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SUPPLEMENTARY READING FOR PHARMACY STUDENTS.

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Supplementary reading for pharmacy students розроблено для студентів 3 курсу спеціальності “Фармація” як додаткове джерело лексичного збагачення та можливість потренуватися у тестах до Кроку

Методичну рекомендацію розглянуто та затверджено на засіданні кафедри української та іноземних мов імені Якіма Яреми № від _____ 2021 р.

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1. The scope of pharmacy [1]

The word pharmacy is derived from Old French *farmacie* "substance, such as a food or in the form of a medicine which has a laxative effect" from Medieval Latin *pharmacia* from Greek *pharmakeia* (Greek: *φαρμακεία*) "a medicine", which itself derives from *pharmakon* (*φάρμακον*), meaning "drug, poison, spell"^{[44][45][n 1]} (which is etymologically related to *pharmakos*).

Pharmacy is the clinical health science that links medical science with chemistry and it is charged with the discovery, production, disposal, safe and effective use, and control of medications and drugs. The practice of pharmacy requires excellent knowledge of drugs, their mechanism of action, side effects, interactions, mobility and toxicity. At the same time, it requires knowledge of treatment and understanding of the pathological process. Some specialties of pharmacists, such as

that of clinical pharmacists, require other skills, e.g. knowledge about the acquisition and evaluation of physical and laboratory data.[□]

The scope of pharmacy practice includes more traditional roles such as compounding and dispensing of medications, and it also includes more modern services related to health care, including clinical services, reviewing medications for safety and efficacy, and providing drug information. Pharmacists, therefore, are the experts on drug therapy and are the primary health professionals who optimize the use of medication for the benefit of the patients.

An establishment in which pharmacy (in the first sense) is practiced is called a pharmacy (this term is more common in the United States) or a chemist's (which is more common in Great Britain). In the United States and Canada, drugstores commonly sell medicines, as well as miscellaneous items such as confectionery, cosmetics, office supplies, toys, hair care products and magazines and occasionally refreshments and groceries.

Answer the questions:

1. What is pharmacy?
2. What does the word pharmacy mean?
3. What kind of knowledge does pharmacy require?
4. How do we call a person who specializes in pharmacy?
5. What is chemist's?
6. What do drugstores sell?

Case study. Find a pharmacy in your town and find out what kind of medicines and goods they sell.

Translate the words:

Ліки, токсичність, установа, косметика, чудові знання, безпека, ефективність, взаємозв'язок, фармацевт, солодоці, освіжаючі напої, побічний ефект, вміння, лабораторні дані, відкриття, виробництво, використання, переваги, наука про здоров'я, розповсюдження

Areas of pharmacy

Pharmacists practice in a variety of areas including community pharmacies, hospitals, clinics, extended care facilities, psychiatric hospitals, and regulatory agencies.

Community pharmacy

A *pharmacy* (also known as a *chemist* in Australia, New Zealand and the British Isles; or *drugstore* in North America; *retail pharmacy* in industry terminology; or apothecary, historically) is where most pharmacists practice the profession of pharmacy. It is the community pharmacy in which the dichotomy of the profession exists; health professionals who are also retailers. Community pharmacies usually consist of a retail storefront with a dispensary, where medications are stored and dispensed

Answer the questions:

1. What areas of pharmacy do you know?
2. What other names of pharmacy do you know?
3. What do community pharmacy consist of?

Hospital pharmacy

Pharmacies within hospitals differ considerably from community pharmacies. Some pharmacists in hospital pharmacies may have more complex clinical medication management issues, and pharmacists in community pharmacies often have more complex business and customer relations issues.

Because of the complexity of medications including specific indications, effectiveness of treatment regimens, safety of medications (i.e., drug interactions) and patient compliance issues (in the hospital and at home), many pharmacists practicing in hospitals gain more education and training after pharmacy school through a pharmacy practice residency and sometimes followed by another residency in a specific area. Those pharmacists are often referred to as clinical pharmacists and they often specialize in various disciplines of pharmacy.

For example, there are pharmacists who specialize in hematology/oncology, HIV/AIDS, infectious disease, critical care, emergency medicine, toxicology, nuclear pharmacy, pain management, psychiatry, anti-coagulation clinics, herbal medicine, neurology/epilepsy management, pediatrics, neonatal pharmacists and more.

Hospital pharmacies usually stock a larger range of medications, including more specialized medications, than would be feasible in the community setting. Most hospital medications are unit-dose, or a single dose of medicine. Hospital pharmacists and trained pharmacy technicians compound sterile products for patients including total parenteral nutrition (TPN), and other medications are given intravenously. That is a complex process that requires adequate training of personnel, quality assurance of products, and adequate facilities.

Answer the questions:

4. Do pharmacies in hospitals differ from community pharmacies?
5. What kind of pharmacy deals with complexity of medication?

