the word combinations correct:

to (soft) the skin, a (short) life span, a life-(threat) medical condition, a (fright) emotional event, (weak) by permanent stress, to (sad) a child, to (loose) tight clothing

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

VERB	NOUN	ADJECTIVE
inherit		
		suspicious
	production	
depend		
divide		
	care	
		isolated

Exercise 5. Explain the following word combinations:

To be more liable to diphtheria, robust people, uneasiness in the throat, stiffness of the back of the neck, the earliest objective manifestation of the disease, a low-grade fever, the outcome of the disease

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

DIPHTHERIA

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

It is characterized by local inflammation with fibrin formation of the mucous membranes, usually of the upper respiratory tract, with the production of a toxin which when absorbed into the bloodstream may produce deleterious effects on various parts of the body, especially the heart and peripheral nerves.

The disease exists throughout the world but is more common in temperate zones and during the colder months, autumn and winter. It is commonly spread by direct contact which must be fairly intimate. Dissemination by third objects such as clothes, toys, etc. may also occur and carriage by milk has been reported many times. In some people, infection with diphtheria-causing bacteria causes only a mild illness — or no obvious signs and symptoms at all. Healthy carriers may disseminate the disease to susceptible persons and thus constitute a menace to public health. Children appear to be more liable to diphtheria than adults; although the most robust people may be attacked and those whose health is weakened by any cause are especially predisposed.

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

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

The earliest objective manifestation of the disease is the formation of a thin film of fibrin on the tonsils which increases in thickness to form a characteristic yellowish-white or grayish-white pseudomembrane. The pseudomembrane narrows the airway. The roof of the mouth may be

paralyzed. When inhaling, the pseudomembrane may cause people to make a noisy gasping sound. Also, the pseudomembrane may extend into the windpipe or airway or suddenly become detached and block the airway completely. As a result, people may be unable to breathe.

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

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

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

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

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

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

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

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

Exercise 7. Answer the questions:

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

Exercise 8. Match the words to their definitions:

1. stiffness	a) loss of voluntary movement (motor function)
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2. antitoxin	b) abnormal voice changes
3. paralysis	c) difficulty in moving a joint or stretching a muscle
1. hoarseness	d) an antibody that is capable of neutralizing the specific toxin
2. malaise	e) an insoluble protein that is produced in response to bleeding
3. fibrin	f) a sense of unease or a lack of well-being

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

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

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

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

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

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

Exercise 11. Put questions to the underlined words:

1. The disease may be divided into three main forms according to the anatomical distribution of the membrane.
2. Most people who have diphtheria require a 14-day course of antibiotics.
3. These symptoms, after continuing for a variable length of time, almost always ultimately disappear.
4. The outcome of the disease depends mainly on one factor, namely, the early administration of adequate doses of antitoxin.
5. It is commonly spread by direct contact which must be fairly intimate.
6. Friedrich Loeffler was the first person to cultivate *C. diphtheriae* in 1884.
7. Myocarditis is the most dreadful of all complications of diphtheria.
8. The lesion tends to spread over the pillars and onto the soft palate and uvula.

Exercise 12. Put the verbs in brackets in the appropriate form:

1. In 1613, Spain (to experience) an epidemic of diphtheria. The year (to know) as The Year of Strangulations in the history of Spain.

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

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

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

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

A 9-year-old boy was referred to the University Hospital with a **low-grade fever**, cough and **sore throat** for 5 days. On the first day of illness he had been taken to a rural clinic and diagnosed with **pharyngitis**. The patient was prescribed an unknown oral antibiotic and acetaminophen. By the third day of illness his fever had gradually declined and the sore throat had resolved. However, he subsequently became worse and experienced neck swelling, **dyspnoea** and **dysphagia**. He also had a harsh breathing sound. On the fifth day of illness his parents took him to a local hospital. His vital signs showed a blood pressure of 110/90 mm Hg, heart rate of 153 bpm, temperature of 37.5°C, respiratory rate of 22 breaths/min and room air oxygen saturation of 75%. His tonsils were inflamed and had white patches, and he had **inspiratory stridor** and poor air entry. He was subsequently endotracheally intubated at the local hospital and had abundant amounts of white as well as bloody secretions suctioned from the tube. He was given normal saline and ceftriaxone before referral to our hospital. The laboratory results from the local hospital were significant for a **leucocytosis** of 30 300 cells/mm³ and a high creatinine level of 1.7 mg/dL.

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

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

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

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

4. Підбиття підсумків.

5. Список рекомендованої літератури

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1. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokriienko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
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Електронні інформаційні ресурси

25. Одеський національний медичний університет: <https://onmedu.edu.ua/>
26. Інформаційні матеріали: <http://www.info.odmu.edu.ua>

Практичне заняття № 15

Тема 15: HEPATITIS

Мета: ознайомлення з клінічною термінологією за темою, формування мовленнєвих компетентностей, розвиток наукового мислення та усного мовлення здобувачів вищої освіти.

Основні поняття: hepatitis, viral hepatitis, HAV, HBV, HCV

Обладнання: методрозробка заняття, навчальний посібник, ноутбук.

