

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ  
И СОЦИАЛЬНОГО РАЗВИТИЯ

Волгоградский государственный  
медицинский университет

Кафедра иностранных языков с курсом латинского языка

# AT THE CHEMIST'S

Учебное пособие для студентов медицинских и фармацевтических вузов, обучающихся по специальности фармация, лечебное дело, медико-профилактическое дело, педиатрия.

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Учебное пособие по английскому языку для студентов медицинских и фармацевтических вузов, обучающихся по специальности фармация, лечебное дело, медико-профилактическое дело, педиатрия. Пособие направлено на повторение и закрепление основ грамматики, освоение общенаучной и общемедицинской лексики, развитие навыков перевода на русский язык и развитие навыков устной речи.

Пособие включает аутентичные тексты, учебный материал для использования в различных видах речевой деятельности, справочный материал.

## Предисловие

Настоящее учебное пособие по английскому языку предназначено для студентов медицинских и фармацевтических вузов, обучающихся по специальности фармация, лечебное дело, медико-профилактическое дело, педиатрия.

Пособие включает оригинальные научно-популярные тексты по такому разделу медицины как фармация. В некоторых случаях тексты адаптированы или сокращены для адекватного понимания, построения устных высказываний и направлены на развитие навыков и умений чтения и устного общения.

В каждый раздел пособия включены тексты и серии упражнений, которые обеспечивают усвоение словаря, грамматического материала, необходимого как для чтения научной литературы, так и для устного общения, на базе информации, полученной из письменных источников. Грамматические и лексические упражнения предполагают постоянное повторение и закрепление материала, изученного в предыдущих разделах. Выполнение комплекса лексических, грамматических упражнений, заданий, контролирующих понимание текста и направленных на развитие устной речи, позволит развить профессиональную коммуникативную компетентность будущих специалистов медицинского профиля.

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## Unit 1 Description of a Pharmacy

**Grammar:** Present Simple: Active Voice, Passive Voice.

1. а) Прочтите слова из Vocabulary List вслух.  
б) Изучите список слов и укажите слова, называющие:

- инвентарь аптеки;   - медицинские средства.

### Vocabulary List

pharmaceutical	-	фармацевтический
to choose	-	выбирать
stall	-	прилавок, стойка
shelving	-	полка, стеллаж
bandage	-	перевязочный материал, бинт
implement	-	принадлежность, утварь
perfumery	-	парфюмерия
partition	-	перегородка
to appoint	-	назначать
prescription	-	рецепт
sedative	-	успокоительное средство (лекарство)
powder	-	порошок
ointment	-	мазь

2. Ответьте на вопросы, используя слова и словосочетания в скобках.

1. Where may people choose any drug they need? (in the pharmacy)
2. What can you see in the pharmacy? (stalls, shelvings with different drugs)
3. What can you buy here? (sedatives, powders, bandages and even perfumery)

3. Прочтите и переведите текст на русский язык.

### Description of a Pharmacy.

The pharmaceutical service in our country is an unseparable part of the health protection. You can't successfully treat people without highly effective medical aids.

The pharmacy has a hall, the single place people may come in; a special room for keeping drugs; an assistants' room where medicines are prepared and a room for the first medical aid.

In the hall you can see special glass stalls and shelvings with different drugs. People may choose here any drug they need. On the stalls and shelvings you can find all kinds of sedatives, vitamins and bandages. Here there are pills, powders, bottles of drops and mixtures, tablets, ointments, syringes, needles, thermometers, hot water bottles, medicine droppers and other things necessary for medical care. In this department you can buy some implements for personal hygiene and even perfumery. The department where chemists will give you anything you need without prescription is the Chemist's department.

In the hall there is a special department – Prescription – where a patient can order his prescription and have his medicine made up. A glass partition separates you from the pharmacist. Through a small window in this partition you hand in your prescription to the pharmacist and she/he gives you a medicine immediately if they have this medicine prepared or she appoints a

special time to come for the drug. There are two drug cabinets in this department. In the drug cabinet, marked with a big letter A, poisonous drugs are kept. In the drug cabinet, marked with a big letter B, all strong-effective drugs are kept.

4. Закончите предложения, заменив русские слова в скобках их английскими эквивалентами.

1. The (фармацевтический) service in our country is an unseparable part of the health protection.
2. In the hall you can see special glass (прилавки).
3. On the stalls and shelvings you can find all kinds of (успокоительных средств), vitamins and (перевязочный материал).
4. In the chemist's department you can buy (принадлежность) for personal hygiene and even (парфюмерия).
5. Through a small window in this partition you hand in your (рецепт) to a pharmacist.
6. A pharmacist (назначать) a special time to come for the drug.

5. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже.

1. ... has various treating methods for people suffering from a disease.
2. Some medicines and drugs are used ...chronic conditions which have no cure such as diseases of the central nervous system.
3. I have ordered the medication on my... .
4. .... are administered in case of neurological disorders.
5. In any pharmacy you can ... any drug you need.
6. ... heal wounds.

To treat, prescription, medicine, to choose, sedatives, ointments.

6. Найдите в тексте "Description of a Pharmacy" английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |                         |                                  |
|-------------------------|----------------------------------|
| - охрана здоровья;      | - хранить лекарства;             |
| - отдел ручной продажи; | - заказать лекарство по рецепту; |
| - лечить людей;         | - на прилавках и полках;         |
| - рецептурный отдел;    | - назначить время.               |

7. Переведите предложения на английский язык.

1. В любой аптеке все лекарственные средства хранят в лекарственных шкафчиках.
2. В рецептурном отделе можно заказать лекарство по рецепту.
3. В отделе ручной продажи вы можете купить лекарственное средство сразу же.
4. Все сильно действующие лекарства хранят в лекарственных ящиках, маркированных буквой В.
5. Этот порошок для наружного применения.
6. Успокоительное средство принимают перед сном.

8. Ответьте на вопросы к тексту "Description of a Pharmacy".

1. How important is the pharmaceutical service in our country?
2. What is the place in the pharmacy people may come in?
3. What is there in the pharmacy?

4. What can one find on the stalls and shelvings?
  5. In what department will the chemist give you anything you need without a prescription?
  6. Where can a patient order his prescription and have his medicine made up?
  7. What drug cabinets are there in the Prescription department?
9. Составьте устное сообщение (8-12 предложений) на английском языке, используя текст "Description of a Pharmacy", по плану:
- 1) Departments in any pharmacy;
  - 2) Chemist's department;
  - 3) Prescription department.

### Активизация грамматики.

1. Поставьте глагол, данный в скобках, в Present Simple Active Voice. Переведите предложения на русский язык.

1. The physician (advise) the patient to go to the Chemist's.
2. At the Chemist's she (buy) various drugs for intramuscular and intravenous injections.
3. At the Chemist's they (keep) all drugs in drug cabinets.
4. This medicine (be) for external use.
5. Some remedies (be) poisonous.
6. The pharmacy (have) a hall.
7. There (be) pills, powders, bottles of drops and mixtures, tablets, ointments at the Chemist's.

2. Сравните выделенные формы глаголов в парах предложений и укажите разницу между ними. Переведите предложения на русский язык.

A doctor <b>prescribes</b> medicines for you.	Medicines <b>are prescribed</b> for you by a doctor.
A pharmacist at the chemist's shop <b>checks</b> the prescription.	The prescription <b>is checked</b> by a pharmacist at the chemist's shop.

3. Изложите следующую информацию в страдательном залоге, сохранив временную форму глагола. Переведите предложения на русский язык.

1. A pharmacist gives advice on taking a medicine.
2. Medicines reduce pain.
3. A vast majority of people take great benefits from medicines.
4. Nowadays doctors don't prescribe this drug very often.
5. A pharmacist keeps all poisonous drugs in a drug cabinet marked with a big letter A.
6. Any chemical substance affects the functioning of the body.

4. а) Изучите образец, обратите внимание на возможность перевода пассивной конструкции на русский язык.

Medicines are bought at the Chemist's.	Лекарства покупают в аптеке.
However this drug is not used in such cases.	Однако данное лекарство не используется (данное лекарство не используют) в таких случаях.

б) Переведите следующие предложения на русский язык, используя словарь; дайте несколько вариантов перевода, если возможно.

1. Medicines are prescribed for you by a doctor.
  2. Drugs are kept and sold in any pharmacy.
  3. Only strong effective drugs are used in such cases.
  4. The effectiveness of this procedure is not established.
  5. No specific therapy is used for this disease.
  6. Sedatives are administered by mouth.
5. Составьте вопросы, на которые можно ответить, используя приведенные ниже предложения.
1. Any chemical substance is called a drug.
  2. Drugs help people who need treatment.
  3. All chemical reactions are controlled by enzymes in the body.
  4. The bacterial cell division is reduced by penicillin.
  5. Chronic conditions are treated by drugs.
  6. Sometimes drugs act on the central nervous system.
6. Составьте общие и специальные вопросы к следующим предложениям.
1. It is important for the pharmacist to know whether the chemicals are stable.
  2. Presently, there are many kinds of drugs.
  3. This ointment is applied on the skin.
  4. Infectious diseases are treated by antibiotics.
  5. Drug development advances very rapidly.
  6. A lot of vaccines are prepared.

### **Практикум.**

1. Прочитайте текст и скажите на русском языке, что из перечисленного он описывает:
  - свойства лекарств;
  - виды лекарств;
  - поиск новых лекарств.

### **Drugs.**

Any chemical substance which affects the functioning of the body is called a drug. Aspirin, penicillin and insulin are all common examples.

A drug is the active ingredient of a medicine, and all medicines contain drugs. For instance, aspirin contains acetylsalicylic acid. However, not all drugs are medicines. For example, alcohol and nicotine (in tobacco) are drugs but not medicines.

Drugs which have made a great impact on people's lives include insulin for diabetics; heart drugs like digitalis and vaccines against infectious diseases like poliomyelitis (polio) and smallpox.

Antibiotics form another group of drugs. Their job is to kill bacteria, for example, penicillin was first used to fight infection during the Second World War. Since then antibiotics have saved the lives of millions of people. Since Sir Alexander Fleming first discovered penicillin, other research workers have developed different antibiotics, such as streptomycin which conquered the terrible lung disease tuberculosis.



Many women now take contraceptive pills as a method of birth control. This allows people to have children only if they want them or to plan the number they have.

If you look in your bathroom cabinet, you will probably find an assortment of antiseptics, creams, ointments, indigestion tablets or cough and cold remedies. There is no harm in keeping these (out of reach of young children) because most people are responsible and use them only if they need them. However, if you find antibiotics or pills left over from a previous prescription, you should not keep them or give them to anyone else. You should return them to a chemist.

Drug development and research have advanced rapidly since the early discoveries. By 1984 over J1,500 million (at manufacturers' prices) was spent in the UK on the purchase of NHS prescription medicines, and about 3,000 medicines are in use. Incidentally, the pharmaceutical industry is now one of the most successful in the UK, with exports amounting to over J1.2 billion by the mid-1980s, and a positive trade 'surplus' of about J700 million. It can cost the industry up to J60 million to research and develop just one new medicine.

But the search for newer and better drugs and medicines goes on. There are many diseases, such as some cancers and arthritis, still to be overcome.

2. Укажите неправильные утверждения и исправьте их, используя текст “Drugs”.

1. A drug is the active ingredient of a medicine.
2. All drugs are medicines.
3. Antibiotics have not saved the lives of millions of people.
4. Contraceptive pills are used as a method of birth control.
5. Drug development and research have not advanced rapidly since the early discoveries.
6. The search for newer and better drugs and medicines goes on.

3. Найдите в тексте “Drugs” ответы на следующие вопросы, прочитайте их вслух и переведите на русский язык.

1. What is called a drug?
2. How do antibiotics work?
3. What allows people to plan the birth of children?
4. Why is it necessary to keep drugs out of reach of children?
5. What industry is one of the most successful in the UK?

4. Выразите главную мысль текста, используя следующие выражения:

- As to ... I'd like to add...
- As far as I know...
- I'd like to make a comment on...



Some drugs may be of animal origin. They are produced from the blood, serum, bile and other tissues and organs of animals.

Some drugs are synthesized in the laboratory (methatrexate and prednisone); vitamins are obtained from food substances. Mineral waters, salts and other natural substances are also used as drugs.

Drugs are produced in hard, soft, liquid and other forms. Hard forms of drugs are: tablets, pills and powders. Soft forms are oils, ointments, creams and so on. Liquid forms of drugs are: solutions, mixtures, infusions, decoctions, tinctures etc. Gases, vapours and aerosols are also used in medicine.

Drugs are kept in bottles, boxes, parcels, tubes, ampoules and jars. Every small bottle or a box has a label with the name of medicine stuck on it. There are labels of three colors. White ones are stuck to indicate drugs for internal use. Yellow labels indicate drugs for external use and blue labels show drugs that should be used for injections. The dose to be taken and directions for the administration are also written on the label. Nurses, doctors and patients themselves must not confuse different medicines because some of them are poisonous and their overdosage may cause an untoward reaction and sometimes even death.

Drugs are stored at room temperature, in cool places and refrigerators where they are protected from sunlight and fire, in dark places and away from children.

4. Закончите предложения, заменив русские слова в скобках их английскими эквивалентами.

1. Drugs can come from many different (источников).
2. Drugs can be obtained from various parts of plants, such as (листья, стебли, корни, корневища).
3. Liquid forms of drugs are: (настой, настойка, отвар).
4. Every small bottle or a box has (этикетку) with the name of medicine stuck on it.
5. White ones are stuck to (указывать) drugs for internal use.
6. Nurses, doctors and patients themselves must not (путать) different medicines because some of them are poisonous and their (передозировка) may cause an untoward reaction and sometimes even death.

5. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже.

1. Drugs are stored at ....
2. Yellow ... indicate drugs for external use.
3. Vitamins ... from food substances.
4. ... and directions for the administration are also written on the label.
5. Some of drugs are ...
6. Gases, ... and aerosols are also used in medicine.

The dose to be taken, labels, vapours, are obtained, room temperature, poisonous.

6. Найдите в тексте “Sources, forms, keeping and storage of drugs” английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| - химические вещества;              | - этикетка с названием лекарства;   |
| - получать из различных источников; | - вызывать неблагоприятную реакцию; |
| - животного происхождения;          | - некоторые лекарства ядовиты;      |
| - жидкие формы;                     | - храниться при.                    |

7. Переведите предложения на английский язык.

1. Лекарства используются в медицине для лечения различных заболеваний.
2. Лекарства могут быть получены из разных источников.
3. Некоторые лекарства синтезируются в лаборатории.
4. Лекарства хранят в коробочках, бутылках, ампулах, баночках.
5. Доза, которую необходимо принять, написана на этикетке.
6. Передозировка может вызвать побочную реакцию и даже смерть.

8. Ответьте на вопросы к тексту "Sources, forms, keeping and storage of drugs".

1. What are drugs?
2. What sources can drugs come from?
3. What forms are drugs produced in?
4. Where are drugs kept?
5. What is written on the label of each drug?
6. Why must not doctors, nurses, patients confuse different medicines?
7. How are drugs stored?

#### Активизация грамматики.

1. Закончите предложения, используя модальные глаголы *can*, *may*, *must*. Переведите предложения на русский язык.

1. Medicines ... be very beneficial.
2. You ... be very careful while taking drugs.
3. Some medicines ... cause untoward reactions and even death.
4. Drugs ... be dangerous if taken in the wrong amount.
5. One ... follow the instructions indicated on a bottle or a packet of a drug.
6. Drugs ... have various forms.

2. Сравните выделенные формы глаголов в парах предложений и укажите разницу между ними. Переведите предложения на русский язык.

- |   |   |
|---|---|
| 1. Drugs <b>can influence</b> some processes in the human organism. | Some processes in the human organism <b>can be influenced</b> by drugs. |
| 2. A person <b>must take</b> a proper dosage of any drug.           | A proper dosage of a drug <b>must be taken</b> .                        |
| 3. Drug overdose <b>may cause</b> an untoward reaction.             | An untoward reaction <b>may be caused</b> by drug overdose.             |

3. Изложите следующую информацию в страдательном залоге, сохранив временную форму глагола. Переведите предложения на русский язык.

1. In chemical industry one may synthesize artificial substances.
2. Using modern pharmacokinetic methods one can determine a specific optimal dose for each patient.
3. A person must take drugs for internal use on an empty stomach.
4. Some drugs can produce insoluble and non-absorptive complexes.

4. Закончите предложения, используя модальные глаголы *can, may, must*. Переведите предложения на русский язык.

1. This new drug for pulmonary embolism ... be tested.
2. Some remedies containing ferrum salts, calcium, magnesium, aluminium (including a number of antacid drugs) ...produce insoluble complexes with tetracycline.
3. Drugs ... speed up the action of the central nervous system.
4. Too much alcohol ... result in cancer, brain damage, mental disorder, loss of social functions, blood disorders.
5. You ... consult your doctor before taking this drug.
6. Medicines ... be kept away from children.

5. Переведите предложения на английский язык.

1. Двухлетнему ребенку необходимо ввести пенициллин.
2. Лекарства должны выписываться, когда это абсолютно необходимо.
3. Лекарственные средства могут вызывать физическую зависимость.
4. Могут ли лекарства вызывать эмоциональную зависимость?
5. Необходимо соблюдать дозу лекарства указанную на этикетке или назначенную врачом.
6. Лекарства могут блокировать патологические процессы в человеческом организме.

### Практикум.

1. Изучите комментарии к тексту, прочтите текст и переведите текст на русский язык. Озаглавьте текст. Обоснуйте свой выбор.

Medicines are used to treat or prevent disease. For thousands of years people have been using medicines. In the earliest times they used natural substances from fruits, leaves, roots to ease pain and bring relief. Some of the early remedies worked for some reasons. For instance, mouldy bread was used as a poultice and the antibiotic produced by the mould helped to destroy the bacteria causing the infection. Many of "old wives' tales" would still be useful if we did not have modern drugs.

Early examples of medicines include opium, which is found in oriental poppy known as the "jolly plant". This has been used as a sedative and pain killer for at least 7,000 years. In South America, the leaves of the coca shrub were chewed by the Incas to relieve fatigue and hunger. Eventually, in 1859, the pure drug cocaine was extracted from these leaves. Cocaine was developed and used as local anesthetic in dentistry and surgery.

Many different herbs and plants have been used to provide natural extracts from which modern medicines have been extracted and developed. For example, morphine and codeine have been extracted and purified from raw opium for medical purposes. Digitalis, a heart drug, is made from foxglove leaves, and aspirin-like compounds can be developed from the bark of willow trees.

### Комментарии к тексту

to prevent disease – предотвращать заболевание

to bring relief – принести облегчение

mouldy bread – заплесневелый хлеб

to relieve fatigue and hunger – облегчить, снять утомление и голод

the bark of willow tree – кора ивы

poultice – припарка

2. Расположите предложения в надлежащем порядке, чтобы получилось краткое изложение текста.

1. Many different herbs and plants have been used to provide natural extracts from which modern medicines have been extracted and developed.
2. Opium was used as a sedative and pain killer.
3. Many of “old wives’ tales” would still be useful if we did not have modern drugs.
4. Medicines are used to treat or prevent disease.
5. In the earliest times they used natural substances from fruits, leaves, roots to ease pain and bring relief.
6. For instance, the antibiotic produced by the mould helped to destroy bacteria causing the infection.
7. Cocaine was used as local anesthetic in surgery.

3. Составьте ваши собственные предложения, используя следующие слова и выражения.

To treat or prevent disease, natural substances, to ease pain, to bring relief, to destroy bacteria, to cause infection, modern drugs, to develop, for medicinal purpose.

4. Найдите в тексте ответы на следующие вопросы.

1. What are medicines used for?
2. What did people use to ease pain and bring relief in the earliest times?
3. What was mouldy bread used for?
4. What did early examples of medicines include?
5. Where was cocaine used?
6. What sources have modern medicines been extracted and developed from?

5. Выразите главную мысль каждого абзаца в одном предложении, используя следующие выражения:

- I'd like to point out that...
- ...is still in question
- It seems unlikely/very likely...



A Drug can have three different names. The **chemical name** is the chemical formula for the drug. The name is often long and complicated.

The **generic or official name** is a shorter, less complicated name which is used for legal and scientific purposes. The generic name is the public property and any drug manufacturer may use it. There is only one generic name for each drug.

The **brand name** or **trade name** is the private property of the individual drug manufacturer and no competitor may use it. Brand names often have the superscript after or before the name. Most drugs have several brand names because each manufacturer producing the drug gives it a different name. When a specific brand name is ordered on a prescription by a physician, it must be dispensed by the pharmacist; no other brand name may be substituted. It is a common practice to capitalize the first letter of a brand name.

The following list gives the chemical, generic and brand names of the well known antibiotic drug, ampicillin. Note that a drug can have several brand names but only one generic, or official, name.

<b>Chemical name</b>	<b>Generic Name</b> (official name)	<b>Brand names</b>
Alpha – aminobenzyl P	Ampicillin	Amcill capsules Omnipen Penbritin Polycillin Principen / N

### **Standards**

While the **Food and Drug Administration (FDA)** has the legal responsibility for deciding whether a drug may be distributed and sold, there are definite standards for drugs set by an independent committee of physicians, pharmacologists, pharmacists and manufacturers. This committee is called the **United States Pharmacopeia (USP)**. Two important standards of the USP are that a drug must be clinically useful (useful for patients) and available in pure form (made by good manufacturing methods). If a drug has USP after its name, it has met with the standards of the Pharmacopeia. A list of drugs is published by the USP every 5 years but not all the drugs are listed in it. The **National Formulary (NF)** is a larger list of drugs which meets purity standards. The letters USP and NF after a drug indicate that the manufacturer claims his product conforms to USP or NF standards. It is up to the FDA to inspect and enforce the claims of drug manufacturers.

### **References**

Libraries and hospitals have two large reference listings of drugs which give important information about drugs. The most complete and up-to-date is the **Hospital Formulary**, published by the American Society of Hospital Pharmacists. This listing gives information about the characteristics of drugs and their clinical usage (application to patient care).