-6. In what areas can pharmacists specialize?

Clinical pharmacy

Pharmacists provide direct patient care services that optimize the use of medication and promotes health, wellness, and disease prevention. Clinical pharmacists care for patients in all health care settings, but the clinical pharmacy movement initially began inside hospitals and clinics. Clinical pharmacists often collaborate with physicians and other healthcare professionals to improve pharmaceutical care. Clinical pharmacists often participate in patient care rounds for drug product selection. In the UK clinical pharmacists can also prescribe some medications for patient.

The clinical pharmacist's role involves creating a comprehensive drug therapy plan for patient-specific problems, identifying goals of therapy, and reviewing all prescribed medications prior to dispensing and administration to the patient. The review process often involves an evaluation of the appropriateness of drug therapy (e.g., drug choice, dose, route, frequency, and duration of therapy) and its efficacy. The pharmacist must also monitor for potential drug interactions, adverse drug reactions, and assess patient drug allergies while they design and initiate a drug therapy plan.

Answer the questions:

1. Where did clinical pharmacy movement initially begin?
2. Who do clinical pharmacists collaborate with?
3. Can clinical pharmacists prescribe medications in UK?
4. What role do clinical pharmacists perform?
5. What is a review process?

Compounding pharmacy/industrial pharmacy

Compounding involves preparing drugs in forms that are different from the generic prescription standard. This may include altering the strength, ingredients, or dosage form. Compounding is a way to create custom drugs for patients who may not be able to take the medication in its standard form, such as due to an allergy or difficulty swallowing. Compounding is necessary for these patients to be able to get the prescriptions they need.

One area of compounding is preparing drugs in new dosage forms. For example, if a drug manufacturer only provides a drug as a tablet, a compounding pharmacist might make a medicated lollipop that contains the drug. Patients who have difficulty swallowing the tablet may prefer to suck the medicated lollipop instead.

Another form of compounding is by mixing different strengths (g, mg, mcg) of capsules or tablets to yield the desired amount of medication indicated by the physician, physician assistant, nurse practitioner, or clinical pharmacist practitioner. This form of compounding is found at community or hospital pharmacies or in-home administration therapy.

Answer the questions:

1. Why are drugs prepared and how do they differ from generic ones?
2. What kind of patients are compounding prepared for?

3. Where can compounding be found?

Consultant pharmacy

Consultant pharmacy practice focuses more on medication regimen review (i.e. "cognitive services") than on actual dispensing of drugs. Consultant pharmacists most typically work in nursing homes but are increasingly branching into other institutions and non-institutional settings. Consultant pharmacists begin to work directly with patients, primarily because many elderly people are now taking numerous medications but continue to live outside of institutional settings. Some community pharmacies employ consultant pharmacists and/or provide consulting services.

Answer the questions:

1. What does consultant pharmacy focus on?
2. Where do consultant pharmacists most typically work?
3. What kind of services do they provide?

Veterinary pharmacy

Veterinary pharmacies, sometimes called *animal pharmacies*. Veterinary pharmacies stock different varieties and different strengths of medications to fulfill the pharmaceutical needs of animals. Because the needs of animals, as well as the regulations on veterinary medicine, are often very different from those related to people, in some jurisdictions veterinary pharmacy may be kept separate from regular pharmacies.

Answer the questions:

1. What is veterinary pharmacy?
2. Are veterinary pharmacy kept together or separate from regular pharmacies?
3. Would you like to work in an animal or human pharmacy?

Nuclear pharmacy

Nuclear pharmacy focuses on preparing radioactive materials for diagnostic tests and for treating certain diseases. Nuclear pharmacists undergo additional training specific to handling radioactive materials, and unlike in community and hospital pharmacies, nuclear pharmacists typically do not interact directly with patients.

Answer the questions:

1. What does nuclear pharmacy deal with?
2. Do nuclear pharmacies cooperate with clients directly?

Specialty pharmacy

Specialty pharmacies supply high-cost injectable, oral, infused, or inhaled medications that are used for chronic and complex disease states such as cancer, hepatitis, and rheumatoid arthritis. Unlike a traditional community pharmacy where prescriptions for any common medication can be brought in and filled, specialty pharmacies carry novel medications that need to be properly stored, administered, carefully monitored, and clinically managed. In addition to supplying these drugs,

specialty pharmacies also provide lab monitoring, adherence counseling, and assist patients with cost-containment strategies needed to obtain their expensive specialty drugs.

Answer the questions:

1. What kinds of diseases do specialty pharmacies provide medicine for?
2. What is their difference from traditional community pharmacies?
3. What additional tasks do they perform?

Pharmaceutical sciences

The pharmaceutical sciences are a group of interdisciplinary areas of study concerned with the design, action, delivery, and disposition of drugs. They apply knowledge from chemistry (inorganic, physical, biochemical and analytical), biology (anatomy, physiology, biochemistry, cell biology, and molecular biology), epidemiology, statistics, chemometrics, mathematics, physics, and chemical engineering.