План:

- 1. Організаційні заходи** (привітання, перевірка присутніх, повідомлення теми, мети заняття, мотивація здобувачів вищої освіти щодо вивчення теми).
- 2. Контроль опорного рівня знань.**
 - What does the upper respiratory tract consist of?
 - What is inflammation?
 - What kinds of diseases do you know?
- 3. Формування професійних вмінь, навичок:** сформувати і закріпити навички пошукового читання та аналізу наукового тексту за темою заняття, закріпити спеціальний вокабуляр.

Exercise 1. Topic vocabulary:

Необхідно звернути увагу здобувачів на правильну вимову термінів та їхню морфологічну приналежність

cirrhosis, <i>n</i>	[sɪˈrʊʊsɪs]	a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions
choluria, <i>n</i>	[ˌkɒlˈjʊ(ə)rɪə]	presence of bile in urine
debilitating, <i>adj</i>	[dɪˈbɪlɪteɪɪŋ]	(of a disease or condition) making someone very weak and infirm
dormant, <i>adj</i>	[ˈdɔ:m(ə)nt]	not active or working
hepatomegaly, <i>n</i>	[ˌhepətə(v)ˈmegəli]	an abnormally enlarged liver
pangenotypic, <i>n</i>	[pənˈdʒenətaɪpɪk]	relating to all genotypes (of an organism)
sternutation, <i>n</i>	[ˌstɜːnjʊˈteɪʃ(ə)n]	sneezing
suppuration, <i>n</i>	[ˈsʌpjʊreɪʃən]	the formation of, conversion into, or process of discharging pus
vicinity, <i>n</i>	[vɪˈsɪnəti]	a surrounding, adjacent, or nearby area

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

_____ infectious, _____ adequate, _____ possible, _____ balanced, _____ capable,
_____ born, _____ protected, _____ existent, _____ contaminated,
_____ symptomatic.

Exercise 3. Complete the table with missing forms:

VERB	NOUN	ADJECTIVE
	loss	

		contaminated
infect		
recover		
	failure	
cure		
		persistent
suspect		
exist		
	transmission	

Exercise 4. Explain the following word-combinations:

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

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

Hepatitis

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

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

There are different types of hepatitis, with different causes:

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

The main symptoms of hepatitis include choluria (dark or brown urine, often referred to as the color of Coca-Cola), appetite loss, fatigue, bloating, jaundiced skin, yellowing of the whites of the eyes, nausea and vomiting, pain in the vicinity of the liver and hepatomegaly, low-grade fever. The excessive amounts of orange-yellow pigment or bilirubin in the blood indicate hepatitis and produce the yellow appearance associated with jaundice.

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

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

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

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

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

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

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

- Scarring of the liver (cirrhosis).
- Liver cancer.
- Liver failure.
- Other conditions. People with chronic hepatitis B may develop kidney disease or inflammation of blood vessels.

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

Exercise 6. Answer the questions:

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

Exercise 7. Match the terms to their definitions:

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

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

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

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

- _____ is a type of liver disease that attacks persons who already have suffered from hepatitis B.
- _____ is scarring (fibrosis) of the liver caused by long-term liver damage.

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

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

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

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

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

Exercise 11. Put questions to the underlined words:

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

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

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

Exercise 13. Use the plan to describe hepatitis:

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

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

A 22-year-old female presented to the hospital with intermittent fever and chills of two-week duration, **self-resolving** bilateral eye swelling, and **bi-temporal headaches**. There was no travel history, no family history of liver disease, sick contacts, or other associated symptoms on review of systems, including gastrointestinal and genitourinary symptoms. Vitals were notable for high-grade fevers up to 102-103 °F. Physical exam was notable for mildly tender posterior **cervical lymphadenopathy**. Labs were notable for **leukopenia**, elevated inflammatory markers, and elevated **transaminases**. Differential diagnoses included but were not limited to infectious, connective tissue disorders, **malignancy**, and endocrine pathology. Extensive workup including routine cell counts, urine and blood cultures, HIV antigen/antibody, toxoplasma, Epstein-Barr virus, cytomegalovirus, herpes simplex virus, alpha 1 antitrypsin, antinuclear antibody, rheumatoid factor, mitochondrial antibodies, thyroid stimulating hormone, parathyroid hormone, and ceruloplasmin was negative. Hepatitis A, B, and C serologies were negative. However, the patient's transaminases continued to worsen. Radio-imaging included a CT scan of the neck, chest, abdomen, and pelvis, which was essentially negative.

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

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

Patient	Symptoms/ complaints on admission	Physical examination	Lab findings	Diagnosis

4. Підбиття підсумків.

5. Список рекомендованої літератури

Основна:

3. Professional Medical English: Course book for higher education students, speciality 222 Medicine of higher educational institution institutions of IV level of accreditation / Rusalkina, L. H.; Mokrilenko, E. M.; Lazor, N. V.; Bermas, O. M. - Odesa: ONMedU, 2023. - 256 с.
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