The **Physicians Desk Reference (PDR)** is published by a private firm. Manufacturers pay to have their products listed there. The PDR is a useful reference with several different indexes to identify drugs (generic and chemical names index, product identification index, manufacturers' index, drug classification index and full description about recommended dosages and administration for each drug).

4. Закончите предложения, заменив русские слова и словосочетания в скобках их английскими эквивалентами:

1. The generic name is (общественная собственность) and any manufacture may use it.
2. The name is often long and (сложный).
3. The brand name or trade name is (частная собственность) of the individual drug



- manufacturer and no (конкурент) may use it.
4. It is common practice (писать с прописной буквы) the first letter of a brand name.
  5. (Управление по контролю за продуктами и лекарствами) has (юридическая ответственность за) deciding whether a drug may be distributed and sold.
  6. Brand names often have (надпись) after or before the name.
5. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже. Переведите предложения на русский язык.
1. ... why this law is so important is because many people die from using ... in the United States.
  2. The Food and Drug Administration is responsible for ... and ... the safety of foods, tobacco products, Medication drugs, vaccines, blood transfusion, medical devices, veterinary products, and cosmetics.
  3. A drug is considered "new" if it is made by a different ... .
  4. Over-the-counter (OTC) drugs are drugs and combinations that do not require a doctor's ... .
  5. ... drugs from four developing countries have been found ... the United States Pharmacopoeia (USP) standards.
  6. This committee ... a set of rules prohibiting ... of this drug to the children under 14.

Antiretroviral, enforced, to meet, supervising, manufacturer, the reason, prescription, regulating, the administration, illegal drugs.

6. Найдите в тексте “Drug names, standards and references” английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |   |   |
|---|---|
| - химическая формула;                     | - определенные стандарты;               |
| - для юридических и научных целей;        | - доступный в чистой форме;             |
| - индивидуальный производитель лекарства; | - давать важную информацию о лекарстве; |
| - заказывать по рецепту;                  | - полное описание;                      |
| - юридическая ответственность;            | - рекомендованная доза.                 |
| - соответствовать стандартам;             |   |

7. Переведите предложения на английский язык.

1. Настольный справочник терапевта содержит важную информацию об основных характеристиках лекарств и издается ежемесячно.
2. Этот центр является филиалом Управления по контролю за продуктами и лекарствами, который регулирует производство лекарств.
3. Для каждого лекарства существует только одно общее название.
4. Недавно одна очень известная фармацевтическая компания выпустила самый полный и современный справочник лекарств.
5. Ваш терапевт назначит вам соответствующее лечение и скажет, в какой аптеке вы сможете заказать лекарство по рецепту.
6. Это сильно действующее лекарство выпускают многие производители, но продают его только в определенных аптеках.
7. Каждый производитель, изготавливая лекарство, должен помнить, что оно должно соответствовать двум основным стандартам, быть клинически полезным и доступным в чистой форме.

8. Ответьте на вопросы к тексту “Drug names, standards and references”.
  1. What is the chemical name of the drug?
  2. How many generic names are there for each drug?
  3. Why do most drugs have several brand names?
  4. What are typical written standards for the brand name?
  5. Who are definite standards for drugs set by?
  6. What do the letters USP and NF after a drug indicate?
  7. Are all drugs listed in the PDR? Why?
  
9. Составьте устное сообщение (10-12 предложений) на английском языке, используя текст “Drug names, standards and references” по плану:
  - 1) Drug names;
  - 2) Drug standards;
  - 3) Drug references.

#### **Активизация грамматики.**

1. Поставьте глагол, данный в скобках в –ing форму. Обратите внимание на употребление Participle I и Gerund.
  1. USP Reference Standards are recognized as official standards in the U.S., and their use is effective in (to demonstrate) compliance with legal requirements.
  2. Laboratory (to test) of a drug is a compulsory stage of drug (to manufacture).
  3. All drugs (to meet) the NF standards are included into this listing.
  4. Thousands of medications are available today for (to prevent) various diseases.
  5. (to prescribe) this drug to the patient the physician said it would relieve the pain.
  6. (to take) this medicine, be careful of side effects.
  
2. Раскройте скобки, поставив глагол в форму Participle I. Переведите предложения на русский язык.
  1. I advise you to take this drug. (to dissolve) in the stomach immediately it will give you considerable relief.
  2. This pharmaceutical company (to produce) drugs for this type of flu is getting more and more popular.
  3. The doctor looked at the patient’s blood analysis, sat at the table (to think) and without (to say) a word left the room.
  4. The physician prescribed him a (to heal) ointment which he could order at the nearest chemist’s.
  5. One mustn’t confuse drugs, because (to cause) untoward reaction they may do harm to man’s health.
  6. (to ensure) a good quality of its goods this company protects people against many diseases.
  
3. Раскройте скобки, поставив глагол в форму Gerund. Переведите предложения на русский язык.
  1. In addition to (to aid) in the treatment of infectious diseases such as pneumonia, tuberculosis, influenza, and sexually transmitted diseases, these medicines also help prevent and treat cardiovascular diseases, asthma, diabetes, and cancer.
  2. (to have) a drug reference is necessary for every pharmacist.

3. A drug addict has been jailed after (to steal) a priest's car.
  4. The law states that anyone convicted of (to possess) more than EUR13,000 worth of drugs should receive the 10-year term.
  5. "How many people die of (to smoke) cigarettes?"
  6. "What are the effects of (to use) psychotropic agents?" "They affect the brain and body".
4. Переведите предложения на русский язык, укажите в предложении форму Participle I и Gerund.
1. The principal problems involve the use of prescription drugs without a physician's supervision, and the danger of buying drugs of unknown origin and quality.
  2. When choosing a drug at the chemist's check the "active ingredients" section on the label.
  3. Be very careful when giving more than one medicine to a child.
  4. To reduce your child's risk of medicine poisoning, keep medicines out of reach and out of sight of children.
  5. Since children tend to imitate adults - avoid taking medications in their presence.
  6. Avoid drinking medicine from a bottle.
  7. Always turn the light on when giving or taking medicine to be sure you have the right medicine and the correct measure or count of the dosage.
  8. Insist on safety packaging for prescription medicines.
  9. The benefits of medicines are helpful effects you get when you use them, such as lowering blood pressure, curing infection, or relieving pain.
  10. Despite my warnings she continued taking this medicine causing huge damage to her health.
5. Переведите предложения на английский язык, используя формы Participle I или Gerund.
1. Продажа нелегальных лекарств является растущей проблемой в США.
  2. Многие думают, что наркоман может прекратить употреблять наркотики в любой момент.
  3. Выписывая лекарство пациенту, врач должен знать точный диагноз.
  4. Неудивительно, что многие фармацевтические компании, производящие лекарства, получают огромную прибыль в период эпидемий.
  5. Никогда не начинайте и не прекращайте принимать лекарства, не поставив в известность вашего лечащего врача.
  6. Не зная, как лекарство действует на организм человека, врач не имеет права назначить его пациенту.
  7. Это лекарство может подействовать только путем введения его внутримышечно.
6. Преобразуйте предложения, используя, где возможно, конструкции с Gerund или Participle I и предлоги (by, for, of, while, when), где необходимо. Переведите составленные предложения на русский язык.
1. In the countries which are developing rapidly the top pharmaceutical companies produce 5 new drugs annually.
  2. People, who search for the best remedy for their disease, may find it in the national drug reference.
  3. To administer the better treatment the physician must examine you carefully.
  4. When I was in hospital I learnt a lot about my disease.
  5. Doctors all over the world are trying to find a way how to treat some rare types of cancer.
  6. The teacher who was delivering the lecture on manufacturing of sodium and potassium

compounds told the students about the way how to use them in pharmacy.

### Практикум.

1. Прочитайте текст бегло и изложите в двух-трех предложениях на русском языке, о чем этот текст.

Medicines are used to fight infections and illnesses; they reduce pain, and for many people they make life bearable. Taking the correct medicine in the right way can therefore be very beneficial.

Medicines are either prescribed for you by a doctor or bought at the chemist's. If you do not need a prescription, you can buy the medicine direct from the chemist. If they are prescribed, the doctor decides what you need, writes it down on a prescription form which you then take to the chemist who supplies the medicine to you. Doctors give careful thought and advice before prescribing medicines. The pharmacist at the chemist's shop also checks the prescription and may give you some advice on taking the medicines, too. "Follow the instructions" on the bottle or packet, finish the course and make sure you understand what the medicine is for.

If you or your family have been given any prescriptions lately, did you know what the medicine was and what it was for?

All medicines are perfectly acceptable in our society, and the vast majority of people gain great benefits from them. However, some medicines contain drugs which can be dangerous if taken in the wrong amounts, or when there is no medical reason.

#### **Do you ever take drugs?**

**Drinks.** It may surprise you to know that tea, coffee, cocoa and coca cola contain a drug called **caffeine**. However, you would have to drink a very large quantity to cause any danger of caffeine overdose.

#### **Which do you think contains more caffeine – coffee or tea?**

**Tobacco.** Cigarettes, cigars and pipe tobacco all contain nicotine. The smoker may become dependent on this drug, and smokers find it very difficult to give up the habit.

#### **Can you think of any health dangers associated with regular smoking?**

**Alcohol.** In most homes you will find a cupboard containing some wine, beer or spirits. These drinks all contain alcohol, which can cause health and social problems for people who become dependent on it. Although most people enjoy drinking and drink sensibly, there are strict laws concerning drinking and driving and the age at which you can drink.

#### **Can you think of any situations where heavy regular drinking may cause problems?**

**Solvents.** Many household fluids such as glues and cleaning liquids contain **volatile** substances such as ether and alcohol. Some people use these liquids in the dangerous habit of sniffing.

#### **Why do you think glue sniffing is most common among young people?**

2. Прочтите текст во второй раз, переведите его и изложите основную мысль текста в нескольких предложениях на английском языке.
3. Найдите в тексте эквиваленты следующих словосочетаний и составьте свои собственные предложения с ними:

- |                                     |   |
|-------------------------------------|---|
| - снижать боль;                     | - вызывать проблемы со здоровьем;       |
| - делать жизнь сносной;             | - стать зависимым от лекарства;         |
| - извлекать большую пользу из ч.л.; | - бросить привычку;                     |
| - в неправильном количестве;        | - быть распространенным среди молодежи. |
| - летучее вещество;                 |   |

4. Задайте друг другу вопросы, выделенные жирным шрифтом, высказывая свою точку зрения. Используйте следующие фразы:

I agree; I don't agree with you; I think...; in my opinion; it depends on...; on the one hand; on the other hand.

5. Ответьте на вопросы к тексту:

1. What are medicines used for?
2. How can we get a medicine?
3. Do any medicines contain drugs? In what case can they be dangerous?
4. What drinks contain a drug? What is it called?

6. Подготовьте по группам небольшое сообщение на английском языке (6-8 предложений) на следующие темы по содержанию текста:

- 1) Процедура выписывания лекарства;
- 2) Вредные привычки и их влияние на здоровье человека.

## Unit 4 Administration of Drugs

### Grammar: Participle II

1. а) Прочтите слова из Vocabulary List вслух.
- б) Изучите список слов и укажите слова, называющие:

- способы введения лекарств.

### Vocabulary List

the route of administration	-	способ введения (лекарства)
to absorb	-	всасываться
parenteral	-	парентеральный
to dissolve in saliva	-	растворяться в слюне
nausea	-	тошнота
rectal	-	ректальный
vomiting	-	рвота
to accomplish	-	достигать; завершать
location	-	местонахождение
a buttock	-	ягодица
to dissolve	-	растворять(ся)
topical	-	местный
surface	-	поверхность
sublingual	-	подъязычный
to accelerate	-	ускорить
to heal	-	заживать; заживлять
inhalation	-	ингаляция
moist	-	влажный
lotion	-	лосьон
oral	-	пероральный
subcutaneous	-	подкожный

2. Ответьте на вопросы, используя слова и словосочетания в скобках:

1. What do we call the route of administration when a medicine is taken by mouth? (oral)
2. In what case are suppositories used? (when oral route of administration presents difficulties)
3. What is taken into the nose or mouth during inhalation? (vapors or gases)

3. Прочтите и переведите текст на русский язык.

### Administration of Drugs.

The route of administration of a drug is very important in determining the rate and completeness of its absorption into the blood stream and speed and duration of the drug's action in the body.

#### **Oral Administration.**

The route of administration is by mouth. Drugs given orally must pass into the stomach and be absorbed into the blood stream through the intestinal wall. This method may have several disadvantages. If the drug is destroyed in the digestive tract by the digestive juice or if the drug cannot pass through the intestinal wall or mucosa, it will be ineffective.

### **Sublingual Administration.**

In this route of administration, drugs are not swallowed but are placed under the tongue and allowed to dissolve in the saliva. Absorption may be rapid for some agents. Nitroglycerine tablets are taken this way to treat attacks of chest pain.

### **Rectal Administration. Suppositories.**

Sometimes, drugs are given by rectum when oral administration presents difficulties such as, when the patient is nauseating and vomiting.

### **Parenteral Administration.**

This type of administration is accomplished by injection through a syringe under the skin, into a muscle, into a vein or into a body cavity. There are several types of parenteral injections:

- *Subcutaneous injection.* This injection is sometimes called hypodermic, and is given just under several layers of the skin. The outer surface of the arm and the anterior surface of the skin are usually locations for subcutaneous injections.
- *Intradermal injection.* This shallow injection is made into the upper layers of the skin. It is used in skin testing for allergic reactions.
- *Intramuscular injection (I.M.).* This injection is given into the muscle usually into the buttocks. When drugs are irritating the skin or a large volume of a long-acting drug is to be given, I.M. injections are advisable.
- *Intravenous injection (I.V.).* This injection is given directly into the veins. It is given when an immediate effect from the drug is desired or when the drug cannot be given into other tissues.
- *Intrathecal injection* is made in the case of anesthesia into the sheath of the spine marrow and the brain.
- *Intracavitary injections* are given into the body cavities: thoracic cavity, abdominal cavity and others.

### **Inhalation.**

In this method of administration, vapours, or gases are taken into the nose or mouth and are absorbed into the blood stream through the thin walls of the air sacks in the lungs (alveoli).

### **Topical Application.**

This is the local external application of drug on the skin or mucous membranes of the mouth or other surfaces. It is commonly used to accelerate the healing of abrasions, for *antiseptic treatment* of a wound, and as an *antipruritic* (against itching). Topical application may also include administration of drugs into the eyes, ears, nose and vagina. Lotions are used most often when the skin is moist, or “weeping”, and ointments and creams are used when the lesions are dry.

4. Закончите предложения, заменив русские слова в скобках их английскими эквивалентами.

1. Vapours and gases are absorbed into (кровеное русло) through the thin walls of the air sacks in the lungs.
2. Parenteral administration is accomplished by injection through (шприц) under the skin, into a muscle, into a vein or into (полость тела).
3. (Внешняя поверхность) of the arm and the anterior surface of the skin are usually (местоположение) for (подкожный) injections.
4. (Мази) are used most often when the skin is (влажный).
5. In (подъязычный) administration, drugs are not swallowed but are placed under the tongue and allowed (растворять) in (слюна).
7. It is commonly used (усиливать) the healing of (ссадина), for antiseptic treatment of a wound, and as (против зуда).

5. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже. Переведите предложения на русский язык.

1. Ointments are semi-solid preparations for ... application.
2. There are two main ... of drugs according to their ...: for external and internal usage.
3. Various remedies are applied for total ... .
4. Hormonal ... are produced by the artificial way using synthetic components and also from the organs and urea of animals.
5. Liquid medicines ... for the people who will not or cannot ... tablets.
6. Suppositories are very useful if a drug cannot be taken ... .
7. Ointments and creams are used when ... are dry.

Drugs, by mouth, application, lesions, anesthesia, are useful, groups, external, swallow.

6. Найдите в тексте “Administration of drugs” английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |   |                                |
|---|--------------------------------|
| - лекарства, даваемые перорально;             | - непосредственно в вену;      |
| - способ назначения лекарств;                 | - немедленный эффект;          |
| - абсорбироваться в кровяное русло;           | - внутримышечные инъекции;     |
| - лекарство кладут под язык;                  | - подбололочные инъекции;      |
| - ректальное применение;                      | - пары и газы;                 |
| - пациента тошнит и рвёт;                     | - антисептическое лечение ран; |
| - шприц;                                      | - мази;                        |
| - подкожные инъекции;                         | - лосьон;                      |
| - большой объем сильнодействующего лекарства; | - препараты против зуда.       |
| - ягодица;                                    |                                |

7. Переведите предложения на английский язык.

1. Медикаменты и лекарства доступны в различных формах.
2. Большинство людей смогут лечиться на дому.
3. Медсестра может ввести лекарство в полость тела, если необходимо.
4. Пиллюли и капсулы принимают перорально.
5. Суппозитории вводят через прямую кишку.
6. Мази наносят непосредственно на кожу.
7. Ингаляции используют для лечения астмы и аллергий, таких как сенная лихорадка.
8. Все лекарства полностью приемлемы в нашем обществе.
9. Большое количество людей получают огромную пользу от лекарств.
10. Если другие виды терапии оказываются неэффективными, врач назначает инъекции.

8. Ответьте на вопросы к тексту “Administration of drugs”.

1. Why is the route of administration of drugs very important?
2. What is the route of oral administration?
3. Where are drugs placed in the route of sublingual administration?
4. When are drugs given by rectum?
5. How is parenteral administration accomplished?
6. What is the difference between subcutaneous and intradermal injections?
7. When is it advisable to inject some drugs into the buttocks?
8. When is an intravenous injection given?
9. When is an intrathecal injection made?



10. What is meant by inhalation?
  11. What may topical application include?
9. Составьте устное сообщение (12-14 предложений) на английском языке, используя текст "Administration of drugs", по плану:
- 1) Importance of the route of administration of a drug;
  - 2) Different routes of administration of a drug.

### Активизация грамматики.

1. Закончите предложения, поставив глагол в скобках в форму Participle II. Переведите предложения на русский язык.
  1. Tablets are drugs (to give) by mouth.
  2. Ointment is a substance (to make) of oil or fat (to apply) on the skin to heal wounds.
  3. Suppositories are cone-shaped objects containing medications (to insert) into the rectum.
  4. Vapours or gases (to take) into the nose or mouth are absorbed into the blood stream through the walls of the air sacs in the lungs.
  5. Vapours are particles of the drug (to suspend) in the air.
  6. Injections (to use) in skin testing for allergic reactions are called intradermal injections.
  
2. Сравните выделенные формы глаголов и укажите разницу между ними. Переведите предложения на русский язык.
  1. He **investigated** a few antibiotics as well.
  2. This problem **discussed, attracted** much attention.
  3. Early clinical studies **showed an increased** amount of enzymes.
  4. All other mice **tested, produced** antibodies.
  5. The **operated** children **were followed** up to the age of 7 or 8.
  6. Drugs **are used** to treat chronic conditions.
  7. Ointments **are prepared** by two methods.
  8. **Based** on their penetration, ointments **have been divided** into four classes.
  9. One salt **can be transformed** into another by treating it with an acid.
  
3. Раскройте скобки, поставив глагол в нужную временную форму Past Simple или Participle II. Назовите ее. Переведите предложения на русский язык.
  1. This drug (to act) on the patient markedly and he (to recover) very quickly.
  2. The overdosage of foxglove (to cause) heart trouble.
  3. The patient (to show) the skin irritation (to cause) by the ointment.
  4. The drug (to test) in our laboratories can be sold at the chemist's.
  5. As I (to be) in a hurry I (to buy) this medicine at the chemist's (to locate) just round the corner.
  6. This medicine (to administer) orally must be taken every other day.
  7. Adverse effects often (to experience) by patients include headache, nausea, (to impair) digestion, (to increase) fatigue, skin symptoms, etc.
  
4. Выберите подходящий по смыслу глагол из списка, приведенного ниже, поставьте его в форму Participle II. Переведите предложения на русский язык.
  1. This injection ... into the upper layers of the skin was necessary to save the patient's life.

2. The drug ... in the digestive tract by the digestive juice is ineffective.
3. Some drugs ... under the tongue are used to treat attack of chest pains.
4. If there is any serious change in the health condition ... with the drug administration, it is necessary to stop using the drug and to consult the physician.
5. This is a group of drugs ... for the same type of illness.
6. The majority of drugs should be stored at a temperature of up to 25°C, ... against light and humidity.
7. In addition, drugs ... by inhalation do not stay in the bloodstream for as long.
8. ... with other routes of administration, the intravenous route is the fastest way to deliver fluids and medications throughout the body.

To connect, to take, to make, to place, to use, to destroy, to compare, to protect.

5. Переведите предложения на английский язык, употребив Participle II.

1. Лекарство, введенное внутримышечно, действует моментально.
2. Один из наиболее известных способов введения лекарства – ингаляция.
3. Лекарства, наносимые на кожу - обычно для локального использования.
4. Эти лекарства, вводимые внутривенно, очень часто назначают в небольших дозах.
5. Эффект от лекарства, введенного внутримышечно, длится более короткое время.
6. Лекарства, назначаемые при лечении диабета, можно заказать только по рецепту.

### Практикум

1. Прочитайте текст и ответьте на вопрос: «What ways do medicines work?».

#### How do medicines work?

##### **Replacing substances that are deficient or missing in the body.**

The body needs certain levels of proteins (or ...), vitamins and minerals in order to work normally. If these important substances are insufficient or lacking, this can lead to medical disorders. These are called 'deficiency disorders'. Examples include: iron deficiency (...), and vitamin C deficiency (...).

Deficiency disorders can also occur as a result of lack of hormones in the body (...). Common examples include: diabetes (...) and hypothyroidism (...). Deficiency disorders can be treated with medicines or hormones that replace or restore the levels of the missing substances, for example insulin injections for diabetics.