The pharmaceutical sciences are subdivided into several specific specialties, with four main branches:

- **Pharmacology:** the study of the biochemical and physiological effects of drugs on human beings.

Pharmacodynamics: the study of the cellular and molecular interactions of drugs with their receptors. Simply "What the drug does to the body"^[38]

Pharmacokinetics: the study of the factors that control the concentration of drug at various sites in the body. Simply "What the body does to the drug" ^[39]

Pharmaceutical toxicology: the study of the harmful or toxic effects of drugs.

Pharmacogenomics: the study of the inheritance of characteristic patterns of interaction between drugs and organisms.

- **Pharmaceutical chemistry:** the study of drug design to optimize pharmacokinetics and pharmacodynamics, and synthesis of new drug molecules (Medicinal Chemistry).
- **Pharmaceutics:** the study and design of drug formulation for optimum delivery, stability, pharmacokinetics, and patient acceptance.
- **Pharmacognosy:** the study of medicines derived from natural sources.
- **Pharmacocybernetics**) is an emerging field that describes the science of supporting drugs and medications use through the application and evaluation of informatics and internet technologies, so as to improve the pharmaceutical care of patients.

As new discoveries advance and extend the pharmaceutical sciences, subspecialties continue to be added to this list. Importantly, as knowledge advances, boundaries between these specialty areas of pharmaceutical sciences are beginning to blur. Many fundamental concepts are common to all pharmaceutical sciences. These shared fundamental concepts further the understanding of their applicability to all aspects of pharmaceutical research and drug therapy.

Answer the questions:

1. What group of sciences is the pharmaceutical science interrelated with?

2. Could you name four main branches of pharmaceutical sciences?
3. What sub branches does pharmacology include?
4. What is pharmaceutics?
5. What is pharmacognosy?
6. What is an emerging field in pharmacy?

Translate the words:

characteristic patterns, pharmaceutical research, interaction, subspecialties, to blur, concept. drug therapy, disposition of drugs, cellular interactions, various, harmful effects, inheritance, interdisciplinary, delivery, cell biology, epidemiology, pharmaceutical, branch, pharmacokinetics, pharmacodynamics, delivery, stability, pharmacokinetics, patient acceptance, natural sources, application, evaluation.

Introduction to Drug Action[2]

Drug Classification:

Drugs can be classified according to various criteria including chemical structure or pharmacological action. The preferred classification is the latter one which may be divided into main groups as follows:

- a) Chemotherapeutic agents - used to cure infectious diseases and cancer. (Sulfa drugs, Antibiotics)
- b) Pharmacodynamic agents - used in non-infectious diseases (Cholinergic, Adrenergic, Hallucinogenic, Sedatives)
- c) Miscellaneous agents (Narcotic Analgesics, Local Anesthetics)

Answer the questions:

1. What criteria are taken into account while classifying drugs?
2. What main groups of drugs do you know?
3. What kind of miscellaneous agents are mentioned in the text?

Drug Names:

A very broad definition of a drug would include "all chemicals other than food that affect living processes." If the affect helps the body, the drug is a medicine. However, if a drug causes a harmful effect on the body, the drug is a poison. The same chemical can be a medicine and a poison depending on conditions of use and the person using it.

Another definition would be "medicinal agents used for diagnosis, prevention, treatment of symptoms, and cure of diseases." Contraceptives would be outside of this definition unless pregnancy were considered a disease.

Drugs have three or more names including a: chemical name, brand or trade name, and generic or common name. The chemical name is assigned according to rules of nomenclature of chemical compounds. The brand name is always capitalized and is selected by the manufacturer. The generic name refers to a common established name irrespective of its manufacturer.

In most cases, a drug bearing a generic name is equivalent to the same drug with a brand name. However, this equivalency is not always true. Although drugs are chemically equivalent,

different manufacturing processes may cause differences in pharmacological action. Several differences may be crystal size or form, isomers, crystal hydration, purity-(type and number of impurities), vehicles, binders, coatings, dissolution rate, and storage stability

Answer the questions:

1. What is drug?
2. Can a drug be a poison and in what case?
3. What is a chemical name of a drug?
4. What is a brand name?
5. What differences can we notice in almost chemically equivalent drugs?

Disease Classification:

A disease is a condition of impaired health resulting from a disturbance in the structure or function of the body. Diseases may be classified into the following major categories:

- 1) **Infections** caused by viruses, bacteria, fungi, protozoa and worms
- 2-) **Allergic diseases** caused by antigens and foreign substances
- 3) **Metabolic disorders** caused by defects in the body's ability to carry out normal reactions - these may be hereditary, deficiency, and congenital defects
- 4) **Cancer**
- 5) **Toxic diseases** caused by poisons
- 6) **Psychosomatic and mental diseases**

Chemotherapy, broadly defined, means the treatment of any disease by chemicals including infectious and non-infectious diseases. The original definition applied only to drugs which were used in the treatment of infectious diseases. The proper term for the treatment of non-infectious diseases is pharmacodynamics

I. Translate the words:

A term, protozoa, antigens, foreign substances congenital defects, infectious disease, non-infectious disease. deficiency, treatment, disturbance, fungi, worms, foreign substances, toxic, mental diseases, cancer, impaired health

II. Match the disease to an agent

Fungi	metabolic disorders
Antigens	allergic diseases
Poisons	infectious diseases
Deficiency	toxic diseases

Body organs [3]

An organ is a collection of tissues that function in a particular manner. The tissue is connected and constructed as a unit to serve a common function. All organs of the body work in harmony to form a dozen organ systems. The ten most vital organs are as follows.

The brain. The brain is the control centre of the nervous system and is located within the skull. Its functions include muscle control and coordination, sensory reception and integration, speech production, memory storage, and the elaboration of thought and emotion.

The lungs. The lungs are two sponge-like, cone-shaped structures that fill most of the chest cavity. Their essential function is to provide oxygen from inhaled air to the bloodstream and to exhale carbon dioxide.

The liver. The liver lies on the right side of the abdominal cavity beneath the diaphragm. Its main function is to process the contents of the blood to ensure composition remains the same. This process involves breaking down fats, producing urea, filtering harmful substances and maintaining a proper level of glucose in the blood.

The bladder. The bladder is a muscular organ located in the pelvic cavity. It stretches to store urine and contracts to release urine.

The kidneys. The kidneys are two bean-shaped organs located at the back of the abdominal cavity, one on each side of the spinal column. Their function is to maintain the body's chemical balance by excreting waste products and excess fluid in the form of urine.

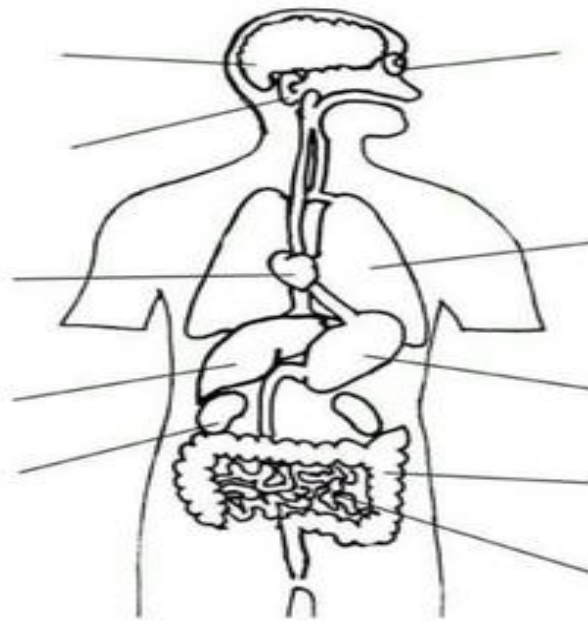
The heart. The heart is a hollow, muscular organ that pumps blood through the blood vessels by repeated, rhythmic contractions.

The stomach. The stomach is a muscular, elastic, pear-shaped bag, lying crosswise in the abdominal cavity beneath the diaphragm. Its main purpose is digestion of food through production of gastric juices which break down, mix and churn the food into a thin liquid.

The intestines. The intestines are located between the stomach and the anus and are divided into two major sections: the small intestine and the large intestine. The function of the small intestine is to absorb most ingested food. The large intestine is responsible for absorption of water and excretion of solid waste material.

Skin. The skin is the largest organ in the [human body](#). Its main job is to maintain the body's temperature. The skin contains sweat glands and oil glands. Oil released by the skin helps keep the skin from drying out and the hair from becoming brittle. The skin also regularly sheds cells to maintain its effectiveness.

Match an organ to the picture



Colour each major organ of the human body. Use the code below...

lungs - blue
 large intestines - yellow
 small intestines - yellow
 stomach - yellow
 brain - purple
 heart - red
 kidneys - green
 liver - brown
 eyes - light blue
 ears - orange

Now label each organ with the correct name.

What is the job of the heart?

What is the job of the brain?

What is the job of the stomach?

What is the job of the lungs?