##### **Altering the activity of cells.**

Cells are the basic 'building blocks' of the body. All human tissues are made up of groups of cells. Many medicines work by altering the activity of cells. For example, anti-inflammatory medicines such as ibuprofen and diclofenac block the action or stop the production of chemical substances (...) which are released by cells in response to tissue damage and which cause inflammation and pain. Medicines which interfere with the way of cells' work are used to treat a variety of conditions, such as blood clotting disorders (e.g. ...), heart (e.g. ... ) and kidney diseases. Some medicines work by attaching themselves (binding) to the sites found on the surface of the cells (...) and either increase or decrease the activity of the cell (e.g. ...).

##### **Destroying infectious microorganisms or abnormal cells.**

Infectious diseases occur when viruses, bacteria, protozoa or fungi invade the body. Antibiotics e.g. penicillin can destroy bacteria by killing them directly or by preventing their multiplying. Anti-fungals commonly used for infections of the skin and mouth (e.g. ...) work by disrupting infected cells. Other medicines work by killing abnormal cells, for example some anti-cancer drugs directly target and kill harmful cancer cells.

3. Заполните пропуски в скобках в упр. 1. необходимыми по смыслу словами и словосочетаниями, из списка ниже. Составьте с ними свои собственные предложения.

Clotrimazole and miconazole; scurvy; anti-coagulants; medicines used in the treatment of epilepsy and Parkinson's disease; insulin deficiency; amino acids; calcium channel blockers; mediators; receptors; hormone deficiency; anemia; thyroid hormone deficiency.

3. Найдите в тексте «How do medicines work?» ответы на следующие вопросы.

1. How do antibiotics destroy bacteria?
2. What are the important substances in the human body?
3. When do deficiency disorders occur?
4. What are all human tissues made up of?
5. What conditions do medicines altering the activity of cells treat?
6. How can deficiency disorders be treated?

4. Найдите эквиваленты следующих слов и словосочетаний в тексте. Найдите предложения, в которых они были использованы и переведите их на русский язык.

- |  |                                   |
|--|-----------------------------------|
| - противогрибковый;                            | - повреждение ткани;              |
| - изменять активность клетки;                  | - нарушения свертываемости крови; |
| - выделяемые клетками;                         | - противовоспалительные средства; |
| - железодефицитная анемия;                     | - предотвращать размножение;      |
| - восстанавливать уровень недостающих веществ; | - разрушать бактерии.             |

5. Расположите эти предложения в правильном порядке так, чтобы они освещали основное содержание текста.

1. In addition, many medicines work by destroying infectious microorganisms or abnormal cells.
2. For example, antibiotics such as penicillin can destroy bacteria by killing them directly or by preventing their multiplying .
3. Other medicines work by killing abnormal cells, for example some anti-cancer drugs directly target and kill harmful cancer cells.
4. These deficiency disorders can be treated with medicines or hormones that replace or restore the levels of the missing substances.
5. So these medicines are used to treat a variety of conditions, such as blood clotting disorders, heart and kidney diseases.
6. Some important substances are insufficient or lacking, this can lead to medical disorders called deficiency disorders.
7. Infectious diseases occur when viruses, bacteria, protozoa or fungi invade the body.
8. Medicines replace substances that are deficient or missing in the body.
9. Medicines also alter the activity of cells.
10. Thus, medicines destroy infectious microorganisms or abnormal cells.

## Unit 5

### Drugs and their effects

**Grammar revision:** Types of questions, Impersonal sentences, Modal Verbs, Passive Voice in Simple Tenses.

1. Прочитайте слова из Vocabulary List и укажите слова, называющие:

- лекарства по типу их действия;                      - отрицательные реакции на лекарства.

### Vocabulary List

side effect	-	побочный эффект
hives	-	крапивница
pruritis	-	зуд
rhinitis	-	ринит
blood dyscrasia	-	патологические изменения крови
cumulative	-	кумулятивный, совместный
adverse	-	нежелательный, отрицательный
synergetic	-	синергичный, совместно усиливающее действие
idiosyncratic action	-	идиосинкретический (уникальный, индивидуальный) эффект
tolerance	-	толерантность, привыкание, переносимость
anaphylaxis	-	анафилактический шок
tonics	-	тонизирующие
sedatives	-	успокаивающие
laxatives	-	слабительные
sleeping draughts	-	снотворные порошки
antipruritic	-	противозудное
antiseptic	-	антисептический, антисептическое средство
healing	-	лечебное, заживляющее действие
curative	-	излечивающий
helpful	-	помогающий, полезный
asthma	-	астма
allergic reaction	-	аллергическая реакция
collagen disorders	-	разрушение коллагена (хрящевых структур)
photosensitivity	-	фоточувствительность
toxic, poisonous	-	ядовитый
untoward, unexpected	-	неожиданный
unfavorable	-	неблагоприятный
additive	-	кумулятивный, добавочный

2. Прочтите и переведите текст на русский язык.

### Effects of Drugs.

Drugs come into the body and are absorbed into the bloodstream. Depending upon the body sensitivity and reactivity drugs produce various actions and have different effects. According to

their effects, drugs may be tonics, sedatives, laxatives, sleeping-draughts, analgetics, anesthetics of a local or systemic action, anti-pruritics or antiseptics. The action of the drug is expected to be healing, curative and helpful. It can produce strong or weak effect, may be neutral. But sometimes when the prescription is not followed, in case of overdosage or hypersensitivity of the body, drugs produce (give) side (or adverse) effects, such as, hives, rhinitis, asthma, allergic reaction, blood dyscrasia, collagen disorders, photosensitivity and other reactions. Some drugs are toxic and poisonous. Their overdosage may cause untoward, unexpected and unfavorable reactions and sometimes even death. So, follow only the dose indicated on the label or a signature. Some drugs or a combination of drugs have additive, cumulative, synergetic and idiosyncratic action. Some drugs may produce tolerance or sometimes anaphylaxis.

Drugs are dispensed and stored in a place known as Pharmacy. The pharmacist will tell you how to take and how to store the drug. The pharmacist can tell you, "Take a tablespoonful of this mixture and do not forget to shake it before using" or "Keep this mixture in a cool place".

3. Ответьте на вопросы, используя слова и словосочетания в скобках.

1. What do drugs produce dependind upon the body sensitivity and reactivity? (various actions and different effects).
2. What may drugs be? (tonic, sedative, laxative, sleeping-draught, analgetic, anesthetic of a local or systemic action, anti-pruritic or antiseptic).
3. What effects may drugs produce? (healing, curative, helpful).
4. What adverse reactions and side-effects may drugs give? (hives, blood-dyscrasia, asthma, rhinitis and other allergic reactions).
5. What reactions may the overdosage of some drugs cause? (untoward, unexpected, unfavorable, toxic).

4. Закончите предложения, заменив русские слова в скобках их английскими эквивалентами.

1. Drugs come into the body and (всасываются в кровоток).
2. Depending upon the body (чувствительность и реактивность) the drugs produce various actions and have different effects.
3. The action of the drug is expected to be (лечебным, излечивающим, помогающим).
4. It can produce (сильное или слабое действие), may be neutral.
5. Some drugs are (ядовиты).
6. Their overdosage may cause (непредвиденные, неожиданные, неблагоприятные) reactions.
7. Some strong-effective drugs may be easily (переносимы) or sometimes they may produce anaphylaxis.
8. The pharmacist can tell you "Примите столовую ложку этой микстуры и не забудьте встряхнуть ее перед употреблением".

5. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже:

1. Depending upon the body sensitivity and reactivity the drugs produce ... .... and have ...  
.... .
2. The effects, produced by the drugs, may be ..., ..., ....
3. Sometimes when the prescription .... .... the drugs produce....
4. Follow only the dose indicated on the ....
5. Some drugs may produce ... or sometimes....
6. Drugs are ... and ... in an area known as....

Weak, strong, neutral, label, dispensed, stored, various actions, different effects, is not followed, untoward reactions, side effects.

6. Найдите в тексте “Effects of Drugs” английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |   |  |
|---|--|
| - оказывать действие;   | - патологическое состояние крови;      |
| - эффект может быть сильным, слабым или нейтральным;                  | - привыкание;                          |
| - в случае передозировки;   | - нежелательное, неожиданное действие; |
| - побочные эффекты;   | - эффект накопления;                   |
| - фоточувствительность;   | - усиливающее действие.                |
| - хранить лекарства при комнатной температуре или в прохладном месте; |  |

7. Переведите предложения на английский язык:

1. Фармацевт расскажет вам, как хранить лекарства.
2. Принимайте столовую ложку этой микстуры или одну таблетку лекарства три раза в день до (или после) еды.
3. В зависимости от чувствительности и реактивности организма лекарства оказывают действия с различным эффектом.
4. Лекарство может давать сильный или слабый эффект, может быть нейтральным.
5. Если пациент не соблюдает предписание, или в случае передозировки, лекарство может дать побочную реакцию.
6. К побочным реакциям относят септическую лихорадку, ринит, астму, патологическое состояние крови, распад хрящевой ткани, фоточувствительность и другие реакции.
7. Некоторые лекарства вызывают привыкание.
8. Анафилаксия – это непереносимость лекарственного препарата.

8. Ответьте на вопросы к тексту «Effects of Drugs».

1. Where are drugs absorbed?
2. What may drugs be, according to their effects?
3. What is the action of the drug expected to be?
4. When do drugs produce side or adverse effects?
5. What adverse reactions can drugs cause?
6. What can help a person to avoid adverse reactions?
7. What can a pharmacist tell a person who buys medicines?

9. Составьте устное сообщение (8-12 предложений) на английском языке, используя текст “Effects of Drugs”, по плану:

- 1) Actions which drugs produce in the body;
- 2) Side effects which may occur in case when the prescription is not followed;
- 3) Prevention of dangerous consequences caused by careless taking of drugs by a pharmacist.

#### **Активизация грамматики.**

1. Заполните пропуски соответствующими неопределенно личными местоимениями (some, any, no):

1. Doctors give ... advice before prescribing ... medicine.
  2. At ... chemist's shop a pharmacist checks the prescription.
  3. There is ... use to take this remedy.
  4. Did you take ... medicine when you had a sore throat?
  5. I suffered ... diseases in my childhood.
  6. Are there ... sedatives on this shelf?
  7. ... drug taken carelessly may be poisonous.
  8. To avoid ... complications follow the doctor's prescriptions.
2. Поставьте следующие предложения в вопросительную, а затем в отрицательную форму (если возможно):
1. Any chemical substance can affect the functions of the body.
  2. There are all sorts of drugs in my drug cabinet.
  3. A doctor will give you some advice how to heal arthritis.
  4. Drugs are absorbed into the bloodstream.
  5. Overdosage of any toxic drug causes unexpected reactions.
3. Определите залог. Поставьте вопросы к подчеркнутым словам:
1. Toxicants are often concentrated in a specific tissue.
  2. Some toxicants accumulate in various parts of the body.
  3. Chemotherapy usually refers to treatment for infectious diseases, cancer diseases or mental illness.
  4. Intravenous injection is given directly into the vein.
  5. Intramuscular injections are advisable when drugs are irritating the skin.
  6. Toxicology is the study of harmful substances and their effects on living organisms.
  7. Idiosyncrasy is a rare type of toxic effect produced in a very sensitive individual but not seen in most patients.
  8. Fleming was the first to discover penicillin.
4. Заполните пропуски, соответствующим модальным глаголом (can, may, must):
1. If you have a bad headache you ... take this medicine.
  2. You ... follow the doctor's treatment if you want to be well again soon.
  3. What ... I take to keep the fever down?
  4. What complications ... the grippe cause?
  5. A patient ... follow the instructions on the bottle.
  6. Digitals ... control the excessively fast ventricular rate.
  7. ... this drug induce secretion?
  8. This analysis of blood ... help to stop some type of cancer.
5. Поставьте предложения в вопросительную, а затем в отрицательную форму.
1. Most of us had to take medicines to recover as soon as possible.
  2. Most people will be able to take their treatment at home.
  3. This medicine had to be taken twice a day.
  4. People are allowed to take the contraceptive pills as a method of birth control.
  5. Penicillin can kill bacteria.
  6. Drugs may produce strong or weak effect.
  7. Some medicines can be dangerous if they are taken in the wrong amount.

8. He must give up regular drinking.

### Практикум.

1. Прочитайте текст, используя комментарий. Озаглавьте текст.

#### Text I

Drug toxicity refers to the poisonous and potentially dangerous effects of some drugs. Idiosyncrasy is an example of an unpredictable type of drug toxicity.

Other types of drug toxicity are more predictable and based on the dosage of the drug given. If the dosage of a certain drug is increased, unfavorable effects may be produced. Physicians are trained to be aware of the potential toxic effects of all drugs they prescribe and must be cautious with their use. Disorders directly resulting from diagnostic or therapeutic efforts of a physician are known as iatrogenic, and are usually related to drug toxicity.

Side effects are toxic effects which routinely result from the use of a drug. They often occur with the usual therapeutic dosage of a drug and usually tolerable. For example, nausea, vomiting and alopecia are common side effects of the chemotherapeutic drugs used to treat cancer.

Contraindications are factors in a patient's condition which make the use of a drug dangerous and ill advised. For example, in the presence of renal failure, it is unwise to administer a drug which is normally eliminated by the kidneys.

Among the most dangerous toxic complications of a drug usage are blood dyscrasias (blood disease such as aplastic anemia), cholestatic jaundice (biliary obstruction leading to discoloration of skin), neuropathy, collagen disorders (connective tissue damage such as arthritis) and photosensitivity (abnormal sensitivity to light).

#### Комментарии к тесту

to refer to	- относиться к ч.л.
unpredictable	- непредсказуемый
to be aware of	- иметь ввиду
routinely	- обычно
ill advised	- неблагоприятно
to be cautious	- быть осторожным
jaundice	- желтуха
biliary obstruction	- закупорка желчных протоков
discoloration	- обесцвечивание

2. Найдите в тексте информацию о:

- drug toxicity;
- reasons for other types of drug toxicity;
- iatrogenic disorders;
- side effects;
- contraindications;
- blood dyscrasia.

#### Text II

1. Прочитайте текст. Найдите в тексте информацию о:



- the cause of Crab's cycle;
- identification of glucose in the blood;
- types of metabolism regulation;
- the reason why hypoglycemia should be treated;
- division of hyperglycemia and its reason.

### **Dysfunction of carbohydrate metabolism regulations.**

For the unremitting of the process of glycolysis and Crab's cycle glucose should be delivered continuously to the tissues. It happens because of a constant level of glucose (3.3-5.5mmol/lit) in the blood which in physiological conditions never decreases to a critical level. Glucose level in the blood can be identified by the speed of endogenic glucose production and by the speed of glucose utilization. Several types of regulation of carbohydrate metabolism can be distinguished: substrate, nervous, hormonal and renal.

Disturbances of any stage of carbohydrate metabolism or of regulating mechanism cause dysfunction of carbohydrate metabolism and it appears with the change of glucose concentration in blood (hypo- or hyperglycemia).

Hypoglycemia occurs when the concentration of glucose in blood is less than 3.3 mmol/lit. It requires an immediate treatment, because hypoglycemia causes irreversible changes of the nervous cells, first it disturbs the function of the cortical layer of the brain then in the midbrain (cereal hypoglycemia).

Hyperglycemia occurs when the concentration of glucose in blood is more than 5.5mmol/lit.

It can be divided into: physiological hyperglycemia (it has an accommodative function as it provides easy utilizing energy material by tissues), alimentary hyperglycemia (occurs after eating of a great amount of carbohydrate), emotional hyperglycemia (develops due to stress, emotional excitement, severe pains), hormonal hyperglycemia (is caused by the dysfunction of endocrine glands).

2. Выразите смысл каждого абзаца одним или двумя предложениями.

3. Ответьте на следующие вопросы:

1. Why should glucose be delivered to the tissues continuously?
2. How can glucose level in the blood be identified?
3. What types of carbohydrate metabolism can be distinguished?
4. When does hyperglycemia occur?
5. Why does hyperglycemia require immediate treatment?

4. Сделайте краткий пересказ, выбрав из текста ключевую информацию.

### **Text III**

1. Прочитайте и переведите текст, используя следующие слова:

agent	-	фактор, вещество
deleterious response	-	разрушительная реакция
to be subjected to	-	подлежать; подвергаться
artificial	-	искусственный
to be categorized	-	быть распределенным
with respect to	-	относительно

venom	- яд животного происхождения
snake	- змея
marine	- морской
hazard	- губительное действие
algae	- водоросли
solvent	- растворитель
target	- мишень
lead	- свинец

All substances are poisons; there is none which is not a poison. The right dose differentiates a poison and a remedy.

*Paracelsus*

One could define a poison as any agent that is capable of producing a deleterious response in a biological system or capable of destroying life or seriously injuring function.

The origins of toxic substances are varied and subjected to several kinds of classification. At its simplest one can recognize those agents that arise from natural sources and those that are artificial or synthetic. Naturally occurring substances may be categorized with respect to their origin from animal, plant or mineral sources. Venoms and toxins in structured organs of the snake and marine animals represent one kind of well-known animal source of toxic substances. Terodotoxin and other toxic substances found in fish, derive from other marine organisms that are components of the fish diet.

Among the higher plants there are numerous species that contain toxic agents. Many of the better-known and best-characterized substances are those that have been adopted or developed for medicinal use. A few prominent examples are opium and morphine, atropine, cardiac glycosides, salicylate, quinine, physostigmine, scopolamine, reserpine, cocaine, picrotoxin and curare.

Lower plants are also a source of many toxic agents. We make use of a selective toxicity of some of these substances as antibiotic agents in medicine. But many organisms produce toxins that represent hazards to health. For example, bacterial endotoxins of *Salmonella* and *Botulinus* are well known poisons.

Marine organisms such as *Gymnodinium brevae* have resulted in major ecologic disasters; similar effects have been noted with some of the blue-green algae.

Most often chemical classification at several levels is used. Thus we might list solvents, metals, plastics and many similar groups.

Other classifications are based on the organs or systems that are the "target" site for the effects of the chemical (for example, hepatotoxic). Whatever classification is selected, it is not full.

After the toxicant enters the plasma, either by absorption or by direct intravenous administration, it is available for distribution throughout the body. Its distribution is largely dependent on its ability to pass cell membranes and on its affinity for various body components. Some toxicants accumulate in various parts of the body.

Toxicants are often concentrated in a specific tissue. Some toxicants achieve their highest concentration at their site of toxic action, such as carbon monoxide, which has a very high affinity for hemoglobin.

The liver and the kidney have a high capacity to bind chemicals, and these two organs probably concentrate more toxicants than any other organs. This might be related to the fact that these two organs are very important in the elimination of toxicants from the body; the kidney and

the liver have a capacity to excrete many chemicals and the liver has a high capacity to metabolize them.

As an example of the rapidity with which liver binds foreign compounds, 30 minutes after a single administration of lead, the concentration is 50 times higher than in the plasma.

Lipid solubility is an important factor for the absorption of toxicants; so it is not surprising that they distribute into body fat. The highest concentration of DDT is found in fat.

Bone can also serve as a reservoir for compounds such as lead and tetracyclines. Approximately 90% of the lead in the body is found in the skeleton. The toxic material deposited in bone is not toxic as such, but it can be released again into the general circulation.

2. Найдите в тексте информацию о:

- origins of toxic substances;
- poisons found in the higher and lower plants;
- other classifications of the poisonous chemicals;
- the role of the liver and kidneys in the elimination of toxins;
- the role of lipids and bones in the purification of the body.

3. Согласитесь или отрицайте информацию. Дайте обоснование своего ответа, пользуясь фразами:

I don't think so, because...

Yes, I agree that ...

1. One could define a poison as any agent that is capable of destroying life or seriously injuring its functions.
2. The origins of toxic substances are not varied.
3. Some agents arise from natural sources, others are artificial or synthetic.
4. Venoms and toxins in structural organs of the snake and marine animals do not represent one kind of a well-known animal source of toxic substances.
5. Among the higher plants few species contain toxic agents.
6. The lower plants are also a source of many toxic agents.
7. Solvents, metals, plastics and many similar groups are not subjected to chemical classification.
8. After the toxicant enters the plasma, it is available for distribution throughout the body.
9. Toxicants are not concentrated in a specific tissue.
10. Some toxicants do not achieve their highest concentration at their site of toxic action.
11. The liver and the kidney have a high capacity to bind chemicals, and these two organs concentrate more toxicants than any other organs.
12. Lipid solubility is an important factor for the absorption of toxicants.
13. Bone cannot serve as a reservoir for compounds such as lead and tetracycline.
14. The toxic material deposited in the bone is not toxic as such. It cannot be released again into the general circulation.

4. Расскажите на английском языке о:

- 1) Classification of the poisonous substances (venoms, toxins, chemicals);
- 2) Sources of toxins (animals, snakes, fish, plants, artificial sources);
- 3) The ways the toxicants penetrate into the body;
- 4) Tissues where toxicants concentrate, and deteriorations caused by them.

## Unit 6

### Drug annotation

**Grammar:** Revision of Tenses and Voices.

1. Прочитайте слова из Vocabulary List вслух:

- назовите термины, указывающие на разделы аннотации;
- назовите слова, относящиеся к действию лекарств на системы и органы.

#### Vocabulary List

composition /description	- название препарата, его химический состав
indication	- показание к применению
contraindication	- противопоказание по применению
precautions / warnings	- меры предосторожности
interaction	- взаимодействие с другими препаратами
storage	- хранение препарата
supply	- форма поставки
microbiology	- микробиология
biological studies	- биологические исследования
animal pharmacology	- действие на животных
human pharmacology	- действие на человека
clinical studies	- клинические исследования
hemopoetic reaction	- гемопоэтическая реакция
hypersensitivity reactions	- реакции на повышенную чувствительность к препарату
local reactions	- локальные реакции

2. Прочитайте и переведите текст “Drug annotation”.

#### Drug annotation.

Drug annotation is an instruction paper of a drug (a drug instruction paper). There may be less or more detailed annotations. The following sections are typical for every annotation: composition, description, properties, indications, contraindications, precautions / warnings, side-effects, adverse reactions, interactions, dosage and administration, storage, supply.