[4]

Choose the organ that performs the mentioned function

1) Absorbs ingested food 2) Pumps blood 3) Maintains the body temperature 4 Produces digestive juices 5) excretes waste products 6) maintains sensory reception 7) provides organs with oxygen 8) maintains memory storage 9) processes the contents of the blood 10) stores and releases urine

Name the organ

are located between the stomach and the anus –

are sponge-like, cone-shaped –

is a hollow, muscular organ -

is the largest organ in the human body –

are bean-shaped and located at the back of the abdominal cavity,

is located within the skull

is on the right side of the abdominal cavity beneath the diaphragm.

is a muscular, elastic organ which lies crosswise in the abdominal cavity

located in the pelvic cavity

An intake of medicines[5]

The intake of medicines is achieved either via absorption or direct injection. With absorption the product might be (for example) put on the eye or skin, ingested and then absorbed in the intestine or breathed in and absorbed in the nose or lungs. Most medicines are taken this way. With direct injection the body is injected directly into the bloodstream or other body fluid. There are a wide range of methods of administration of medicines. These are as follows:

-
- Oral
- Injection
- Inhalation
- Topical
- Rectal
- Transdermal
- Sublingual
- Ocular
- Aural
- Vaginal

Oral

The most common method of getting drugs into the body. Generally seen as convenient by the patient. The drug formulation needs to protect the active ingredient through the acids of the stomach. Once absorbed the drug passes through the liver where it will be metabolised.

Intravenous injections

These drugs are injected straight into the bloodstream and have a rapid distribution and effect. They also avoid the initial metabolism in the liver. They can be used for small administration of product via injection or for longer term dosage via intravenous bags. Due to the fact that these products bypass the body's natural defence mechanisms they need to be sterile (free from micro-organisms). Other specialised methods of injection also exist. These include: Intra-muscular injections (into the muscle)

- Subcutaneous injections (into the skin layers)
- Intra-cisternal injections (into the lymph ducts)
- Intra-osseous injections (into the bone marrow)
- Intra-articular injections (into a joint)
- Intra-peritoneal injections (into the body cavity around the gut and intestines)
- Intra-arterial (into an artery) – normally you are injected into a vein
- Intra-cardiac (into the heart)
- Intra-cranial (into the skull)

Inhalation

These products are breathed in and are absorbed into the blood stream via the lungs. Examples include anaesthetic gasses, asthma inhalers and nebulisers. They do not need to be sterile, but aqueous inhalation products (nebulisers) often made and tested as if they were sterile. The USA required aqueous inhalation products to be sterile.

Topical

These products are applied directly onto the outer body surfaces. They include creams and ointments. The drug is not well absorbed through the skin and as such these products are used to treat the condition locally.

Rectal

Here the product is administered into the anus in the form of a suppository. This is actually a very good route of drug administration due to the high qualities of blood vessels around the anus.

Transdermal

Used as patches on the skin for long term dosing. Good if a steady amount of the drug is required over a period of time (the user can, for example, forget to take a tablet). Commonly used for smoking cessation products, hormone replacement and pain relief during late stages of cancer.

Sublingual

Here the product is absorbed under the tongue. The dry product is taken into the mouth where it dissolves. It is absorbed rapidly with quick onset of action. This method also avoids initial metabolism in the liver.

Ocular

Here a sterile product is added to the eye. Eye care products must be sterile because the lens of the eye cannot repair itself as it has no blood supply.

Aural

Here products are added to the ear, usually to treat conditions of the ear such as ear infections and dealing with excessive ear wax.

Vaginal

These types of product are called pessaries and works as a similar way to a suppository.

Answer the questions:

1. What methods of taking drugs do you know?
2. Which is the commonest way of taking medicines?
3. What are the advantages of intravenous injections?
4. What other kinds of injections do you know?
5. What is inhalation?
6. In what way do topical and transdermal ways differ?
7. How do we call a way when a drug is absorbed under the tongue?
8. Describe the ocular intake
9. Describe the aural intake.

Translate the words:

Suppository, blood vessels, injection, sterile, blood supply, wax, nebulisers, pain relief, an onset of action, metabolism, tongue, lens, anaesthetic gasses, asthma inhalers, hormone replacement, ocular, aural, t pass through, absorption, to breathe in, inhalation, body surfaces, an ointment, to treat

Ways of drug action [6]

The main modes of actions of drugs. There are three ways in which they work:

1. Replacing chemicals that are deficient.
2. Interfering with cell function.
3. Acting against invading organisms or abnormal cells.

Replacing chemicals that are deficient.

Here chemicals are added that are not being obtained by the normal eating or functioning of the body. This include hormone treatment and use of vitamins to deal with rickets or scurvy or even iron to deal with anaemia.

Interfering with cell function.

Here drugs work by affecting cell function. This includes controlling pain and inflammation and can also cause cells to either increase or decrease in activity. If a medicine intensifies cell activity it is called an AGONIST. If a medicine reduces cell activity it is called an ANTAGONIST.

Many medicines work by interfering with enzymes (biochemical catalysts) produced from cells by increasing or reducing their activity.

Acting against invading organisms or abnormal cells.

Here drugs work by treating infection, such as bacterial or fungal infection, as well as the treatment of cancer.

I. Answer the questions

1. What three ways of taking of drugs do you know?
2. When is a medicine called agonist?
3. When is a medicine called antagonist?
4. What kind of drug action do we see while dealing with rickets or scurvy?
5. What action of drugs do we trace while treating infections?

II. Choose the disease that you have studied about at special subjects. Find out more information about it, what medicines should a patient take and what is their action. Make a presentation.

Trial of medicines[7]

There are certain stages of trial:

Discovery stage

A new chemical undergoes chemical and biological studies.

Preclinical stage

Testing on isolated organs, tissues and animal.

Phase I

Testing on a small number of healthy human subjects. The aim is to assess chemical safety and how the body deals with the product.

Phase II

Drug is given to patients to see how effective the product is, usually over several weeks. Usually given to people with the condition that the medicine is trying to treat.

Phase III

Large scale study (and very expensive) to gain further evidence of drug safety and efficacy. This usually takes about a year and will include double-blind and multi-centre controlled trials. This will include comparison with similar products if they exist. Various dosages will also be tested to see which dose is the most effective. If successful this may lead to the drug being approved and marketed.

Phase IV

Post market monitoring on the overall effectiveness (including negative effects) of the drug.

Discussion:

Name the phases of trial

What each phase is responsible for?

What is the task of the first stage?

Which stage is the most expensive and why?

Case study. Choose the drug and find out information about it and its trial on the Internet. Present the information to your group mates.

Active vocabulary you have to know:

<i>Класифікація Хвороб</i>	<i>Classification of diseases</i>
Хвороби	diseases
-алергічні	allergic diseases
-венеричні	venereal diseases
-вірусні	viral diseases [
-вроджені	congenital diseases
-гострі	acute diseases
-дитячі	childhood diseases
-жіночі	gynaecological diseases
-інфекційні	infectious diseases
Набуті	acquired diseases
-невиліковні	incurable diseases
-професійні	occupational diseases
-психічні	mental diseases ['menti di'zi'.ziz]
-смертельні	mortal diseases fatal diseases
-спадкові	inherited diseases]
хронічні -шкірні	chronic diseases
<i>Хвороби та недуги</i>	<i>Diseases and ailments</i>
Алергія	allergy
Алкоголізм	alcoholism
Амнезія	amnesia
Ангіна	angina
Анемія	an(a)emia
Апендицит	appendicitis
Артрит	arthritis
Астма	asthma, infertility
безплідність	sterility
Безсоння	sleeplessness insomnia

Біль	pain \ ache
Бронхіт	bronchitis
Вагітність	pregnancy
-позаматкова	extra-uterine gestation
Вивих	dislocation
Викидень	miscarriage
Виразка	ulcer / pest
-шлунку	stomach ulcer
Вірус	virus
Віспа	. smallpox
-вітряна	varicella /chickenpox
Гангрена	necrosis / gangrene
Гарячка	fever j
Гастрит	gastritis
гепатит /жовтуха	hepatitis / jaundice
Гіпертонія	hypertension
Гіпотонія	hypotension
трипер/	clap
Грижа	rupture /hernia
Грип	influenza /. flu
Далекозорість	farsightedness
Депресія	depression]
Дизентерія	dysentery
Дифтерія	diphtheria
діабет цукро-	diabetes
Епілепсія	Epilepsy
Запалення	Inflammation
-легень /пневмонія	pneumonia
Запор	constipation
зараження	infection
-крові	blood poisoning
Застуда	cold
Інсульт	cerebral thrombosis /insult
Інфаркт	cardiac infarction [
інфекція	infection
іпохондрія	hypochondria
Істерія	Hysteria

Камені	
-у жовчному	gall stones
-у нирках	renal stones [
Карієс	Caries/ decay [
катаракта	cataract
Кашель	cough
Коклюш	whooping cough
кон'юнктивіт	conjunctivitis
короткозорість	short-sightedness
косоокість	squint
крововилив	h(a)emorrhage
-у мозок	Cerebral h(a)emorrhage [
Кровотеча	bleeding
Ларингіт	laryngitis
Лейкемія	leuk(a)emia [lju:'ki:mia]
Лишай	lichen
Малярія	malaria
Менінгіт	meningitis
Мігрень	migraine
Міокардит	myocarditis
Нарив	abscess
Нежить	cold]
Невралгія	Neuralgie
Неврастенія	Neurasthenia
Невроз	neurosis
Нетравлення	dyspepsia /indigestion
Нефрит	nephritis
Новотвір	tumour
-доброякісний	benign tumour
-злоякісний	malignant tumour
Обмороження	frostbite
Ожиріння	obesity
Рак	cancer
Опік	burn
Отит	otitis
Отруєння	poisoning
Панкреатит	pancreatitis