Some of the annotations have additional sections: ex: **pharmacokinetics**, **actions** and others. The section “**actions**” is subdivided into: microbiology, biological studies, animal pharmacology, human pharmacology, clinical studies.

The section “**side - effects or adverse reaction**” is subdivided into: gastrointestinal, hemopoetic, hypersensitive reactions, skin and mucous membranes, liver, cardiovascular, local reactions.

The section “**dosage and administration**” comprises indications for adults and children regarding their age.

Some annotations contain drawings to illustrate the ways of administration (dropping, spray or injections) using instruments, such as syringes, spray devices and so on.

Some additional information is given in thick or colored type or in italics. Special information about the drug storage and expiry date is given in frames.

3. Назовите термины, обозначающие побочные действия и нежелательные реакции.

4. Прочитайте и переведите слова, входящие в раздел «Actions».
5. Закончите предложения, заменив русские слова в скобках их английским эквивалентами:
1. Drug annotation is (информационный документ) of a drug.
  2. For every annotation the following (разделы) are typical: (состав, показания, противопоказания, побочные действия, взаимодействия с другими препаратами).
  3. (Некоторые аннотации) have additional sections: (фармакокинетика, действия) and others.
  4. The section (дозировка и способы применения) has additional indications for adults and children.
  5. Some annotations contain (рисунки) illustrating administration of the drug.
6. Закончите предложения, используя подходящие по смыслу слова, приведенные ниже:
1. Some additional information is given in ... or colored ... or in italics.
  2. Special ... about the drug storage and ... is given in frames.
  3. Microbiology, biological studies, animal pharmacology, human pharmacology, clinical studies are described in the section ....
  4. Such instruments as syringes, ... .. and others are given in pictures.
  5. Such sections as ... .. and ... .. are very informative and important for patients.

Actions, types, information, spray devices, side effects, adverse reactions, expiry date.

7. Найдите в тексте «Drug Annotation» английские эквиваленты следующих слов и словосочетаний. Составьте предложения с ними по содержанию текста.

- |                             |                          |
|-----------------------------|--------------------------|
| - состав;                   | - шприц;                 |
| - свойства;                 | - меры предосторожности; |
| - показания;                | - дозировка;             |
| - противопоказания;         | - применение лекарства.  |
| - клинические исследования; |                          |

8. Переведите предложения на английский язык:

1. Всю информацию о составе лекарства и его применении вы найдете в лекарственной аннотации.
2. Очень важно знать показания и противопоказания к применению препарата.
3. Все лекарства проходят (undergo) клинические испытания.
4. Инструменты, применяемые для введения препарата, показаны в рисунках.
5. Аннотации вложены в коробочки с лекарствами или наклеены на контейнеры с лекарствами, например: бутылочки, пакетики и др.
6. Прежде чем принять препарат, прочитайте аннотацию к нему.

9. Ответьте на вопросы к тексту «Drug Annotation»:

1. What information does any drug annotation contain?
2. Why is a drug annotation important?
3. What are typical sections of any drug annotation?

4. How is some information printed in this paper?
  5. Is a drug annotation an informative paper? Why?
10. Составьте устное сообщение (8 – 10 предложений) на английском языке, используя текст «Drug Annotation» по плану:
- 1) The importance of annotation as a drug instruction;
  - 2) Main sections of the annotation;
  - 3) Ways of printing some additional and important information.

### **Активизация грамматики.**

1. Откройте скобки, поставив глагол в соответствующем времени и залоге. Переведите предложения.
  1. In Kathmandu people with persistent cough no longer (to sell) antibiotics or just another bottle of mixture for cough. They (to advise) to go to the nearest clinic for tuberculosis check up.
  2. City pharmacies (to keep) a great variety of the latest antibiotics, combinations of vitamins and antibiotics and antiallergic or hormonal drugs, sedatives and tonics and antidiarrheal medicines. Some of these (to be) effective; many (to have) no therapeutic effect and numerous drugs (to be) dangerous when used without proper medical instructions.
  3. The measurements (to make) before and 15, 60 and 180 minutes after a single dose of captopril.
  4. The drug (to be easily tolerated) and (there be) only two minor untoward effects.
  5. 13 patients with mild – to – severe uncomplicated hypertension (to be treated) with one tablet of captopril 100 mg daily taken 1 – 1,5 hours, for 8 weeks.
  6. The injection of leucomycin (to be discontinued) after 15 days.
  7. Leucomycin (to be) remarkably effective for respiratory tract injections.
2. Составьте вопросы, на которые можно дать следующие ответы.
  1. Drug annotation is a drug instruction paper.
  2. There may be less or more detailed annotations.
  3. Every annotation consists of several sections.
  4. The section «Actions» is subdivided into microbiological, biological studies, animal pharmacology, human pharmacology, clinical studies.
  5. The section «Dosage and Administration» contains additional indications for adults and children regarding their age.
  6. Special information about the drug is given in thick or colored type or in frames.
3. Составьте общие и специальные вопросы к следующим предложениям.
  1. A large number of people are troubled with palpitations, minor nervous disturbances of the cardiac rhythm, precordial pains, spasms, etc.
  2. The main purpose of treatment in nervous disturbances is to calm the central nervous system.
  3. You must not use insulin after the expiry date.
  4. The drug is not recommended to be used during pregnancy or with cytostatics.

5. In patients with hypotension the systolic blood pressure should not be reduced below 90/60 mm Hg.
  6. Unwanted effects may occasionally occur.
  7. Some annotations contain visual means of explanations.
4. Переведите следующие предложения на русский язык.
1. Like other non-steroidal anti-inflammatory agents Voltaren is also contraindicated for patients in whom attacks of asthma, urticaria or acute rhinitis are precipitated by acetylsalicylic acid.
  2. Over 90% of the drug remains unchanged in urine within 8 hours.
  3. Voltaren is contra-indicated in patients with known allergy to Cephalosporin group of antibiotics.
  4. Isomack spray must not be used in state of shock.
  5. One to four grams of Isomuck spray are to be given every 6 hours in equally divided doses daily.
  6. The duration of treatment is generally short: the use of nonsteroidal drugs during pregnancy, or by nursing mothers or women of child bearing age requires that the possible benefits for the drug be weighed against the potential hazards to the mother and embryo or foetus.
  7. Theophenical permeates throughout all tissues and body fluids in an active form and at effective concentrations.
  8. Spordex has proved to be effective for patients with osteomyelitis.
  9. Do not administer the injectable form where there is a previous history of intolerance.

### **Практикум.**

#### **Text I**

1. Прочитайте текст "Thioderazine" и скажите на русском языке, что из перечисленного он описывает:
  - свойства лекарства; - два вида одного лекарства;
  - другое лекарство, предлагаемое вместо данного.

#### **Thioderazine**

Antirheumatic Agent

**Thioderazine with Vitamin B1**  
Drops and ampules.

**Therapeutic properties:**  
Iodine, sulfur, and vitamin B 1 provide a basic treatment for rheumatic diathesis.

**Indications:**  
Chronic rheumatism, rheumatic pains, muscular pains, sciatica, lumbago, cervical brachial neuralgia, arteriosclerosis.

**Fortified Thioderazine with Vitamin B1**  
Tablets, suppositories, ampules.

**Therapeutic properties:**  
In combination with iodine and sulfur there is vitamin B 1, which, in a heavy dose, exerts an analgesic effect.

**Indications:**  
Chronic rheumatism, rheumatic pains, muscular pains, sciatica, lumbago, cervical brachial neuralgia, arteriosclerosis.

**Contra-indication:**  
Intolerance to vitamin B 1.

**Contra-indication:**  
Intolerance to vitamin B 1.

**Dosage and Administration:**  
30 drops in a half glass of water with the two main meals, 20 days each month, or 1 injection daily IM for several days.

**Dosage and Administration:**  
2 tablets before the two main meals, or one suppository morning and evening, or 1 injection IM daily for consecutive days in series of 20 or 30.

Do not administer the injectable form where there is a previous history of intolerance with the drops (dizziness, nausea, skin rash, fall in blood pressure) and suspend therapy with the injections if they are not well tolerated.

Do not administer the injectable form where there is a previous history of intolerance with the drops (dizziness, nausea, skin rash, fall in blood pressure) and suspend therapy with the injections if they are not well tolerated.

**Packaging:**  
Bottle of 50ml  
6 hypodermic ampules of 5 ml.

**Packaging:**  
30 tablets: 10 suppositories  
5 hypodermic ampules of 5 ml.

**Composition:**

	<b>Drops</b>	<b>Ampule</b>
Thiocarbamide...	0.04 g	0.001g
Iodazine.....	2.00 g	0.100 g
Piperazine hydrate.....	3.00 g	0.050 g
Vitamin B 1.....	0.06 g	0.003 g
Excipient.....	100ml	5 ml
(methylp-hydr.-benz.)	0.10 g	-

**Composition:**

	<b>Tab.</b>	<b>Supp.</b>	<b>Amp.</b>
Thiocarbamide...	0.001g	0.001g	001 g
Iodazine.....	0.020 g	0.050g	0.065g
Piperazine hydrate.....	-	-	0.010g
Vitamin B 1.....	0.250 g	0.100g	0.050g
Excipient.....	1 tab.	1 supp.	1 amp.

2. Укажите неправильные утверждения и исправьте их, используя текст.

1. Thioderazine is an antirheumatic agent.
2. Thioderazine is recommended in two forms.
3. Fortified Thioderazine is given in tablets.
4. The annotation does not contain the section "contra-indications".
5. Dosage and Administration of both forms of Thioderazine are just the same.
6. The author does not recommend using the injectable form of the drug.
7. In some patients the drug produces intolerance.

3. Ответьте на следующие вопросы:

1. How many sections does the annotation contain?
2. What are the indications for use of this drug?
3. What are contra-indications of Thioderazine?
4. What is the difference in dosage and administration of two forms of the drug?
5. Why is using of the injectable form of this drug recommended?
6. What are the symptoms of intolerance with the drop?



6. Выразите главную мысль текста, используя следующие выражения:

The article is about...

The article deals with...

The aim of the article is to give information on...

The aim of the article is to inform the reader about the following precautions...

## Text II

1. Прочитайте текст “What does “Over-the-Counter” mean?” и скажите на русском языке, что он описывает:

- способ приобретения лекарства;
- способ приёма лекарства;
- показания к применению лекарства.

### What Does “Over-the-Counter” Mean?

#### Part I

#### **Choosing a nonprescription medication: it’s not always as easy as it sounds...**

The next time you go to your local pharmacy to buy an over-the-counter medication, you should know the answers to the following questions before you purchase the product:

Are you sure it’s the right medication for your particular taking?

Can it be taken safely with other medications you are taking?

Are you aware of the potential side effects this drug may cause, by itself or in a combination with other medications?

#### **Why today, more than ever, you need to be an informed consumer.**

Every year dozens of over-the-counter medications are introduced into the marketplace. While this gives you ever wider choice of products to choose from, it can also be confusing. One way to avoid confusion is to be informed. Let’s begin defining some key terms.

#### **What does “over-the-counter” mean?**

The term “over-the-counter”, often referred to as “OTC”, is used to describe a medication that does not require a doctor’s prescription. This means it is suitable for self-treatment and, if taken as directed, is unlikely to produce adverse reactions. If you’re under a doctor’s care, taking other prescription medication, it is important that you seek your doctor’s or pharmacist’s guidance. After all, medication is a serious issue and shouldn’t be treated lightly, but taken seriously. To help you to get the most out of the over-the-counter medications you take, there are certain guidelines that you should keep in mind.

2. Переведите текст, пользуясь следующими словами:

counter – прилавок

purchase – покупать

consumer – потребитель

confusing – озадачивающий

to seek guidance – искать совета

issue – предмет, вопрос

to treat lightly – относиться легкомысленно

3. Составьте вопросы к следующим ответам:

1. Yes, I should know what drug I need.

2. Yes, certainly I should know about indications of this drug.
3. Yes, I must be aware of the possible adverse reactions and side-effects of the drug.
4. No, I seldom buy over-the-counter medications. I always seek the doctor's guidance.
5. Yes, this medication is used for self-treatment if taken as directed.
6. No, we shouldn't take medications lightly.

4. Ответьте на следующие вопросы:

1. What questions should you answer before you purchase over-the-counter preparation?
  2. Why do you have to be a more informed consumer today?
  3. What does "over-the-counter" mean?
  4. How often do you buy drugs over-the-counter?
5. Расскажите на английском языке, какую информацию о приобретении лекарства вы получили.

## REVISION

1. Дайте медицинские термины словосочетаниям приведенным ниже.

1. pertaining to against itching.
2. the study of poisons.
3. treatment with chemicals.
4. pertaining to within a vein.
5. study of drugs.
6. pertaining to under the tongue.
7. pertaining to under the skin.
8. against infection.
9. produced by a physician.
10. pertaining to within a sheath.

2. Дайте определение приведенным ниже терминам.

1. pharmacopeia;
2. idiosyncrasy;
3. synergism;
4. contraindications;
5. anaphylaxis;
6. antidote;
7. drug toxicity;
8. aerosol;
9. side effect.

3. Найдите определения (b) для терминов (a).

- | <b>a)</b>                 | <b>b)</b>  |
|---------------------------|--|
| 1. pharmacy               | <b>a</b> ... combination of two drugs together is equal to the sum of the effects of each;               |
| 2. molecular pharmacology | <b>b</b> ... drug name which gives the chemical formula;   |
| 3. brand name             | <b>c</b> ... combination of two drugs together gives an effect which                                     |
| 4. generic name           | is greater than the sum of each drug alone;  |
| 5. chemical name          | <b>d</b> ... drugs passing into the bloodstream;   |
| 6. cumulation             | <b>e</b> ... building up of drugs in the body due to inability to excrete it as fast as it is taken in;  |
| 7. additive action        | <b>f</b> ... effects of a drug diminish as larger and larger doses are needed to produce desired effect; |
| 8. potentiation           | <b>g</b> ... area to prepare, store and dispense drugs;  |
| 9. tolerance              | <b>h</b> ... official name; legal and noncommercial name;  |
| 10. absorption            | <b>i</b> ... trade name of drug privately owned by manufacturer;   |
|                           | <b>j</b> ... study of drug interaction with cells or sub-cellular entities.                              |

4. Соотнесите способ назначения лекарств в а) с лекарственными средствами и процедурами в б).

**a)**

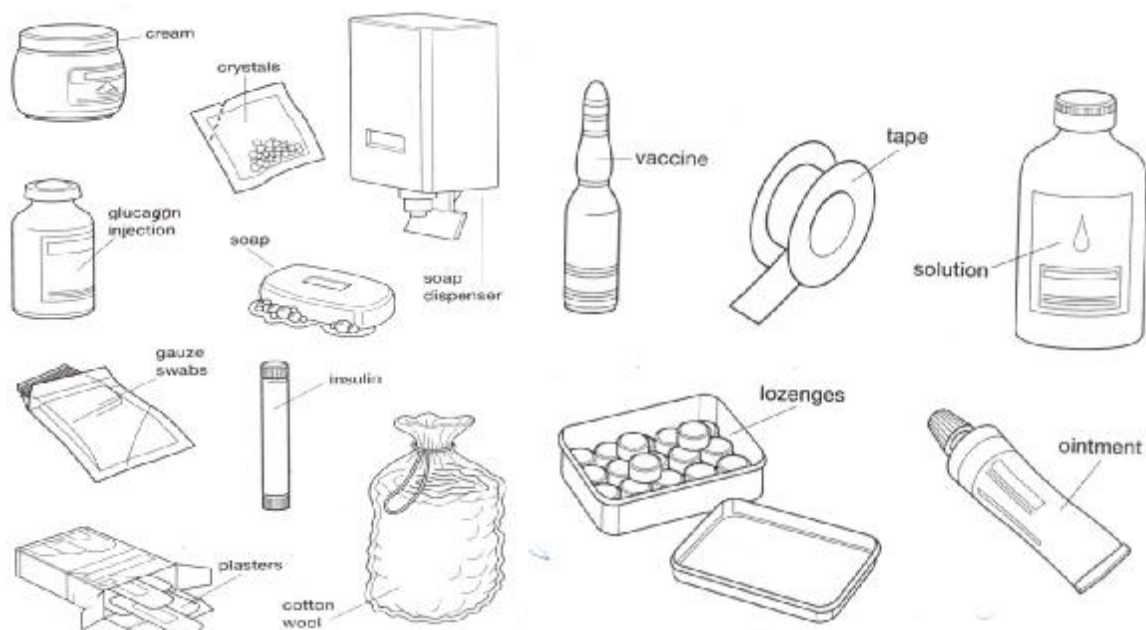
**b)**

- |                  |   |
|------------------|---|
| 1. intravenous   | <b>a</b> ... lotions, creams, ointments.            |
| 2. rectal        | <b>b</b> ... tablets and capsules.                  |
| 3. oral          | <b>c</b> ... used for allergy skin tests.           |
| 4. topical       | <b>d</b> ... lumbar puncture.                       |
| 5. inhalation    | <b>e</b> ... deep injection, usually into buttocks. |
| 6. intrathecal   | <b>f</b> ... suppositories.                         |
| 7. intramuscular | <b>g</b> ... used for blood transfusions.           |
| 8. intradermal   | <b>h</b> ... aerosols.                              |

2. Прочитайте следующие слова:

- cream – крем  
 crystals – кристаллы  
 glucagon injection – ампула для инъекций глюкагона  
 soap – мыло  
 soap dispenser – мыльница  
 gauze swabs – марлевые тампоны  
 insulin – ампула с инсулином  
 plasters – пластырь  
 cotton wool – вата  
 vaccine – ампула с вакциной  
 tape – роликовый пластырь  
 solution – раствор  
 lozenges – пастилки  
 ointment – мазь

### Drug Package



Назовите на английском языке:

- лекарства используемые для инъекций;
- упаковку для кремов, растворов, мазей, пастилок и пластырей.

6. Переведите на английский язык.

1. Мази и кремы втираются для смягчения кожи и в качестве противозудного средства.
2. Раствор инсулина вводится через инъекцию внутримышечно.
3. Марлевые тампоны и вата применяются при хирургических процедурах.
4. Мыло – необходимое средство для удаления микроорганизмов с рук врача.
5. Мыло может находиться либо в мыльнице (soap box) либо в механическом распределителе (mechanical dispenser).
6. Ампулы содержат определённое количество стерильного медикамента.

## Practice to develop communication skills

1. Составьте как можно больше предложений, используя следующие слова:

a. My sister	works at	Chemist`s department Prescriptions drug store Pharmacy chemist`s pharmacist chemist druggist
	works as	
b. A pharmacist A druggist A chemist A Pharmaceutist	prepares explains sticks keeps applies must not confuse	the use of medicines the dose to be taken the labels the prescribed drugs mustard plasters different drugs drugs in drug cabinets
c. A person comes to the chemist`s	to buy to order to have to hand in to receive	sedatives, tonics, laxatives cod liver oil sleeping draughts anticoagulants glucose syringes iodine alcohol needles probes and other things for medical care a medicine made up to prescription
d. Labels Ointments Iodine Alcohol Drug Ammonium chloride Temperature      is Children Medicines         are Remedies Drugs Dose Drug effects Recovery	stuck prepared indicated ordered administered overdosed kept prescribed bought taken may be may produce may cause	the chemist`s department the prescription department right away a bottle orally, per os. the patient the chemist`s the doctor the nurse a label a prescription to sponge the skin vitamins to relieve irritation of the skin strong, weak, mild poisonous, toxic

effects

2. Выскажите согласие или несогласие, используя следующие фразы:

Yes, certainly

Yes, of course

Yes, surely

Yes, you are right

I think that you are entirely right

I fully agree with you (the fact that)

I agree that...

I agree with most of what you say, apart from the question...

I agree that it is possible but...

I object to...

No, you are not right

No, you are wrong

No, I can't agree with that

1. The chemist wrote out a prescription for your friend.
2. The drugs are kept in drug cabinets.
3. The nurse rubbed in a healing ointment into the patient's back to relieve his pain.
4. The patient explained to the chemist how to use the drug.
5. The overdosage of strong effective drugs does not produce unfavourable reactions.
6. The overdosage of poisonous drugs is safe.
7. The patients themselves stick labels on bottles or boxes of drugs.
8. The pharmacist has made the drug to the doctor's prescription.
9. When a man is ill he goes to his local chemist.
10. Cod liver oil is often prescribed for children.
11. Vitamins are used to restore the body immunity.

### At the Pharmacy.

3. Изучите диалог и назовите лекарства, которые хочет купить Каролина.

**Caroline:** Can I have the medication on my prescription?

**Chemist:** Yes, certainly. But remember! It is a powerful medicine. Follow the doctor's prescription strictly. Take it after meals.

**Caroline:** Can I also have some cough mixture and nasal drops?

**Chemist:** Yes, we've got a good cough mixture and effective nasal drops.

**Caroline:** How should I take the mixture?

**Chemist:** Take one tablespoonful 3 times a day after meals.

**Caroline:** And the nasal drops?

**Chemist:** Use 2-3 drops 3-4 times a day. Besides, you may have a mouthwash if your throat is sore.

**Caroline:** Oh, yes. I need it badly. How should I use it?

**Chemist:** Gargle every two hours and you'll feel relief in a couple of days.

**Caroline:** Thank you very much!

4. Найдите в диалоге "At the Pharmacy" английские эквиваленты следующих слов и словосочетаний. Составьте с английскими словами и словосочетаниями предложения по содержанию диалога и о себе.

- лекарство в рецепте;
- сильнодействующий;
- строго соблюдать предписания врача;
- после еды;
- микстура от кашля;
- эффективные капли в нос;
- принимать микстуру;
- одна столовая ложка;
- полоскание;
- полощите ваше горло каждые два часа;
- почувствовать облегчение;
- через пару дней.

5. Просмотрите диалог “At the Pharmacy” и скажите на английском языке, как Каролина должна применять лекарства.