Параліч	paralysis
Перелом	fracture
Пневмонія	pneumonia
Поліпи	polyps
Пологи	delivery / childbirth
-з кесаревим	delivery by Caesarean section
Розтином	
Правець	tetanus
Проказа	leprosy
Пухир	blister
Пухлина	, tumour
Рана	wound
Рахіт	rachitis
Розтягнення	strained muscle
Свинка	mumps [numpsj
Синець	bruise
Сифіліс	syphilis
Сказ	rabies
Скарлатина	scarlet fever
Склероз	arteriosclerosis
СНІД	AIDS
струс мозку	concussion of the brain
Травма	trauma
-черевний	typhoid fever
Укус оси, бджоли	sting
-собаки	bite
Уремія	uremia
ушкодження	injury
Фарингіт	pharyngitis
-морська хвороба	seasickness
-Паркінсона	Parkinson's disease
-променева	radiation sickness
-невиліковна	incurable disease
-смертельна	mortal disease
Холера	cholera
Холецистит	cholecystitis

цироз печінки	cirrhosis
Чума	plague
<i>Медичний</i>	<i>Medical</i>
<i>Персонал</i>	<i>Staff</i>
Акушер	Obstetrician
Акушерка	midwife
анестезіолог	an(a)esthesiologist
Венеролог	venerologist
гастроентеролог	gastroenterologist
Гінеколог	gyn(a)ekologist
Дерматолог	dermatologist
Кардіолог	cardiologist
Ларинголог	laryngologist
-інтерн	intern
-зубний /стоматолог	Dentist
-сімейний	family doctor
-судовий	forensic medicine specialist
-черговий	physician-on-duty
Логопед	speech therapist
Масажист	masseur
Масажистка	masseuse
Медсестра	nurse / US paramedic
невропатолог	neurologist
Окуліст	ophthalmologist
Онколог	onkologist
Ортопед	orthop(a)edist
отоларинголог	otolaryngologist
Педіатр	pediatrician
Психіатр	psychiatrist [
Радіолог	radiologist [,rcidi'3l3d3istj
Терапевт	GP general practitioner

Обстеження	Examination
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аналіз крові	blood test
-гемоглобін	ha(e)moglobin

-група крові	blood group
-здатність згортатися	coagulability [
-лейкоцити /білі тільця	white cells [
-резус-фактор	Rh factor
-сироватка	serum
-тромбоцити	thrombocytes
-холестерин	cholesterol
-цукор	sugar
-червоні тільця	red cells/ erythrocytes
аналіз сечі	urine test]
Біопсія	biopsy
Бронхоскопія	bronchoscopy [
Гастроскопія	gastroscopy [
електрокардіограма-	electrocardiogram

An example of a mock exam test questions. Try yourself at answering them

Q1.

An AIDS patient, who is being treated with multiple drugs, develops breast hypertrophy, central adiposity, hyperlipidemia, insulin resistance and nephrolithiasis. If these changes are related to his drug treatment, this drug belongs to which group of antiretroviral drugs?

- a) Nucleoside Reverse Transcriptase Inhibitors (NRTIS)
- b) Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIS)
- c) Fusion Inhibitors
- d) Protease Inhibitors
- e) Integrase Inhibitors

Q2. A 35 year old HIV positive male patient comes to the OPD with complaint of anorexia, nausea and vomiting and abdominal pain. His abdomen is tender in the epigastric area. Laboratory results reveal a raised serum amylase activity and a preliminary diagnosis is made of acute pancreatitis. Which of the following anti retroviral drugs has the patient most likely been taking?

- a) Saquinavir
- b) Zidovudine
- c) Didanosin
- d) Efavirenz
- e) Enfuvirtide

Q3. Antibiotics inhibiting the bacterial cell wall synthesis are:

- a) Beta-lactam antibiotics
- b) Tetracyclines
- c) Aminoglycosides
- d) Macrolides
- e) Chloramphenicol

Q4. Which of the following anti-malarial is used as radical curative agent for Plasmodium vivax/ovale Malarial infections?

- a) Quinine
- b) Primaquine
- c) Proguanil
- d) Amodiaquine
- e) Artemether

Q5. Which one of the following cephalosporins can be used to treat *H. influenzae* meningitis?

- a) Ceftriaxone
- b) Cefoxitin
- c) Cefaclor
- d) Cefamandole
- e) Cephalexin

Q6. Which one of the following penicillins is resistant to *Staphylococcus aureus* β lactamases?

- a) Amoxicillin
- b) Piperacillin
- c) Methicillin
- d) Benzathine penicillin
- e) Ticarcillin disodium

Q7. Urine culture of a patient has shown growth of *Pseudomonas aeruginosa*. Which one of the following cephalosporins should be used in treatment of this case?