6. Обратите внимание, как Каролина просит продать ей лекарства:

*Can I have the medication on my prescription?  
Can I also have some cough mixture and nasal drops?*

Составьте аналогичные вопросы, используя следующие слова и словосочетания:

<b>a medicine for a headache,</b>	- лекарство от головной боли, для желудка, от
<b>the stomach, a cough, etc.</b>	- кашля и т.д.
<b>a cardiac medicine</b>	- сердечное средство
<b>a sedative</b>	- успокаивающее средство
<b>a tranquilizer</b>	- транквилизатор
<b>some vitamins</b>	- витамины
<b>a laxative</b>	- слабительное
<b>a dropper</b>	- пипетка
<b>a hot water bottle</b>	- грелка
<b>cotton wool</b>	- вата
<b>iodine</b>	- йод
<b>a mouthwash</b>	- полоскание
<b>nasal drops</b>	- капли для носа
<b>an anti-inflammatory</b>	- противовоспалительная
<b>ointment</b>	- мазь
<b>a thermometer</b>	- термометр

7. Просмотрите список слов из предыдущего упражнения и скажите, что обязательно должно быть в домашней аптечке.

8. Обратите внимание, как Каролина спрашивает о применении лекарственных препаратов:

How should I take (use)...?

#### **Работа в парах.**

Спросите, как вам принимать лекарства, указанные в списке в упр.4. Ваш собеседник должен дать рекомендации, используя следующие словосочетания:

- 2 (3) times a day;
- every hour (2, 3, 4 hours);
- before meals;
- after meals;
- at bedtime;
- 2 hours before going to bed;
- 1 tablet;
- 20 – 30 drops;
- 1 spoonful of mixture;
- gargle your throat.



9. Составьте диалог между пациентом и аптекарем по образцу диалога “At the Pharmacy”.
10. Изучите текст “At the Chemist’s”. Дайте ответ на следующий вопрос: What can one buy at the chemist’s beside drugs and things for patient’s care?

### **At the Chemist`s.**

The doctor gave me a prescription to take to the Chemist’s. He prescribed aspirin, in case I got a headache. He also gave me a nerve tonic, as he said I was still suffering from shock. I didn’t have to pay him because medical treatment is free in England. Everyone pays so much per week Health Insurance (so it’s not really free after all). Foreigners who are visiting England have the same benefits as the natives, so for them it’s really free. At the Chemist’s I handed in the prescription and paid for each item on the prescription. This charge which was really resented, was introduced during the Labour Government’s term of office. They said the Health Service could no longer afford to give medicine free.

Whilst I was in the chemist’s, I thought I’d buy some other thing I needed. I ordered some talcum powder, two bars of soap, a tube of brushless shaving cream, a small bottle of olive oil, a toothbrush and a toothpaste, and a packet of razor blades. The goods were wrapped up by the chemist.

### **At the English drug store.**

1. Изучите комментарии к тексту, прочтите текст и переведите его на русский язык.

One day I was playing cricket in the field and was catching the ball, right on the nose. The strike was so heavy that I was given a bloody nose and was in shock. I was given the first medical aid but in a short while I went to the doctor. He gave me a prescription to take to the chemist’s. I had a headache and was suffering from shock so he gave me a nerve tonic and aspirin.

I entered the chemist’s shop and came to the prescription department.

- I: How do you do?  
 Chemist: How do you do. May I please have your prescription... You have two items so you must pay four shillings, two shillings for each item.  
 I: Why is not the chemist’s service free in England?  
 Chemist: When it was free, doctors were wasteful. They prescribed medicines that people didn’t need. Here’s your medicine. Take it three times a day according to the doctor’s advice.  
 I: Thank you but I would like to buy a couple of other things. May I have two bars of soap, a tube of brushless shaving cream and a packet of razor-blades.  
 Chemist: 10 shillings, please... Just a minute. Let me pack your things. Here they are.  
 I: Thank you. Goodbye.  
 Chemist: You are welcome sir. Have a nice day.

### **Комментарии к тексту**

- |                             |                       |
|-----------------------------|-----------------------|
| to play cricket             | - играть в крикет     |
| wasteful                    | - расточительный      |
| to catch a ball on the nose | - получить удар в нос |

item

to be given a bloody nose

you are welcome

- пункт

- получить кровотечение из носа

- пожалуйста

7. Найдите в тексте ответы на следующие вопросы.

1. What happened to the man?
2. Why did he come to the chemist's shop?
3. Why isn't the chemist's service free in England?
4. What was the chemist's advice?
5. What other things did the man buy?

3. Расскажите на английском языке о:

- an accident in a cricket field;
- at the chemist's.

## Texts for reading and translation

### Effects of drugs.

1. Переведите следующие термины, используя словарь.

**Additive** – drug action in which the combination of two similar drugs is equal to the sum of the effects of each.

**Anaphylaxis** – hypersensitive reaction of the body to a drug or foreign organism. Symptoms may include hives, asthma, rhinitis and so forth.

**Antidote** – an agent that is given to counteract an unwanted effect of a drug.

**Brand name (trade name)** – commercial name for a drug, normally the property of the drug manufacturer.

**Chemical name** – chemical formula for a drug.

**Chemotherapy** – treatment of illness using chemicals: usually refers to the treatment for infectious disease, cancer disease or mental illness.

**Contraindications** – factors in the patient's condition which prevent the use of a particular drug or treatment.

**Cumulation** – drug action resulting from the administration of small repeated doses of a drug that are not eliminated from the body quickly.

**Drugs** – chemical substances used as medicines in the treatment of disease.

**Drug toxicity** – harmful and dangerous complications which may arise from the use of drugs are blood dyscrasia, such as aplastic anemia.

**Food and Drug Administration (FDA)** - governmental agency having the legal responsibility for enforcing proper drug manufacture and the clinical use.

**Generic name** – the legal, noncommercial name for a drug.

**Hospital Formulary** – reference listing of drugs and their appropriate clinical usage found in most hospitals and libraries; published by the American Society of Hospital Pharmacies.

**Idiosyncrasy** – a rare type of toxic effect produced in a peculiarly sensitive individual but not seen in most patients.

**Molecular pharmacology** – study of the interaction of drugs or cells or sub-cellular entities such as DNA, RNA or enzymes.

**National Formulary (N.F.)** – large up-to-date list of drugs and official standards for their manufacture; issued by the American Pharmaceutical Association.

**Parenteral Administration** – administration of drugs by injection into the skin, muscle or veins (places other than the digestive tract).

**Pharmacodynamics** – study of how drugs achieve their effects in living organisms, including their absorption, metabolism and excretion from the living system.

**Pharmacology** – the study of drugs, their nature, origin and effect on the living organism.

**Physicians Desk Reference (PDR)** – reference book listing drug products; published privately.

**Potentialiation** – a type of drug action in which the combined effect of using two drugs together is greater than the sum of the effects of using each one alone; also called synergism.

**Side effect** – a toxic (harmful) effect which routinely results from the use of a drug.

**Suppositories** – cone-shaped objects containing medication which are inserted into the rectum, vagina or urethra, from which the medication is absorbed into the bloodstream.

**Synergism** – type of drug action in which the effect of two drugs acting together is greater than the sum of each acting alone; Potentialiation.

**Tolerance** – condition of becoming resistant to the action of a drug so that larger and larger doses must be given to maintain the desired effect.

**Toxicology** – study of harmful substances and their effect on living organisms.

**United States Pharmacopeia (USP)** – an authoritative list of drugs, formulas and preparations which sets a standard for drug manufacturing and dispensing.

**Intramuscular Injection (I.M.)** – This injection is given into the muscle, usually into the buttocks. When drugs are irritating the skin or when a large volume of long-acting drug is to be given, I.M. injections are advisable.

**Intravenous Injection (I.V.)** – This injection is given directly into the veins. It is given when an immediate effect from the drug is desired or when the drug cannot be given into the tissue. Good technical skill is needed in administering this injection, since leakage of drugs into surrounding tissues may result in damage of tissues.

**Intrathecal injection** – This injection is made into the sheath of membranes (meninges) which surround the spinal cord and brain. The effects of the drug so administered are usually limited to the central nervous system and intrathecal injections are often used to produce anesthesia.

**Intracavitary Injection** – This injection is made into the body cavity, as, for example, into the peritoneal or pleural cavity.

**Inhalation** - In this method of administration, vapours or gases are taken into the nose or mouth and are absorbed into the bloodstream through the thin walls of the air sacs in the lungs. Aerosols (particles of the drug suspended in air) are administered by inhalation.

**Idiosyncrasy.** In some instances, a patient may display unexpected effects following the administration of a drug. Idiosyncratic reactions are produced in very few patients taking a drug, but may be life-threatening in those few instances. For example, in some individuals penicillin is known to cause an idiosyncratic reaction such as anaphylaxis (acute type of hypersensitivity, including asthma and shock).

**Topical application** – This is the local external application of drugs on the skin or mucous membranes of the mouth or other surface. It is commonly used to accelerate the healing of abrasions for antiseptic treatment of a wound, and as an antipruritic (against itching). Topical application may also include administration of drugs into the eyes, ears, nose and vagina. Lotions are used most often when the skin is moist or “weeping” and ointments and creams are used when the lesions are dry.

2. Переведите текст, используя словарь. Найдите в тексте ответы на следующие вопросы:

1. Why do people take drugs for no medical reason?
2. Is drug abuse dangerous?
8. Why do sports authorities carry out blood and urine tests?

### **So what can go wrong?**

Sadly, an increasing number of people, especially young adults, use medicines, drugs and other preparations for different purposes. This has led to drug abuse which is a growing problem in our society. Even in sport some men and women are taking drugs to improve their performance. Many sports authorities now have to carry out routine tests on blood and urine samples of sports people to make sure that they are not taking unnecessary drugs.

The medicines are sometimes available on prescription from doctors but only for sound medical reasons. It is illegal to obtain them without prescription. Taking products like these regularly without a doctor's guidance and in large quantities can cause **addiction** and may even lead to early death.

### **Why do people take drugs?**

Most of us have taken medicines at some time, either prescribed by a doctor or bought from the chemist. But why do people take drugs when there is no clear medical reason for doing so, in other words, when they do not seem ill?

3. Переведите текст, используя словарь. Найдите в тексте ответы на следующие вопросы:

1. What is a cataract?
2. How is it usually remedied?

Medford, Oregon. A drug used in Europe as an alternative to surgery for cataracts in the early stages has been approved for experimental use in the United States. European doctors and pharmacologists contend that it is safe and effective means of halting the growth of certain cataracts.

The drug, called bendazac, was patented in the late 1960's by an Italian physician, Francesco Angelini. In Europe, it has been in general use for more than five years, but there is no anticataract drug approved for use in the United States.

Although cataracts, or clouding of the lenses of the eyes, can often be remedied by surgery, bendazac "is the real hope that there will be a medical solution to cataracts", said Dr. John Retzlaff, an Oregon ophthalmologist who is one of five physicians conducting US research on the drug.

4. Изучите аннотацию, используя словарь. Скажите на английском языке, в каких случаях применяется данный лекарственный препарат. Сформулируйте инструкцию по его применению.

### **DEXONA INJECTION**

Dexamethasone Sodium Phosphate is a water soluble inorganic ester of dexamethasone.

#### **PRESENTATION:**

Each ml. of Dexona Injection 2 ml. Vial contains 4.4 mg of Dexamethasone Sodium Phosphate U.S.P. (as the disodium salt) equivalent to 4 mg of Dexamethasone.

#### **PHARMACOLOGY:**

Dexamethasone is a synthetic adrenocortical steroid possessing basic glucocorticoid actions and effects. It is among the most active members of its class, being about 25 to 30 times as potent as hydrocortisone. At equivalent anti-inflammatory doses, dexamethasone almost completely lacks the sodium retaining property of hydrocortisone and closely related derivatives of hydrocortisone. Dexona produces rapid response when compared with less soluble preparations. Plasma steroid levels increase noticeably within five minutes after intramuscular or intravenous injection. Dexona is primarily used for its potent anti-inflammatory effects in disorders of many organ systems. In addition, it modifies body's immune response to diverse stimuli.

#### **INDICATIONS:**

##### **By the intramuscular or intravenous route:**

**Allergic states:** Bronchial Asthma including status asthmaticus, drug hyper sensitivity reactions, urticarial transfusion reactions, serum sickness, laryngeal oedema, anaphylaxis, contact dermatitis, acute dermatitis, seasonal or perennial allergic rhinitis.

**Shock:** Injection Dexona is recommended for the adjunctive treatment of shock where high doses of corticosteroids are needed; severe shock or hemorrhagic, traumatic, surgical or septic origin. Treatment with injection Dexona Phosphate is an adjunct to and not a substitute for specific supportive measures that the patient may require e.g. restoration of circulating blood volume, correction of fluid and electrolyte balance, oxygen, surgical measures and antibiotics.

**Cerebral oedema:** Cerebral oedema associated with primary or metastatic brain tumours, cerebrovascular accidents (acute strokes) involving the cerebral cortex. Also in the pre-operative

preparation of patients with increased intracranial pressure secondary to brain tumours and for palliation of patients with inoperable or recurrent brain neoplasm.

**Miscellaneous:** Primary and secondary adrenocortical insufficiency, military tuberculosis chemotherapy, rheumatoid arthritis, connective tissue disorders, nephrotic syndrome, lymphatic leukemia and other steroid responsive conditions:

**By intra-articular or soft-tissue injection:** An adjunctive therapy for short-term administration (to support patients during an acute episode or exacerbation) in:

- Synovitis or osteoarthritis
- Rheumatoid arthritis
- Acute and sub-acute bursitis
- Acute gouty arthritis
- Acute nonspecific tenosynovitis
- Post-traumatic osteoarthritis

**CONTRAINDICATIONS:**

Systemic fungal infections.

**ADMINISTRATION AND DOSAGE:** By slow intravenous (4 to 5 minutes) or intramuscular injection or by prolonged intravenous infusion, the dosage and the rate of the injection depending essentially on the nature of the case being treated. The duration of the treatment is generally short (1 to 3 days) and is followed by oral therapy. Any infectious syndrome calls for the simultaneous administration of an antibiotic. Generally 1 to 5 ml. (4 mg. to 20 mg.) can be given 3 to 4 times in 24 hours. After initial improvement single dose of 0.5 ml. to 1 ml. (2 mg. to 4 mg.) is to be repeated if required. The dose of intra-articular and soft tissue or local injection varies from 1/10 ml to 2 ml at intervals varying from 2 to 3 days to 1 to 2 weeks.

**PRECAUTIONS:**

Drug induced secondary adrenocortical insufficiency may result from too rapid withdrawal of corticosteroids and may be minimized by gradual reduction of dosage. Corticosteroids may mask some signs of infections and new infections may appear during their use. Corticosteroids may activate latent amebiasis.

Therefore, it is recommended that latent or activate amebiasis be ruled out before initiating corticosteroid therapy in any patient who has spent time in the tropics or any patient with unexplained diarrhoea. Prolonged use of corticosteroids may produce posterior subcapsular cataracts and glaucoma with possible damage to the optic nerves and may enhance the establishment of secondary ocular infections due to fungi or viruses.

**USAGE IN PREGNANCY:**

Since adequate human reproduction studies have not been done with corticosteroids, the use of these drugs in pregnancy, nursing mother or woman of child bearing potential requires that the possible benefits for the drug be weighed against the potential hazards to the mother and embryo or foetus.

**ADVERSE REACTIONS:**

Fluid and Sodium retention, hypertension, muscle weakness, osteoporosis, peptic ulcer with possible subsequent perforation and hemorrhage, pancreatitis, impaired wound healing, convulsion, increased intracranial pressure with papilloedema (Pseudotumour cerebri) usually after treatment, vertigo, headache glaucoma, development of cushingoid state, menstrual irregularity manifestations of latent diabetes mellitus, negative nitrogen balance due to protein catabolism, hypersensitivity.

**Treatments of over-dosage:** Anaphylactic and Hypersensitivity reactions may be treated with adrenaline, positive-pressure artificial respiration and aminophylline. The patients should be kept warm and quiet.

**PRESENTATION:**

In vial of 2 ml.

5. Прочитайте аннотацию и расскажите на английском языке о:

- преимущества препаратов пенициллиновой группы;
- показаниях к применению биклиноциллина;
- возрастных группах, и ограничениях в дозировках.

### BICLINOCILLINE

1,000,000 I.U.

**Medium-sustained action:** Penicillin can be employed in patients of any age: no lower limits. A penicillin preparations with a rapid and sustained action which ensures effective blood levels for several days.

**Indications:** In all infectious organisms sensitive to penicillin. Prophylaxis against complications from infectious diseases and relapses of rheumatic fever. Syphilis.

**Contra-indications:** Allergy to penicillin and cephalosporin antibiotic.

**Dosage:** Adults: 1 to 2 ampules by injection. Children 1/3 to 1 ampule by injection. Infants: 1/6 to S ampule by injection. Strictly by the deep I.M. route.  
According to the base: 1 injection only. 1 injection per day. 1 injection every 2 or 3 days.

**Packaging:** Bottle of 1,000,000 I.U. containing: Benethamine penicillin 600,000 I.U. Sodium penicillin 400,000 I.U. accompanied with a 3 ml ampule of hypo solution.

6. Прочитайте аннотацию “Polysilane gel” и расскажите на английском языке о:

- свойствах препарата;
- показаниях к его применению.

### POLYSILANE GEL

A gastric protector

**Properties:** Major spreading powers: polysilane emulsified in a hydrophilic gel completely covers the gastric mucosa. Resistant to gastric secretions: comparable to an artificial mucosal covering of the gastric epithelium and thereby restores the protection against gastric secretions of the hydrochloric and peptic type, and provides protection against irritating foods and medications.

**Indications:** Gastritis of any etiology and specifically those from medications, alcohol and tobacco. Gastric burning, esophagitis, heartburn and hiatal hernia.

**Dosage:** One tablespoonful before each meal, and if necessary, upon pain. The gel has the very agreeable taste mucosa, it reinforces the raspberry jelly. Polysilane gel does not induce constipation and is not radio-opaque.

**Packaging:** Tube of 170 grams.

**Composition:** Methyl polysiloxane (polysilane) 15g Sweetened and flavored excipient s.q.f. 100g (Sorbic acid 0.10g: sodium propyl HB, 0.05g).

7. Прочитайте и переведите текст “Choosing an analgesic”, используя следующие слова:

- |                            |                                    |
|----------------------------|------------------------------------|
| mild                       | - слабый, мягкий                   |
| moderate                   | - умеренный                        |
| to offer                   | - предлагать                       |
| reduce fever               | - снизить жар                      |
| cold and sinus medications | - лекарства от простуды и синусита |
| is unlikely to cause       | - вряд ли вызовет                  |
| to interact                | - взаимодействовать                |
| blood-thinning medication  | - лекарство, разжижающее кровь     |

stroke

- инсульт

8. Найдите в тексте информацию о:

- цели применения анальгетиков;
- о побочных действиях ацитаминофена;
- чем аспирин опасен;
- показания к применению аспирина.

9. Скажите на английском языке, какую информацию вы получили о ацитоминофене и аспирине.

### Choosing an Analgesic

Over-the-counter analgesics – medications indicated for the relief of mild-to-moderate pain – represent one of the largest categories of nonprescription medications, and therefore offer a wide choice of products.

#### *Acetaminophen*

Acetaminophen is used to relieve mild-to-moderate pain and reduce fever. Acetaminophen can be found in many over-the-counter cold and sinus medications.

#### *About Acetaminophen...*

Acetaminophen (Extra Strength TYLENOL) is rarely associated with side effects, and is unlikely to cause gastric irritation that can be caused by aspirin, aspirin-containing products, or even ibuprofen. Extra Strength TYLENOL, a single-ingredient analgesic, is also less likely to interact with other medications you may be taking. Like aspirin and ibuprofen, acetaminophen can be found in many over-the-counter cold and sinus medications. If you are under your doctor's care and taking any medications, prescription and/or over-the-counter, seek your doctor's advice.

#### *Aspirin*

Aspirin has been used for many years to relieve mild-to-moderate pain, and to reduce fever. Aspirin can be also found in many other over-the-counter products such as cold and sinus medications. So be sure to read the ingredients portion of the label, especially if your doctor has told you to avoid a specific ingredient, such as aspirin.

#### *About Aspirin*

Aspirin can cause stomach irritation and sometimes bleeding. If you have an ulcer, experience bleeding disturbances, or are taking an arthritis or blood-thinning medication, you should avoid aspirin use. Many doctors advice their patients to take low-dose aspirin to help reduce the risk of heart attack or stroke. Your doctor has chosen this therapy because it has been shown to reduce the risk of heart attack or stroke. For the greatest success, your doctor's instructions must be followed closely. Everyday, take only the amount of aspirin your doctor has recommended.



10. Прочтите и переведите текст "Cardiovascular drugs", используя словарь. Скажите на английском языке, какие сердечно - сосудистые препараты описаны в тексте.

### Cardiovascular drugs.

These drugs may be divided into three groups: drugs that affect the heart; drugs that affect blood pressure; and drugs that prevent blood clotting.

**Drugs That Affect the Heart.** Drugs may affect the heart in two major ways: changing the rate and forcefulness of the heartbeat and altering the rhythm of the heartbeat.

The most common drugs used to change the rate and forcefulness of the heartbeat are the digitalis glycosides (cardiac glycosides). These drugs are used to treat patients with heart failure (when the heart is not contracting with sufficient force). Most of the digitalis glycosides are obtained from the leaf of the digitalis (foxglove) plant, either as a crude mixture or as the purified glycoside from the leaf of the plant.

The important effects of the digitalis glycosides are the strengthening of the myocardium (heart muscle) and the slowing of the rate of contraction of the heart. Examples of digitalis glycosides are: digitalis, digoxin, and digitoxin.

Other drugs, which belong to the general class of sympathomimetics, are used to increase heart rate and the force of contraction. These include isoproterenol and epinephrine.

Drugs used to correct abnormal heart rhythm are called **antiarrhythmics**. Examples of these drugs are quinidine, procainamide, lidocaine (Xylocaine), and propranolol. These drugs help restore the heart rhythm to a regular cycle by depressing ectopic (outside, unwanted) myocardial impulses. Quinidine comes from the bark of the cinchona tree and is the primary drug used to treat arrhythmias. Quinidine decreases the number of times the heart muscle can contract in a given period of time. The cocaine derivatives procainamide and lidocaine (Xylocaine) are also useful in controlling abnormal cardiac rhythms.

**Drugs That Affect Blood Pressure. Vasodilators** are drugs which relax the muscles of vessel walls, thus increasing the size of blood vessels. These drugs are used in treating blood vessel diseases, heart conditions, and high blood pressure (hypertension). Blood flows more freely and blood pressure falls as blood vessels open and become dilated. Examples are sympatholytics (reserpine, guanethidine, and alpha-methyldopa) and other agents such as hydralazine.

**Nitrites** are drugs which are also used as vasodilators. Examples of nitrite drugs are glyceryl trinitrate (nitroglycerin) and amyl **nitrite**. Nitroglycerin dilates all smooth (involuntary) muscles in the body, but has a greater effect on the muscles of the coronary blood vessels. The relaxation of the muscle fibers around the blood vessels of the heart increases the width of these heart vessels and increases blood flow to the heart muscle. The pain (angina pectoris) caused by a lack of adequate blood flow to the heart is relieved by placing nitroglycerin under the tongue; from there the drug is quickly absorbed into the bloodstream. The other nitrite drugs work in a manner similar to that of nitroglycerin. A third type of drug used to lower blood pressure is called a **diuretic**, an agent which promotes excretion of fluid and a shrinkage of the volume of blood within the vessels. An example of this type of drug is chlorothiazide (Diuril).

**Vasoconstrictors** are drugs which constrict muscle fibers around blood vessels and narrow the size of the vessel opening. They may act directly on the muscles of blood vessels or stimulate a region in the brain which relays the message to the vessels. Vasoconstrictors are needed to raise blood pressure, increase the force of heart action, and stop local bleeding. Examples of vasoconstrictor drugs are epinephrine (adrenaline), vasopressin, and Aramine (metaraminol).

**Drugs That Prevent Blood Clotting.** These drugs are called anticoagulants. They are used to prevent the formation of clots in veins and arteries. These clots may cause occlusion (thrombosis) of the blood supply to a vital organ, such as the brain, or may travel from their point of origin to a new site and produce a sudden occlusion of a distant organ (embolism).

**Anticoagulant drugs.** Heparin is an anticoagulant chemical substance found normally in human cells in the liver and lung. However, heparin can be made synthetically for commercial preparations by extracting it from the lungs of animals. When given intravenously or intramuscularly, heparin prevents the formation of clots within vessels.

11. Прочтите и переведите текст, используя словарь и комментарии к тесту. Найдите в тексте ответы на следующие вопросы:

1. Why do many addicts get money in a dishonest way?
2. When does infection get into the bloodstream? How?
3. What can “sniffing” addicts damage?
4. What does treatment of drug addiction depend on?

### **Drug addiction**

Treatment of drug addiction depends partly on what drug the person is addicted to, because it is not safe to withdraw some drugs suddenly. Whether drug addicts can break the habit completely also depends on their personality and lifestyle and on how much support they have from other people. However, treatment nearly always aims to stop the drug-taking completely. It starts either by gradually cutting down or by suddenly withdrawing the drug. Either of these methods is always very difficult for an addict. At this stage they always need a great deal of comfort and help. Occasionally a doctor prescribes small amounts of a medicine similar to the drug the person is addicted to. This method prevents withdrawal symptoms and is safer for the addict. However, it is normally only used with older addicts for whom other methods have failed.

Nick is now 19. He left school at 16 with three GCSEs (examinations for General Certificate of School Education) and was accepted on a YTS training scheme at a large garage. The YTS year went very well and Nick was given a full time job as a trainee motor mechanic.

Suddenly there was more money in his pocket at the end of the week and Nick started going out to discos and clubs with his girlfriend Linda. He found it very difficult to lead a full social life and hold down his hard-won job. Linda was out of work and could sleep all day.

Some of Linda's friends introduced Nick to speed which he could afford now he had a job. It seemed to be the answer to all his problems and gave him a real lift after a late night or a heavy day at work. But after about six months Nick found that he needed speed not only to give him a lift but also just to get through the day.

One of Linda's friends was a pusher and he suggested that Nick really needed something stronger like heroin. At first he was worried and refused it but he met lots of 'happy' customers who all said that all the talk about 'H' was really silly and that the oldies were against it because they didn't want you to enjoy yourself.

Nick was convinced and started 'shooting up'. Heroin was much more expensive than speed and he couldn't afford to buy as much as he needed. The only way to pay for it was to take money from his boss. Heroin also started to affect Nick's personality. Instead of his usual easy-going, helpful self he became slow and listless. Eventually, his employer found him stealing money and, already dissatisfied with his work, he gave him the sack and told the police.

The long term effects of dependence are usually shown on films or television as being very unpleasant and often associated with a criminal life. This kind of life is usually caused partly by the drugs which are being taken and partly by other factors. The drugs sometimes change addicts' behaviour so that they no longer take care of themselves, for example, they stop eating properly or washing. In addition the cost of buying enough drugs to avoid withdrawal symptoms can mean that an addict has to get money dishonestly.

Taking drugs can cause other health hazards. Addicts who inject themselves may become careless about hygiene and use dirty needles and syringes. They are then more likely to introduce infections into their bloodstreams. Addicts who sniff substances can easily damage the delicate inner lining of the nose, and some even manage to destroy the hard tissue in between the two nostrils. They can also damage their kidneys, liver and central nervous system.

Two weeks later Nick's parents' house was busted. His parents couldn't believe what had happened and threw him out. Without a job or home, Nick wandered about sleeping rough and in hostels for two weeks before deciding to go to a doctor to get help. The doctor referred him to a special center where he is now having treatment.

### Комментарии к тесту

to be addicted to	-	пристраститься к чему-л.
to sniff substances	-	нюхать ядовитые вещества
to break the habit	-	бросить вредную привычку
to shoot up	-	вводить наркотик внутривенно, «колоться»
speed	-	«спид», наркотик из группы стимуляторов
pusher	-	торговец наркотикам
to give sb the sack	-	уволить
to sleep rough	-	ночевать под открытым небом

12. Прочтите и переведите текст “ How does a medicine or drug act on the body”, используя словарь и комментарии к тесту. Найдите в тексте ответы на следующие вопросы:

1. What were many drugs and medicines produced for?
2. What controls chemical reactions in our bodies?
3. How do antibiotics work?
4. Are there any drugs for incurable diseases?

### How does a medicine or drug act on the body?

There are many different diseases and medical conditions and thousands of medicines and drugs have been produced to help people who need treatment. Each has its own way of working and we each react differently so the process is very complex and difficult to understand. Here are some examples of ways in which medicines and drugs work:

#### Aspirin

**Enzymes** are large **protein molecules** which control the chemical reactions in our bodies. When cells are injured, an enzyme makes substances called **prostaglandins** which aggravate **inflammation**, fever and pain. Aspirin works by blocking the action of the enzyme which makes the prostaglandin and at the same time relieving the pain and inflammation in other ways.

#### Antibiotics

As a part of the body's defence against disease it produces **antibodies** to invading bacteria, but if these are not able to combat the disease, medicines may have to be taken as well. Penicillin and other antibiotics kill invading bacteria by weakening the bacterial cell wall and causing the bacteria to swell and burst. Human **cell membranes** have a different chemical structure from the bacteria and are not damaged by these drugs.

Penicillin also helps to reduce the bacterial cell division, and this slowly helps defeat the invading bacteria.

The correct **dosage** of the antibiotic must be taken and the whole course of treatment followed. This is because problems can arise if antibiotics are not used according to doctor's instructions. The bacteria can become **resistant** and so the drug gradually becomes less effective.

#### Drugs for incurable diseases

Some medicines and drugs are used to treat **chronic** conditions which have no cure, such as diseases of the central nervous system. By controlling or reducing the symptoms of the disease, medicines and drugs can improve the sufferer's quality of life. For example, Parkinson's disease affects over 100,000 people in Britain, most of them elderly. It causes muscle stiffness and severe shaking. The drug Levodopa reaches the brain through the blood system and helps to improve balance and reduce the shaking. Sometimes drugs which act on the central nervous system have unwanted side effects on the person's personality and emotional state. Some people feel depressed and 'not themselves'. However, these side effects can usually be controlled by using other drugs and for most people relief from the symptoms of the disease is the most important effect.

### Комментарии к тесту

body's defenses against disease	- защита организма от заболевания
to reduce	- сокращать
to become resistant	- становиться стойким
to control by something	- контролировать при помощи чего-то
to aggravate	- ухудшать, усиливать

13. Прочтите и переведите текст, используя словарь. Скажите на английском языке, какие типы нейрофармакологических препаратов описаны в тексте.

### Neuropharmacologic drugs

These drugs act on the nervous system. There are two major types of neuropharmacologic drugs: autonomic drugs and central nervous system drugs.

**Autonomic Drugs.** These drugs influence the body in a manner similar to the action of the parasympathetic and sympathetic nerves of the autonomic nervous system.

The function of the sympathetic nerve network in the body is (1) to stimulate the flow of epinephrine from the adrenal gland, (2) to increase heart rate, (3) to constrict blood vessels, and (4) to dilate air passages.

Drugs which mimic the action of sympathetic nerves are called sympathomimetic or adrenergic agents. They stimulate the flow of epinephrine, increase heart rate, constrict blood vessels, and dilate air passages. Examples of sympathomimetic drugs are epinephrine (adrenaline) and norepinephrine (noradrenaline). These drugs are the same chemicals which are naturally released from the sympathetic nerve endings and adrenal glands during times of stress emergency.

Drugs which mimic the action of parasympathetic nerves are called parasympathomimetic or cholinergic agents. These drugs oppose the actions of the sympathomimetic (adrenergic) drugs, which means that they slow down heart rate, constrict air passage, and stimulate involuntary muscles in the digestive tract and other organs. The parasympathetic agent which is produced normally at all times by parasympathetic nerve endings is called acetylcholine. Acetylcholine, unlike a drug such as epinephrine (adrenaline), cannot be administered to a patient. This is because there are enzymes in the body called cholinesterases which inactivate acetylcholine almost as quickly as it is given. Other cholinergic drugs are, therefore, chosen as exogenous agents. One example of a cholinergic drug similar to acetylcholine in effect but longer lasting in the body is bethanechol. Bethanechol (Urecholine) is used in postoperative urinary retention to include the constriction of the urinary bladder, aiding urination.

Other autonomic drugs are parasympatholytic agents which oppose the effect of parasympathetic nerve stimulation. Examples of these drugs are atropine and belladonna, which

are also known as antispasmodic drugs because they act to relax the muscles in the gastrointestinal tract and decrease peristalsis.

Sympatholytic agents, which block the action of the sympathetic nervous system, include reserpine, guanethidine, and phentolamine. These drugs are used to decrease blood pressure and protect against the excess of epinephrine secretion liberated by pheochromocytomas (tumors of the adrenal gland).

14. Прочтите и переведите текст, используя словарь. Скажите на английском языке, какое действие оказывают антигистаминные средства на организм человека.

### **Antihistamines**

These are drugs which block the action of chemical called histamine which is found in the body. Histamine is produced by most cells and especially by sensitive cells under the skin and the respiratory system. When certain foreign antigens (protein substances which lead to the production of antibodies) enter the body, antibodies are made by cells. These antibodies attempt to inactivate, or neutralize, the offending antigens and, as a result, a chemical called histamine may be released by other cells. Histamine causes the characteristic allergic symptoms when it is liberated from cells: itching, hives, allergic rhinitis, bronchial asthma, high fever, and, in some very serious cases, anaphylactic shock.

Antihistamines, by blocking the action of histamine in the body, can relieve the allergic symptoms which histamine produces. Antihistamines cannot cure the allergic reaction, but they can relieve its symptoms. Some potentially dangerous side effects of antihistamines are drowsiness, sedation, and blurred vision. Examples of antihistamines are diphenhydramine (Benadryl), meclizine (Bonamine), chlorpheniramine (Chlor-Trime-ton) and tripeleminamine (Pyribenzamine).

### **Texts for written translation.**

Прочтите тексты и выполните их письменный перевод на русский язык с использованием словарей.

### **Your Medicine Cabinet Needs an Annual Checkup, too**

What kind of medicines and other health products should you keep on hand to treat minor ailments or injuries? More importantly, where's the best place in the house to keep them? Here's what doctors, nurses and pharmacists at FDA recommend:

#### Must-Have's for Home Medical Care

<b>Closet</b>	<b>Medicine Cabinet</b>
·Analgesic (relieves pain)	·Adhesive bandages
·Antibiotic ointment (reduces risk of infection)	· Adhesive tape
·Antacid (relieves upset stomach)	·Gauze pads
·Antihistamine (relieves allergy symptoms)	·Tweezers
·Syrup of ipecac (induces vomiting)	·Thermometer
·Fever reducer (adult and child)	·Calibrated measuring
spoon	
·Hydrocortisone (relieves itching and inflammation)	·Alcohol wipes
·Antiseptic (helps stop infection)	·Disinfectant

Contrary to age-old tradition, a bathroom medicine cabinet is not a good place to keep OTC (over-the-counter or nonprescription) or prescription medications. Showers and baths create heat and humidity that can cause some drugs to deteriorate rapidly. A cool, dark and dry place such as the top of a linen closet, preferably in a locked container and out of a child's reach, is best for storing medicines.

- Clean out your bathroom medicine cabinet and the area where you store medicines at least once a year.

- Discard outdated products, damaged containers, and old supplies.

- Restock supplies that are low or missing.

- Keep all items in their original containers so that no one takes the wrong one.

Taking these measures can't prevent illness or accidents, but they can help you be prepared to treat such minor emergencies promptly and effectively.

### **Storing medicine safely**

Many people store their medications in the bathroom. But this popular spot is actually one of the worst places to keep medicine. Bathroom cabinets tend to be warm and humid, an environment that speeds up a drug's break down process.

This is especially true for tablets and capsules. Unnecessary exposure to heat and moisture can cause them to lose their labeled expiration date. For example, a warm, muggy environment can cause aspirin tablets to break down into acetic acid (vinegar) and salicylic acid, both of which are potential stomach irritants. Instead, keep medicines in a cool, dry place and out of a child's reach.

If you must keep them in the bathroom, always keep the containers tightly closed. Never repackage them. If medicines are to be stored in a kitchen, store them away from the stove, sink, and any heat-releasing appliances. In rare case, medicine that is improperly stored can actually become toxic. To prevent danger, follow these tips:

- Always store drugs out of the reach of children.

- Don't leave the cotton plug in a medication bottle. Doing so can draw moisture into the container.

- Check the expiration date each time you take a drug. Throw out and replace any medications that are out of date.

- Never use a medication that has changed color, consistency, or odor, regardless of the expiration date. Throw away capsules or tablets that stick together, are harder or softer than normal, or cracked or chipped.

- Ask your pharmacist about any specific storage instructions.

- Travelers need to follow additional tips for safe storage of their medications:

- Before leaving home, list all your medications, as well as the name and number of your pharmacist and doctor.

- Pack your medicine in a carry-on bag instead of a checked suitcase.

- Bring an extra supply with you in case your return is delayed.

- Never leave medicines in an automobile, where heat can rapidly destroy the drug.

- Watch time changes. Set a separate watch to your usual time so you can remember when to take any medication.

### **Pharmacology**

**Pharmacology** (in Greek: *pharmakon* is drug, and *logos* is science) is the study of how chemical substances interact with living systems. If these substances have medicinal properties, they are referred to as **pharmaceuticals**. The field encompasses drug composition, drug properties, interactions, toxicology, and desirable effects that can be used in therapy of diseases.

Development of medication is a vital concern to medicine, but also has strong economical and political implications. To protect the consumer and prevent abuse, many governments regulate the manufacture, sale, and administration of medication. In the United States, the main regulatory body is the Food and Drug Administration.

Pharmacology as a science is practiced by pharmacologists. Subdisciplines are *clinical pharmacology* (the medical field of medication effects on humans), *neuro- and psychopharmacology* (effects of medication on behavior and nervous system functioning), and *theoretical pharmacology*.

The study of medicinal chemicals requires intimate knowledge of the biological system affected. With the knowledge of cell biology and biochemistry increasing, the field of pharmacology has also changed substantially. It has become possible, through molecular analysis of receptors, to design chemicals that act on specific cellular signaling or metabolic pathways by affecting sites directly on cell-surface receptors (which modulate and mediate cellular signaling pathways controlling cellular function).

A chemical has, from the pharmacological point of view, various properties. Pharmacokinetics describes its behavior in the body – particularly in the blood (e.g. its half-life and volume of distribution), and pharmacodynamics relates its behavior in the blood to its effects (desired effects or toxic side-effects).

When describing the pharmacokinetic properties of a chemical, pharmacologists are often interested in ADME:

**Absorption** – How is the medication adsorbed (through the skin, the intestine, the oral mucosa)?

**Distribution** – How does it spread through the organism?

**Metabolism** – Is the medication converted chemically inside the body, and into which substances? Are these active? Could they be toxic?

**Excretion** – How is the medication eliminated (through the bile, urine, breath, skin)?

Medication is said to have a narrow or wide *therapeutic index* or *therapeutic window*. This describes the ratio of desired effect to toxic effect. A compound with a narrow therapeutic index (close to 1) exerts its desired effect at a dose close to its toxic dose. A compound with a wide therapeutic index (greater than 5) exerts its desired effect at a dose substantially below its toxic dose. Those with a narrow window are more difficult to dose and administer, and may require therapeutic drug monitoring (examples are warfarin, some antiepileptics, aminoglycoside antibiotics). Most anti-cancer drugs have a narrow therapeutic margin: toxic side-effects are almost always encountered at doses used to kill tumours.

### **Classification**

Medication can be usually classified in various ways, e.g. by its chemical properties, mode of administration, or biological system affected. An elaborate and widely used classification system is the Anatomical Therapeutic Chemical Classification System.

## **Antimicrobial, antiviral and antiparasitic remedies**

Remedies having antimicrobial action are divided into two groups. The first group includes drugs, which have no selective antimicrobial action. They eliminate most microorganisms. They include antiseptics and remedies for disinfection.

Antiseptics are the drugs of external use, usually. They are applied on the covering tissues (skin, mucous). Some antiseptics are used to make an influence on the microorganisms, localizing in the gastrointestinal tract and urinary system. According to their concentration they may have bacteriostatic or bactericidal action.

Disinfection drugs are used for disinfection of medical equipment, apparatuses, rooms and patient's excretions. They have an immediate effect. They are used, as a rule, in bactericidal concentrations and applied to prevent infection spreading.

The ultimate board between the antiseptics and disinfecting agents is not a given thing, because many remedies used in certain amounts act as antiseptics and in greater amounts – as disinfecting agents.

The second group includes antimicrobial drugs of selective action, which belong to the chemotherapeutical drugs. The influence on the concrete kinds of microorganisms is typical for this group of remedies. The main characteristic of these is a great scope of therapeutical action. The last determines using the meaning of the diapason between the bacteriostatic concentrations and the concentrations, toxic for the microorganisms. The chemotherapeutical remedies are for treating and prophylaxes of infections and also for the sanitation of the carriers of infection.

### **How to use the Ginseng Root**

Ginseng is a perennial herbaceous plant. It grows in the eastern parts of our country. It was found, to contain substance of the glycoside series: saponin, panaquilene; in addition to these its roots contain other oils-panacene and also panaxic acid, ginsenin, a small amount of alkaloids of unknown composition, cane sugar, phytosterols, resins, ferments (amylase and phenolase) vitamins B1, and B 12.

Ginseng preparations have been shown experimentally to have a very low toxicity and posses a wide therapeutic activity. They excite the nervous system, particularly the cortex, acting upon the stimulating and inhibitory process, increase the reactive process of the organism, stimulate cardiac activity, increase blood pressure, reduce the sugar content of the blood, excite the endocrine apparatus. Besides this render, a positive effect in case of inflammatory and wound processes.

Various publications come, in numerous indications of the use of ginseng in the treatment of various diseases. Yet, it should be noted that ginseng is not a specific remedy for any particular disease. One of the first indications for the administering ginseng as a tonic is hypotension, physical and mental fatigue, overstrain, neurasthenia and, recently endured exhausting disease.

Ginseng is also used in the treatment of nervous and mental diseases. In these cases it completely removes general weakness, headache, high irritability, insomnia and poor appetite. Under the effect of ginseng, depression and headaches decrease and an increase in activity is observed.

The positive effect of ginseng was marked also in functional disturbances of the cardiovascular system; the heart tones of the patient become clearer, the heart contractions-rhythmical, hypotensive symptoms disappear, the blood pressure rises, general condition improves and pains in the region of the heart disappear.

The positive effect of ginseng has been established in the treatment of vegetative dystonia, general neurosis will symptoms of progressive emaciation vasomotos lability. There are indications of the use of ginseng also in the treatment of diabetes, tuberculosis, malaria, Botkin's disease, in this cse a more rapid restoration of the function of the liver is obtained.

Ginseng is prescribed after consulting the physician and is administered orally in the form of an alcohol tincture: 15-25 drops 3 times a day, or in powder form by 0.25-0.3 gm.



**Ответы к упражнениям.**  
**Unit 1**  
**Description of a Pharmacy**

Упр. 4

1. pharmaceutical; 2. stalls; 3. sedatives, bandages; 4. implements, perfumery; 5. prescription; 6. appoints.

Упр.5

1. medicine; 2. to treat; 3. prescription; 4. sedatives; 5. choose; 6. ointments.

Упр.6

- health protection;
- chemist`s department;
- treat people;
- prescription department;
- keep drugs;
- order one`s prescription;
- on the stalls and shelvings;
- appoint time.