- a) Ceftazidime
- b) Ceftizoxime
- c) Ceftriaxone
- d) Cefuroxime
- e) Cefotetan

Q8. *Bacteroides fragilis* infection is preferably treated with:

- a) Tetracyclines
- b) Metronidazole
- c) Tobramycin
- d) Carbenicillin
- e) Azithromycin

Q9. Loading dose of chloroquine is required because it is: -

- a) Rapidly excreted by the kidneys
- b) Rapidly metabolized by biotransformation
- c) High lipid solubility
- d) More entry into infected RBCs
- e) High tissue binding

Q10. Artemisinin a derivative of Chinese herbal medicine: all are true Except:

- A) Metabolized to dihydroartemesinin, an active metabolite
- b) Rapidly acting blood schizonticide against all human plasmodia
- c) Acts through a free radical by inhibiting Calcium ATPase pump
- d) Least toxic among all antimalarial drugs
- e) An alternative to primaquine as gametocidal

Q11. WHO has approved the following regimens for multidrug resistant *P. falciparum*?

- a) Artemether plus lumefantrine
- b) Artemether plus amodiaquine
- c) Artemether plus mefloquine
- d) Artemether plus sulfadoxine plus pyrimethamine
- e) Artemether plus halofantrine

Q12. The travelers visiting to areas endemic for chloroquine resistant malaria are recommended to have prophylactic treatment. A cost effective, safe and showing excellent result is:

- a) Mefloquine
- b) Quinine
- c) Artesunate
- d) Pyrimethamine
- e) Halofantrine

Q13. Select the ONE BEST statement, which is NOT true for mechanisms of bacterial resistance to penicillin:

- a) bacteria produce large amounts of beta-lactamase
- b) beta-lactamase inactivates all types of penicillin
- c) bacterial beta-lactamase is encoded by a plasmid
- d) penicillinase is synonymous with beta-lactamase
- e) beta-lactamases of gram-negative bacteria are encoded either in chromosomes or plasmids

Q14. Which of the following penicillins has the best gram-negative spectrum?

- a) nafcillin
- b) ampicillin
- c) methicillin
- d) penicillin V
- e) phenethicillin

Q15. Streptomycin is an antibiotic which inhibits the process of

- a) translation in eukaryotes.
- b) translation in prokaryotes.
- c) transcription in eukaryotes.
- d) transcription in prokaryotes.
- e) DNA replication in prokaryotes.

Q16. An injection of penicillin into a penicillin-sensitized person may lead to death due to

- a) absence of histamine.
- b) a Shwartzman's reaction.
- c) release of enzymes from polymorphonuclear leukocytes.
- d) constriction of bronchioles and drop in blood pressure.

Q17. Which of the following genera most frequently develops resistance to penicillin?

- a) Neisseria
- b) Treponema
- c) Actinomyces
- d) Streptococcus
- e) Staphylococcus

Q18. In organisms sensitive to penicillin, this antibiotic shows the greatest bactericidal activity against

- a) growing gram-negative bacteria.
- b) growing gram-positive bacteria.
- c) non growing gram-negative bacteria.
- d) non growing gram-positive bacteria.
- e) sporulating gram-negative bacteria.

Q19. A 21 year old man was seen in a clinic with a complaint of dysuria and urethral discharge of yellow pus. He has a painless clean-based ulcer on the penis and non tender enlargement of the regional lymph nodes. Gram stain of the urethral exudates showed gram negative diplococci within polymorphonuclear leukocytes. The patient informed the clinic staff that he was unemployed and had not eaten a meal for two days. The most appropriate treatment of gonorrhoea in this patient is:

- a) amoxicillin orally for 7 days
- b) vancomycin intramuscularly as a single dose
- c) ceftriaxone intramuscularly as a single dose
- d) tetracycline orally for 7 days
- e) procaine penicillin G intramuscularly as a single dose plus one gram of probenecid

Q20. An elderly debilitated patient has a fever believed to be due to an infection. He has extensive skin lesions, scrapings of which reveal the presence of large numbers of gram-positive cocci. The most appropriate drug to use for treatment of this patient is:

- a) amoxicillin
- b) salbactam

- c) cefoxitin
- d) nafcillin
- e) penicillin G

Q21. A 35 year old woman is diagnosed with chronic hepatitis B infection and therapy is initiated. Just after a few hours she comes to the emergency department complaining of fever, chills and muscle aches. Which one of the following drugs most likely caused these symptoms?

- a) Lamivudine
- b) Adefovir
- c) Entecavir
- d) Interferon alfa
- e) Ribavirin

Q22. Most important toxic effect associated with alkylating agents:

- a) renal dysfunction
- b) hepatic failure
- c) neurotoxicity
- d) bone marrow suppression
- e) alopecia

Q23. A chemotherapeutic agent that causes the persistent aggregation of microtubules is?

- a) Cisplatin
- b) Paclitaxel (Taxol)
- c) Vincristine
- d) Bleomycin
- e) Doxorubicin

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