Упр.7

1. All drugs are kept in drug cabinets at any chemist`s.
2. One can order his prescription in the prescription department.
3. In the chemist` department you can buy a drug at once.
4. All strong-effective drugs are kept in drug cabinet, marked with a big letter B.
5. This powder is for external use.
6. Sedatives are taken before going to bed.

Упр.8

1. The pharmaceutical service in our country is an unseparable part of the health protection.
2. The pharmacy has a hall, the single place people may come in.
3. There is a hall, a special room for keeping drugs; an assistants` room where medicines are prepared and a room for the first medical aid.
4. On the stalls and shelvings one can find all kinds of sedatives, vitamins and bandages.
5. The chemist will give you anything you need without prescription in the chemist`s department.
6. A patient can order his prescriptions and have his medicine made up in the prescription department.

7. There are two drug cabinets in this department. In the drug cabinet marked with a big letter A poisonous drugs are kept. In the drug cabinet marked with a big letter B all strong-effective drugs are kept.

### **Активизация грамматики.**

#### **Упр.1**

1. advises; 2. buys; 3. keep; 4. is; 5. are; 6. has; 7. are.

#### **Упр.3**

1. is given; 2. is reduced; 3. are taken; 4. is not prescribed; 5. are kept; 6. is affected.

#### **Упр. 5**

1. What is called a drug?
2. What is the function of drugs?
3. What are all chemical reactions in the body controlled by?.
4. What is reduced by Penicillin?
5. What conditions are treated by drugs?
6. What system do drugs act on?

## **Unit 2**

### **Sources, forms, keeping and storage of drugs**

#### **Упр.4**

1. sources; 2. leaves, stems, roots and rhizomes; 3. infusions, decoctions, tinctures; 4. label; 5. indicate; 6. confuse, overdose

#### **Упр.5**

1. room temperature; 2. labels; 3. are obtained; 4. the dose to be taken; 5. poisonous; 6. vapours.

#### **Упр.6**

- chemical substances;
- can come from many different sources;
- of animal origin;
- liquid forms;
- a label with the name of a medicine;
- cause an untoward reaction;
- some drugs are poisonous;
- to be stored at.

#### **Упр.7**

1. Drugs are used in medicine in the treatment of various diseases.
2. Drugs can come from many different sources.
3. Some drugs are synthesized in the laboratory.
4. Drugs are kept in bottles, boxes, parcels, tubes, ampoules and jars.
5. The dose to be taken is written on the label.
6. Overdosage may cause an untoward reaction and sometimes even death.

#### **Упр.8**

1. Drugs are chemical substances used in medicine in the treatment of diseases.

2. They can be obtained from various parts of plants, may be of animal origin, may be synthesized in the laboratory.
3. Drugs are produced in hard, soft, liquid and other forms.
4. Drugs are kept in bottles, boxes, parcels, tubes, ampoules and jars.
5. A name of the medicine is stuck on it.
6. Nurses, doctors and patients themselves must not confuse different medicines because some of them are poisonous and their overdosage may cause an untoward reaction and sometimes even death.
7. Drugs are stored at room temperature, in cool places and refrigerators where they are protected from sunlight and fire, in dark places and away from children.

### **Активизация грамматики.**

Упр.1

1. may; 2. must; 3. may; 4. may; 5. must; 6. can/may

Упр.3

1. may be synthesized; 2. can be determined; 3. must be taken; 4. can be produced; 5. can be varied.

Упр.4

1. must; 2. may; 3. can; 4. may; 5. must; 6. must.

Упр.5

1. 300000 units of penicillin must be given to the 2-year-old child.
2. Drugs must be prescribed only when it is absolutely necessary.
3. Remedies may cause physical dependence.
4. Could remedies cause emotional dependence?
5. The dose indicated on the label or administered by a physician must be followed.
6. Medicines can block pathological processes in the human body.

Упр.4

1. Medicines are used to treat or prevent a disease.
2. In the earliest times they used natural substances from fruits, leaves, roots to ease pain and bring relief.
3. Mouldy bread was used as a poultice.
4. Early examples of medicines include opium, which is found in oriental poppy, known as the "jolly plant". This has been used as a sedative and pain killer for at least 7,000 years. In South America, the leaves of the coca shrub were chewed by the Incas to relieve fatigue and hunger. Eventually in 1859, the pure drug cocaine was extracted from these leaves.
5. Cocaine was developed and used as a local anesthetic in dentistry and surgery.
6. Many different herbs and plants have been used to provide natural extracts from which modern medicines have been extracted and developed.

### **Unit 3 Drug names, standards and references**

Упр. 4

1. public property; 2. complicated; 3. private property, competitor; 4. to capitalize; 5. Food and Drug Administration, a legal responsibility for; 6. superscript.

Упр.5

1. the reason; illegal drugs; 2. regulating; supervising; 3. manufacturer; 4. prescription; 5. antiretroviral; to meet; 6. enforced; the administration.

Упр.6

- chemical formula;
- for legal and scientific purposes;
- individual manufacturer;
- to order a prescription;
- legal responsibility;
- to meet the standards;
- available in pure form;
- to give an important information about a drug;
- full description, recommended dosage;
- definite standards.

Упр.7

1. The Physicians Desk Reference contains important information about main characteristics of drugs and it is published monthly.
2. This center is a branch of the FDA that regulates drug manufacturing.
3. There is only one generic name for each drug.
4. Recently, a famous pharmaceutical company has published the most complete and up-to-date drug reference.
5. Your GP will administer you a proper treatment and tell you at what chemist's you will be able to order the drug on the prescription.
6. This strong effective drug is produced by many manufacturers but sold only at certain chemist's.
7. Every manufacturer producing a drug must remember that it must meet two principal standards: be clinically useful and available in pure form.

Упр. 8

1. The chemical name is the chemical formula for the drug.
2. There is only one generic name for each drug.
3. Most drugs have several brand names because each manufacturer producing the drug gives it a different name.
4. The typical written standards are the following: the brand name often has the superscript after or before the name and it is a common practice to capitalize the first letter of the brand name.
5. Definite standards for drugs are set by an independent committee of physicians, pharmacologists, pharmacists and manufacturers.
6. The letters USP and NF after a drug indicate that the manufacturer claims his product conforms to USP or NF standards.
7. Not all drugs are listed in PDR because manufacturers pay to have their products listed there.

**Активизация грамматики.**

Упр. 1

1. demonstrating; 2. testing, manufacturing; 3. meeting; 4. preventing; 5. prescribing; 6. taking.

Упр. 2

1. dissolving; 2. producing; 3. thinking, saying; 4. healing; 5. causing; 6. ensuring.

Упр. 3

1. aiding; 2. having; 3. stealing; 4. possessing; 5. smoking; 6. using.

Упр.5

1. Sale of illegal drugs is a growing problem in the USA.
2. Many people think that a drug addict can stop taking drugs at any moment.
3. Prescribing a medicine to a patient the physician must know the exact diagnosis.
4. No wonder that a lot of pharmaceutical companies producing drugs gain huge profits during epidemics.
5. Never start or stop taking drugs without informing your GP.
6. Not knowing how the medicine acts on the human body the physician has no right to prescribe it to the patient.
7. This drug can be effective only after injecting it intramuscularly.

Упр. 6

1. In rapidly developing countries the top pharmaceutical companies produce 5 new drugs annually.
2. People searching for the best remedy for their disease may find it in the national drug reference.
3. For administering the better treatment the physician must examine you carefully.
4. Being in hospital I learnt a lot about my disease.
5. Doctors all over the world are trying to find a way of treating some rare types of cancer.
6. The teacher who was delivering the lecture on manufacturing of sodium and potassium compounds told the students about the way of using them in pharmacy.

Упр.3

- reduce pain;
- make life bearable;
- gain great benefit from;
- in the wrong amounts;
- cause health problems;
- become dependent on drug;
- give up habit;
- be common among young people;
- volatile substance.

Упр. 5

1. Medicines are used to fight infections and illness; they reduce pain, and for many people they make life bearable.
2. Medicines are either prescribed for us by a doctor or bought at the chemist`s.
3. Yes, they do. They can be dangerous if taken in the wrong amounts, or when there is no medical reason.
4. Tea, coffee, cocoa and coca cola contain a drug. It is called caffeine.

#### **Unit 4** **Administration of drugs**

Упр. 2

1. When medicine is taken by mouth it is oral administration.
2. Suppositories are used when oral route of administration presents difficulties.
3. Vapors or gases are taken into the nose or mouth during inhalation.

Упр. 4

1. blood stream; 2. a syringe, a body cavity; 3. the outer surface, locations, subcutaneous; 4. ointments, moist; 5. sublingual, to dissolve, saliva; 6. to accelerate, abrasions, against itching.

Упр. 5

1. external; 2. groups, application; 3. anesthesia; 4. drugs; 5. are useful, swallow; 6. by mouth; 7. lesions.

Упр.6

- drugs given orally;
- route of drug administration;
- be absorbed into the blood stream;
- drugs are placed under the tongue;
- rectal administration;
- the patient is nauseating and vomiting;
- a syringe;
- subcutaneous injections;
- a large volume of a long-acting drug;
- a buttock;
- directly into the vein;
- an immediate effect;
- intracavitary injections;
- intrathecal injections;
- vapours and gases;
- antiseptic treatment of a wound;
- ointments;
- lotion;
- antipruritic (against itching).

Упр. 7

1. Medications and drugs are available in different forms.
2. Most people will be able to get treatment at home.
3. The nurse may give the intracavitary injection if it is necessary.
4. Pills and capsules are taken by mouth.
5. Suppositories are given by rectum.
6. Ointments are applied directly on the skin.
7. Inhalations are used for treating asthma and allergies like hay fever.
8. All drugs are fully acceptable in our society.
9. A great majority of people gain huge benefit from drugs.
- 10/ If other therapies prove to be ineffective, the doctor administers injections.

Упр. 8

1. The route of administration of a drug is very important in determining the rate and completeness of its absorption into the blood stream and speed and duration of the drug's action in the body.
2. The route of administration is by mouth.
3. In the route of sublingual administration drugs are placed under the tongue.

4. Drugs are given by rectum when oral administration presents difficulties.
5. Parenteral administration is accomplished by injection through a syringe under the skin, into a muscle, into a vein or into a body cavity.
6. The difference is that subcutaneous injection is given just under several layers of skin and intradermal injection is made into the upper layers of the skin.
7. It is advisable to inject some drugs into the buttocks when drugs are irritating the skin or a large volume of a long-acting drug is to be given.
8. It is given when an immediate effect from the drug is desired or when the drug cannot be injected into other tissues.
9. Intrathecal injection is made in the case of anesthesia into the sheath of the spine marrow and the brain.
10. Inhalation is a method of administration when vapours, or gases are taken into the nose or mouth and are absorbed into the blood stream through the thin walls of the air sacks in the lungs (alveoli).
11. Topical application may include administration of drugs into the eyes, ears, nose and vagina.

### **Активизация грамматики.**

#### Упр. 1

1. given; 2. made, applied; 3. inserted; 4. taken; 5. suspended; 6. used.

#### Упр. 3

1. acted, recovered (Past Simple); 2. caused (Past Simple); 3. showed (Past Simple), caused (Participle II); 4. tested (Participle II); 5. spread (Participle II); 6. was, bought (Past Simple), located (Participle II); 7. administered (Participle II); 8. experienced, impaired, increased (Participle II).

#### Упр. 4

1. made; 2. destroyed; 3. placed; 4. connected; 5. used; 6. protected; 7. taken; 8. compared.

#### Упр. 5

1. A drug inserted into the muscle acts immediately.
2. One of the most common methods of drug administration is inhalation.
3. Drugs applied on the skin are usually for topical use.
4. These drugs injected into the vein are often given in small doses.
5. The effect from the drug administered in such a way lasts for a shorter period of time.
6. Drugs administered in the treatment of diabetes can be ordered only on the prescription.

#### Упр. 2

Amino acids; anaemia; scurvy; hormone deficiency; insulin deficiency; thyroid hormone deficiency; mediators; anti-coagulants; calcium channel blockers; receptors; medicines used in the treatment of epilepsy and Parkinson's disease; clotrimazole and miconazole.

#### Упр. 3

1. Antibiotics destroy bacteria by killing them directly or by preventing their multiplying.
2. The important substances in the human body are proteins, vitamins, minerals.
3. Deficiency disorders occur when the important substances are insufficient or lacking in the human body or as a result of a lack of hormones in the body.
4. All human tissues are made up of groups of cells.
5. Medicines altering the activity of cells treat blood clotting disorders, heart and kidney diseases.

6. Deficiency disorders can be treated with medicines or hormones that replace or restore the levels of the missing substances, for example insulin injections for diabetics.

Упр. 4

- anti-fungal;
- alter the activity of cells;
- released by cells;
- iron deficiency disorders;
- restore the levels of the missing substances;
- tissue damage;
- blood clotting disorders;
- anti-inflammatory medicines;
- prevent multiplying;
- destroy bacteria.

Упр. 5.

1. Medicines replace substances that are deficient or missing in the body.
2. If some important substances are insufficient or lacking, this can lead to medical disorders called deficiency disorders.
3. These deficiency disorders can be treated with medicines or hormones that replace or restore the levels of the missing substances.
4. Medicines also alter the activity of cells.
5. So these medicines are used to treat a variety of conditions, such as blood clotting disorders, heart and kidney diseases.
6. Other medicines work by killing abnormal cells, for example some anti-cancer drugs directly target and kill harmful cancer cells.
7. Infectious diseases occur when viruses, bacteria, protozoa or fungi invade the body
8. Thus medicines destroy infectious microorganisms or abnormal cells.
9. For example, antibiotics such as penicillin can destroy bacteria by killing them directly or by preventing them multiplying.
10. In addition to that many medicines work by destroying infectious microorganisms or abnormal cells.

## Unit 5

### Drugs and their effects

Упр. 1

side effect; adverse, cumulative; synergetic; idiosyncratic action; tolerance; anaphylaxics; tonics, sedatives; laxatives; sleeping draughts; antipruritics; antiseptics; healing; curative; helpful; additive.

hives; pruritis; blood dyscrasia; asthma; allergic reactions; collagen disorders; photosensitivity; toxic, poisonous; untoward; unexpected; unfavourable.

Упр. 4

1. are absorbed into the blood stream;
2. sensitivity and reactivity;
3. healing, curative, helpful;
4. strong or weak action;
5. poisonous;
6. untoward, unexpected, unfavourable;



7. tolerance;
8. "Take a tablespoonful of this mixture and do not forget to shake it before usage".

Упр. 5

1. various actions; different effects;
2. weak, strong, neutral;
3. is not followed; untoward reactions;
4. label;
5. side effects; adverse reactions;
6. dispensed, stored; pharmacy.

Упр. 7

1. The pharmacist will tell you how to keep the drugs.
2. Take a tablespoonful of this mixture or one tablet of the drug three times a day before (or after) the meal.
3. Depending upon the body sensitivity and reactivity the drugs produce different actions with different effects.
4. A drug may produce strong or weak action, may be neutral.
5. If the patient does not follow the prescription or in case of overdosage, a drug may produce a side-effect.
6. Adverse reactions are: hives, rhinitis, asthma, blood dyscrasia, collagen disorder, photosensitivity and other reactions.
7. Some drugs cause tolerance.
8. Anaphylaxis is an idiosyncratic reaction to a drug.

Упр. 8

1. Drugs are absorbed by the blood.
2. According to their effects drugs may be tonics, sedatives, laxatives, sleeping draughts, toxic, and so on.
3. The action of the drug is expected to be healing, curative and helpful, strong, weak and neutral.
4. When the prescription is not followed, in case of overdosage or hypersensitivity of the body, the drugs produce side or adverse effects.
5. The drugs can produce hives, rhinitis, asthma, blood dyscrasia, collagen disorder, photosensitivity and other reactions.
6. Taking a drug according to the prescription will help a person to avoid adverse reactions.
7. Take a tablespoon full of this mixture three times a day. Follow the dose indicated of the label.

**Активизация грамматики.**

Упр. 1

Some, any, any, no, any, some, any, any, some.

Упр. 2

1. Can any medical substance affect the function of the body?
2. Are there all sorts of drugs in your drug cabinet?
3. Will a doctor give you any advice how to heal arthritis?
4. Are drugs absorbed into the bloodstream?
5. Does overdosage of any toxic drugs cause unexpected reactions?

Упр. 3

1. Where are toxicants concentrated in the body?

2. What may accumulate in various parts of the body?
3. What diseases does chemotherapy usually refer to?
4. Where is intravenous injection given?
5. What kind of injection is advisable when drugs are irritating the skin?
6. What is toxicology?
7. What is a rare type of toxic effect produced in a very sensitive individual but not seen in most patients?
8. Who was the first to discover penicillin?

Упр. 4

may, must, can, may, must, can, can, may.

Упр. 5

1. Did most of us have to take medicines to recover as soon as possible?  
Most of us did not have to take medicines to recover as soon as possible.
2. Will most people be able to take their treatment at home by mouth?  
Most people will not be able to take their treatment at home by mouth.
3. Did this medicine have to be taken twice a day?  
This medicine did not have to be taken twice a day.
4. Are people allowed to take the contraceptive pills as a method of birth control?  
Some people are not allowed to take the contraceptive pills as a method of birth control.
5. Can penicillin kill bacteria?  
Penicillin cannot kill several types of bacteria.
6. May drugs produce strong or weak effects?  
Some drugs may produce strong effects.
7. Can any medicines be dangerous if they are taken in the wrong amount?  
Some medicines can not be dangerous if they are taken in the wrong amount.
8. Must he give up regular drinking?  
He must not give up regular drinking.

### **Практикум.**

#### **Text 1**

Упр.1

1. Drug toxicity refers to the poisonous and potentially dangerous effects of some drugs.
2. Types of drug toxicity are based on the dosage of the drug given.
3. Disorders directly resulting from diagnostic or therapeutic efforts of a physician are known as iatrogenic and are related to drug toxicity.
4. Side effects are toxic effects which routinely result from the use of a drug.
5. Contraindications are factors in a patient's condition which make the use of a drug dangerous and ill advised.
6. Among the most dangerous toxic complications of drug usage are blood dyscrasia (blood disease) such as aplastic anemia, cholestatic jaundice (biliary obstruction leading to discoloration of the skin), neuropathy, collagen disorders (connective tissue damage, such as arthritis) and photosensitivity (abnormal sensitivity to light).

#### **Text II**

Упр. 2

1. For the unremitting of the process of glycolysis and Crab's cycle glucose should be delivered continuously to the tissue.
2. Glucose level in the blood can be identified by the speed of endogenic glucose production.

3. Several types of regulation of carbohydrate metabolism can be distinguished: substrate; nervous; hormonal and renal.
4. Hypoglycemia requires an immediate treatment, because hypoglycemia causes irreversible changes of the nervous cells.
5. Hyperglycemia occurs when the concentration of glucose in blood is more than 5,5 mmol/lit.

Упр. 3

1. Glucose should be delivered to the tissue continuously to support a constant level of it in the blood and a normal metabolism.
2. Glucose level in the blood can be identified by the speed of endogenic glucose production and by the speed of glucose utilization.
3. Several types of regulation of carbohydrate metabolism can be distinguished: substrate; nervous; hormonal and renal.
4. Hyperglycemia occurs when the concentration of glucose in blood is more than 5,5 mmol/lit.
5. Hyperglycemia must be treated immediately because
  - a) it provides easy utilizing energy material by tissue;
  - b) causes alimentary hyperglycemia, emotional hyperglycemia, hormonal hyperglycemia.

### Text III

Упр. 3

1. It is true. I agree with it.
2. No, it's not true because the origins of toxic substances are many.
3. Yes, it's true.
4. No, I don't agree with it. On the contrary, they represent one kind of animal source of toxic substances.
5. I don't agree with it. Among the higher plants numerous species do not contain toxic agents.
6. Yes, it's true.
7. No, it's not true. Most often chemical classification at several levels is used.
8. Yes, I agree with it.
9. On the contrary. Toxicants are often concentrated in a specific tissue.
10. I don't agree with it. Some toxicants achieve their highest concentration at their site of toxic action.
11. Yes, it's true. I agree with it.
12. Yes, I agree that lipid solubility is an important factor for the absorption of toxicants.
13. No. It is not true because bone can also serve as a reservoir for toxic compounds.
14. Yes, I agree with it.

### Unit 6

#### Drugs annotation.

Упр.1

composition, description, properties, indications, contraindications, precautions, warnings, side-effects, adverse reactions, interactions, dosage and administrations, storage, supply. microbiology, biological studies, animal pharmacology, human pharmacology, clinical studies.

Упр.3

gastrointestinal, hemopoetic, hypersensitivity reactions, skin and mucous membranes, liver, cardiovascular, local reactions.

#### Упр.5

1. an information paper; 2. sections; composition, indication, contraindications, side-effects; interactions with other drugs; 3. some annotations, pharmacokinetics, actions; 4. dosage and ways of administration; 5. drawings.

#### Упр.6

1. thick, types; 2. information, expiry date; 3. actions; 4. spray devices; 5. side-effects, adverse reactions.

#### Упр.7

- composition;
- properties;
- indications;
- contraindications;
- clinical investigations;
- syringe;
- precautions;
- dosage;
- supply.

#### Упр.8

1. You can find all information about drug composition and its administration in a drug annotation.
2. It is very important to know indications and contraindications for the use of the drug.
3. All drugs undergo clinical tests.
4. Instruments necessary for injection of the drug are shown in pictures.
5. Annotations are inlaid into the boxes with medicine or are stuck on the containers with the drugs, e.g. bottles, parcels and so on.
6. Read the annotation before using the drug.

### **Активизация грамматики.**

#### Упр.1

1. are no longer sold; are advised. 2. keep; are; have; are. 3. were made. 4. is tolerated; there are. 5. were treated. 6. was discontinued. 7. is.

1. В Катманду людям с постоянным кашлем больше не продадут антибиотики или ещё один флакон микстуры от кашля. Им посоветуют пойти в ближайшую клинику для обследований на наличие туберкулеза.
2. В городских аптеках содержится большое разнообразие антибиотиков последнего поколения, сочетаний витаминов, антибиотиков и противоаллергических или гормональных препаратов, успокоительных, тонизирующих и противодиарейных лекарств. Некоторые из них эффективны; многие не имеют терапевтического эффекта, а многочисленные лекарства опасны, если применяются без правильных медицинских инструкций.
3. Измерения делались за 15, 60 минут до и через 180 минут после введения одной дозы каптоприла.
4. Лекарство хорошо переносится, и у него есть только два незначительных неблагоприятных воздействия.
5. 13 больных со средней или тяжелой формой неосложненной гипертонии получали одну таблетку каптоприла (100 мг) ежедневно через 1-1,5 часа в течение 8 недель.
6. Введение лейкомицина было отменено через 15 дней.

7. Лейкомицин чрезвычайно эффективен при заболеваниях дыхательного тракта, особенно при остром фарингите у детей.

#### Упр.2

1. What is a drug annotation?
2. What kinds of annotations may there be?
3. How many sections does every annotation consist of?
4. What divisions is the section Actions subdivided onto?
5. What additional indications does the section Dosage and Administration contain for adults and children?
6. What way is special information about the drug given in?

#### Упр.3

1. Are people troubled with palpitations, minor nervous disturbances of the cardiac rhythm, precordial pains, spasms, etc.?  
What are people troubled with?
2. Is the main purpose of treatment to calm the central nervous system?  
What is the main purpose of treatment?
3. Must you use insulin after the expiry date?  
Why must not you use insulin after the expiry date?
4. Is the drug recommended to be used during pregnancy or with cytostates?  
When isn't the drug recommended to be used?
5. Should the systolic blood pressure be reduced below 90/60 mm Hg in patients with hypotension?  
When shouldn't the systolic blood pressure be reduced?
6. May unwanted effects occasionally occur?  
What may occasionally occur?
7. Do some annotations contain visual means of explanations?  
What means of explanations do some annotations contain?

#### Упр.4

1. Подобно другим нестероидным противовоспалительным средствам Вольтарен также противопоказан больным, у которых приступы астмы, крапивницы, острого ринита ускоряются ацетилсалициловой кислотой.
2. Свыше 90% больных выздоровели без изменений в моче в течение 8 часов.
3. Вольтарен противопоказан больным с аллергией на цефалоспориновую группу антибиотиков.
4. Iso Mask спрей не должен применяться в состоянии шока.
5. От одного до четырех граммов спрея Iso Mask в день, разделенных на равные дозы, должны даваться каждые 6 часов.
6. Продолжительность лечения, как правило, коротка: применение нестероидных препаратов в период беременности, кормящими матерями или женщинами детородного возраста требует, чтобы возможный эффект от лекарства оценивался относительно потенциальной опасности для матери и зародыша или плода.
7. Теофеникол проникает во все ткани и жидкости организма в активной форме и в эффективных концентрациях.
8. Оказалось, что споридекс эффективен для больных остеомиелитом.
9. Не назначайте инъекции, если ранее имелись случаи непереносимости лекарства.

## Практикум.

### Text 1

#### Упр.2

3. No, fortified thioderazine is given in tablets, suppositories, ampules.
4. No, it is not right. The annotation contains the section “contra-indications”.
5. No, it is not right. Each form of the drug has its own way of administration.
6. No, the author recommends injectable form of the drug.

#### Упр.3

1. Each annotation contains 6 sections.
2. Indications of the drug are chronic rheumatism, rheumatic pains, muscular pains, sciatica, lumbago, cervical brachial neuralgia, arteriosclerosis.
3. Contra-indication is intolerance for vitamin B 1.
4. The difference in dosage and administration of two forms of the drug is that Thioderazine with Vitamin B1 is administered in 30 drops in a half glass of water with the two main meals, 20 days each month, or 1 injection daily IM for several days and Fortified Thioderazine with Vitamin B1.
5. The injectable form of the drug making the recovery quicker is administered in a dose of 2 tablets before the two main meals, or one suppository morning and evening, or 1 injection IM daily for consecutive days in series of 20 or 30.
6. The symptoms of intolerance are: dizziness, nausea, skin rash, fall in blood pressure.

#### Упр.4

1. The article is about thioderazine.
2. The article deals with the composition, indications, contraindications, dose and administrations and package of the drug.
3. The aim of the article is to inform the consumer about the action of the drug, its use and tolerance.
4. The symptoms of intolerance are dizziness, nausea, skin rash, fall in blood pressure.

### Text 2

#### Упр.1

Способ приобретения лекарства.

#### Упр.3

1. Should you know what drug to buy?
2. Should you know about indications of the drug you buy?
3. Must you be aware of the possible adverse reactions?
4. Do you often buy over-the-counter drugs?
5. Is this medication used for self-treatment?
6. Should you take medication lightly?

## REVISION.

#### Упр.1

- A. 1. antipruritic; 2. toxicology; 3. chemotherapy; 4. intravenous; 5. pharmacology; 6. sublingual; 7. subcutaneous; 8. antiseptic; 9. iatrogenic; 10. intrathecal.
- B. 1. Pertaining to administration of drugs by injection in any region except the gastrointestinal tract.

#### Упр.2

1. Authoritative list of drugs, formulas, preparations, and information which sets a standard for drug manufacturing and dispensing.

2. Unpredictable, individual reaction to a drug.
3. Type of drug action in which the effect of two drugs given together is greater than the sum of each acting alone.
4. Conditions which forbid the use of a particular drug.
5. Hypersensitivity reaction to the presence of a foreign body or drug in the body.
6. Substance given to counteract a poison in the body.
7. Harmful effects and dangerous complications which may arise from use of a drug.
8. Drug suspend in air particles.
9. A toxic effect which results from the routine use of a drug.

Упр. 3

1-g; 2-j; 3-I; 4-h; 5-b; 6-e; 7-a; 8-c; 9-f; 10-d.

Упр. 4

1-g; 2-f; 3-b; 4-a; 5-h; 6-d; 7-e; 8-c.

Упр.6

1. Ointments and creams are rubbed in to smooth the skin and as antipruritic.
2. Insulin solution is given intramuscularly.
3. Gauze swabs and cotton wool are used in surgical procedures.
4. Soap is an important means for removing microbes from the doctor's hands.
5. Soap may be either in a soap box or in a mechanical dispenser.
6. Ampoules contain a definite amount of sterile medicine.

## Грамматический справочник

### The Present Simple Tense.

The Present Simple Tense - настоящее неопределённое время употребляется для обозначения обычных, регулярно повторяющихся или постоянных действий, например, когда мы говорим о чьих либо привычках, режиме дня, расписаниях и т.д., т.е. The Present Simple обозначает действия, которые происходят в настоящее время, но они не привязаны к моменту речи. Например:

**The lectures at the Institute begin at 9 o'clock.**

Лекции в институте начинаются в 9 часов.

**I go to the Institute on foot.**

Я хожу в институт пешком. (всегда)

**Peter swims well.**

Петя плавает хорошо. (вообще)

**The Earth goes round the Sun.**

Земля вращается вокруг Солнца. (постоянно)

**Ann goes to the South every summer.**

Анна ездит на юг каждое лето. (повторяющееся действие)

Поэтому с глаголами в the Present Simple часто употребляются такие наречия, как always - всегда, often - часто, seldom - редко, usually - обычно, never - никогда, sometimes - иногда, every day - каждый день и т.д.

**I sometimes meet your father at the station.**

Я иногда встречаю твоего отца на станции.

**My parents always spend their holidays at the seaside.**

Мои родители всегда проводят отпуск на море.

**Twice a year students take their exams.**

Два раза в году студенты сдают экзамены.

Как видно из примеров, утвердительная форма простого настоящего времени образуется путём постановки первой формы глагола (инфинитив без частицы "to") после подлежащего. Однако, если подлежащее стоит в форме 3-го лица единственного числа (т.е. если подлежащее выражено местоимениями "он, она, оно" или его можно заменить этими местоимениями), то к основе глагола добавляется суффикс "-s(-es)", например:

**My friend lives in a hostel.**

Мой друг живёт в общежитии.

**The school year begins in September.**

Учебный год начинается в сентябре.

**She drives a car.**

Она водит машину.

Правила прибавления суффикса "-s(-es)" к основе глагола полностью совпадают с правилами прибавления суффикса "-s(-es)" множественного числа к основе существительного. Существует правило противоположных суффиксов (хорошая подсказка для изучающих язык), которое заключается в том, что наличие у подлежащего суффикса множественного числа "-s(-es)" исключает суффикс "-s(-es)" глагола сказуемого и наоборот:

**My brothers live in Minsk.**

Мои братья живут в Минске.

**My brother lives in Minsk.**

Мой брат живёт в Минске.

Часто именно это правило даёт возможность легко определить в утвердительном предложении глагол - сказуемое в форме простого настоящего времени.

Для образования вопросительной и отрицательной формы в простом настоящем времени необходим вспомогательный глагол "do", причём в третьем лице единственного числа окончание "-s(-es)" добавляется не к смысловому, а к вспомогательному глаголу. Чтобы задать вопрос, нужно поставить вспомогательный глагол "do (does)" перед подлежащим за которым следует смысловой глагол (инфинитив без "to"). Например:

**Do you play chess?**

Вы играете в шахматы?

**Does he speak English well?**

Он хорошо говорит по-английски?

**Do trains stop at this station?**

Останавливаются ли поезда на этой станции?



### Does the ship arrive soon?

Скоро ли прибывает это судно?

Отрицательная форма глаголов в простом настоящем времени образуется при помощи вспомогательного глагола "do(does)" и отрицания "not", которые ставятся перед смысловым глаголом ( в форме инфинитива без "to"), например:

#### **We do not play chess.**

Мы не играем в шахматы.

#### **The students do not go to the library every day.**

Студенты не ходят в библиотеку каждый день.

#### **He does not smoke.**

Он не курит.

В разговорной речи обычно употребляется сокращённая форма от "do not - don't" и "does not - doesn't".

#### **I don't play hockey.**

Я не играю в хоккей.

#### **The computer doesn't work.**

Компьютер не работает.

Итак, схематически это время можно изобразить следующим образом, если буквой "V" обозначить основу инфинитива глагола , а "+ / - / ?" обозначить утвердительное, отрицательное и вопросительное предложения.

+ V1 (3 л.ед.ч + s)	+ He lives in London. They live in London.
- do/does not V1	- He doesn't live in London. They don't live in London.
? Do/ Does ... V1	? Does he live in London? Yes, he does. No, he does not. Do they live in London? Yes, they do. No, they don't.

### **The Future Simple Tense. Будущее неопределенное время.**

Простое будущее время обозначает действия, которые совершатся в неопределённом или отдалённом будущем.

Простое будущее время обычно используется с обстоятельствами: tomorrow - завтра, next week (next summer, next year, next Monday, next term...) - на следующей неделе (следующим летом, в следующем году, в следующий понедельник, в следующий семестр ...), in two years (...days,...months...) - через два года (...дня,...месяца..), in 1997 - в 1997 году и т.д.

Утвердительная форма глаголов простого будущего времени образуется при помощи вспомогательного глагола "shall"( для 1-го лица единственного и множественного числа - I,we) или "will" (для всех остальных лиц) и основы инфинитива смыслового глагола без "to" (V1). В устной речи используется сокращённая форма вспомогательных глаголов "shall- 'll / will- 'll". Например:

#### **I'll come soon.**

Я скоро вернусь.

#### **She'll soon know the result.**

Она скоро узнает результат.

#### **We shall finish the work today.**

Мы закончим эту работу сегодня.

**The plane will return in two hours.**

Самолёт возвратится через два часа.

Чтобы образовать вопросительную форму, вспомогательные глаголы "shall / will" ставят перед подлежащим.

**Shall I see you tomorrow?**

Увижу ли я вас завтра?

**Will you take the book from the library?**

Вы возьмёте эту книгу в библиотеке?

**What shall we do tomorrow?**

Что мы будем делать завтра?

"Will" в вопросе с "you" может означать вежливую просьбу:

**Will you please open the window?**

Откройте, пожалуйста, окно.

Чтобы образовать отрицательную форму глаголов в простом будущем времени, то после вспомогательного глагола ставят отрицание "not", в устной речи используется сокращённая форма "shall not - shan't, will not - won't".

**I shall not do this.**

Я не сделаю этого.

**Peter will not go to the theatre tonight.**

Пётр не пойдёт в театр сегодня вечером.

+ shall / will + V1	He will write a letter.
- shall not/ will not + V1	He will not write a letter.
? Shall/Will ... V1	Will he write a letter? Yes, he will. No, he will not.(No, he won't.)

**The Past Simple Tense. Прошедшее неопределенное время.**

The Past Simple обозначает действия, имевшие место в прошлом и время совершения которых истекло: last year - в прошлом году, five days ago - пять дней тому назад, yesterday - вчера, in 1945 - в 1945 году и т.д.

**We began the experiment three days ago.**

Мы начали эксперимент три дня назад.

**I returned home yesterday.**

Я возвратился домой вчера.

**Dan worked in a factory.**

Дэн работал на фабрике.

Прошедшее неопределённое время широко используется в повествовании для описания последовательных событий прошлого.

**We went to the park , walked down to the fountain and sat down on a stone seat.**

Мы отправились в парк, дошли до фонтана и сели на каменную скамью.

+ V-ed (V2)	He saw a zebra.
- did not + V1 did not = didn't	He didn't see a zebra.
? Did ... V1	Did he see a zebra? Yes, he did. No, he did not. (No, he didn't.)

По способу образования прошедшего времени глаголы делятся на правильные и неправильные. Правильные глаголы образуют утвердительную форму прошедшего неопределённого времени путём прибавления к основе инфинитива суффикса "-ed". На схеме они обозначены как "V ed".

При прибавлении суффикса "-ed" соблюдаются следующие орфографические правила:  
- если глагол оканчивается на "согласную букву + y", то буква "-y" меняется на "-i";  
- мы удваиваем конечную согласную, чтобы сохранить закрытый слог.

**to open - opened** открывать - открыл

**to ask - asked** спрашивать - спросил

**to stop - stopped** останавливать - остановил

**to fry - fried** жарить - жарил.

Суффикс "-ed" является признаком формы простого прошедшего времени только в том случае, если глагол с этим суффиксом занимает в предложении второе место, т.е. стоит после подлежащего.

**He informed us of his plans at breakfast.**

Он сообщил нам о своих планах за завтраком.

Неправильные глаголы образуют простое прошедшее время по-разному и их следует заучивать списком. Таблицы неправильных глаголов приводятся в конце любого словаря (и в конце данного пособия). Обычно они составляются следующим образом: основа инфинитива неправильного глагола, основа инфинитива неправильного глагола, простое прошедшее время.

Вопросительная форма глаголов в простом прошедшем времени (и правильных и неправильных) образуется при помощи вспомогательного глагола "did", который ставится перед подлежащим, а за подлежащим следует смысловой глагол (в форме основы инфинитива без "to").

- **Did you see him yesterday? - Yes, I did.**

- Вы его видели вчера? - Да.

- **Did you hear the news? - No, I did not.**

- Вы слышали новость? - Нет.

Отрицательная форма глаголов в простом прошедшем времени образуется при помощи вспомогательного глагола "did" и отрицания "not", которые ставятся перед смысловым глаголом в форме инфинитива без "to".

I did not see him yesterday.

Я не видел его вчера.

В разговорной речи обычно используется сокращение did not - didn't.

**I didn't see him yesterday.**

Я не видел его вчера.

### **Основные типы вопросов в английском языке.**

#### **Общий вопрос. General Question.**

Общий вопрос относится ко всему предложению в целом, и ответом на него будут слова yes или no.

**Do you study English? – Yes, I do. No, I don't.**

**Can you speak French? – Yes, I can. No, I can't.**

**Have you bought a textbook? – Yes, I have. No, I haven't.**

Порядок слов в общем вопросе: вспомогательный (модальный, глагол-связка) глагол, подлежащее (существительное или местоимение), смысловой глагол (или дополнение).

#### **Альтернативный вопрос. Alternative Question.**

Альтернативный вопрос предлагает выбор из двух возможностей. Начинается как общий вопрос, затем следует разделительный союз *or* и вторая часть вопроса:  
**Do you study English or French? – I study English.**

### Специальный вопрос. *Special Question.*

Специальный вопрос относится к какому-нибудь члену предложения или к их группе и требует конкретного ответа:

**What is your name? – My name is Peter.**

**Where do you live? – I live in Moscow.**

Специальный вопрос всегда начинается с вопросительного слова:

**who** (кто?)

**whom** (кого?)

**what** (что?)

**which** (который?)

**whose** (чей?)

**when** (когда?)

**where** (где? куда?)

**why** (почему?)

**how long** (как долго?)

**how many** (сколько?)

**how much** (сколько?)

**how** (как?)

Порядок слов в специальном вопросе:

1. вопросительное слово (*who, where, who, when* и т.д.)
2. вспомогательный (модальный, глагол-связка) глагол,
3. подлежащее (существительное или местоимение),
4. смысловой глагол,
5. дополнения,
6. обстоятельства (места, времени, образа действия и т.д.).

В специальных вопросах, обращённых к подлежащему в формах *Present* и *Past Simple*, не употребляется вспомогательный глагол *to do (did)* и сохраняется прямой порядок слов:

**Who wants to go to the cinema?**

**Who lives here?**

### Разделительный вопрос. *Tag-Question.*

Вопрос, требующий подтверждения «не так ли?», «не правда ли?». Он может строиться двумя способами:

А) +, -? (первая часть – утвердительное предложение; вторая часть – краткий общий отрицательный вопрос).

Б) -, +? (первая часть – отрицательное предложение; вторая часть – краткий общий вопрос).

Во второй части таких вопросов повторяется тот глагол, который входит в состав сказуемого первой части.

Ответы на такие вопросы нужно давать ожидаемые.

**You study English, don't you? – Yes, I do.** – Да

**No, I don't.** – Нет.

**You don't study French, do you? – Yes, I do.** – Изучаю.

**No, I don't.** – Не изучаю

## Модальные глаголы.

### Can / could

Этот модальный глагол имеет две формы: **can** - для настоящего времени, **could** - для прошедшего. Употребляется он:

Для выражения возможности или способности совершения действия. В этом значении переводится как "мочь", "уметь".

**She can speak English well but she can't write it at all.** Она *может* (умеет) хорошо говорить по-английски, но совсем не умеет писать.

Для выражения разрешения совершить действие (в вопросительных и утвердительных предложениях).

**Can we go home?** *Можно* нам идти?

**Yes, you can go.** Да, вы *можете* идти.

Для выражения запрета совершить действие, выраженного инфинитивом (только в отрицательных предложениях).

**You can't speak at the lessons.** На уроке разговаривать *нельзя*.

Для выражения просьбы (в вопросительных предложениях).

**Can (could) you give me your dictionary?** Вы *не дадите* мне свой словарь?

Форма **could** употребляется для более вежливого обращения.

### to be able to

Сочетание **to be able** + инфинитив с частицей **to** является синонимом модального глагола **can** (см. пункт 1) для выражения возможности или способности совершения действия.

**He is able to help you.** Он *может* помочь вам.

**He was able to help you.** Он *смог* помочь вам.

**He will be able to help you.** Он *сможет* помочь вам.

Для образования вопросительных предложений глагол **to be** выносится на первое место перед подлежащим.

**Is he able to help you.** Он может помочь вам?

**Was he able to help you.** Он смог помочь вам?

**Will he be able to help you.** Он сможет помочь вам?

Для образования отрицательных предложений к глаголу **to be** прибавляется отрицательная частица **not**:

**He is not able to help you.** Он не может помочь вам.

**He was not able to help you.** Он не смог помочь вам.

**He will not be able to help you.** Он не сможет помочь вам.

### May / might

Этот модальный глагол имеет две формы: **may** - для настоящего времени, **might** - для прошедшего. Глагол **may** употребляется для выражения:

Разрешения в утвердительных и вопросительных предложениях.

**You may go.** Ты *можешь* идти.

**May I help you?** *Разрешите* вам помочь.

Запрещения в отрицательных предложениях.

**You may not come here.** *Не смей* сюда приходить.

Предположения, неуверенности в утвердительных и отрицательных предложениях.

**It may rain today.** *Возможно* сегодня будет дождь.

Глагол **might** употребляется:

В придаточных дополнительных предложениях в соответствии с правилом согласования времён.

**She said that he *might take her book*.** Она сказала, что он *может* взять её книгу.

Для обозначения вероятности совершения действия.

**He *might come*.** Он, *может быть*, придёт.

### **to be allowed to to be permitted to**

Словосочетания **to be allowed** и **to be permitted** + инфинитив с частицей **to** являются синонимами модального глагола **may** (см. пункт 1).

**I *am allowed to use this device*.** Мне *разрешено* (я *могу*) использовать этот прибор.

**He *will be allowed to use this device*.** Ему *разрешат*.

### **must**

Глагол **must** употребляется:

Для выражения долженствования, необходимости произвести действие в настоящем или будущем.

**I *must go*.** Мне *надо* идти.

Для выражения запрещения в отрицательном предложении.

**You *mustn't do it*.** *Нельзя* этого делать.

Для выражения вероятности какого-либо действия, предположения.

**He *must have read this book*.** Он, *вероятно*, читал эту книгу.

Для обозначения настоятельного совета, рекомендации.

**You *must come and see my new flat*.** Ты *должен* придти посмотреть нашу новую квартиру.

### **to have (to)**

Глагол **to have (to)** употребляется в сочетании с инфинитивом с частицей **to** для выражения необходимости совершить действие в силу определённых обстоятельств. Этот модальный глагол имеет три формы: **have to** – для настоящего времени; **had to** – для прошедшего времени; **will have to** – для будущего времени.

Соответствует русскому "придётся, пришлось".

**It was very dark and we *had to stay at home*.** Было очень темно, и нам *пришлось* остаться дома.

Вопрос задается по общему правилу построения вопросительных предложений, с использованием вспомогательного глагола, в соответствии со временем:

**Do you *have to stay at home*?** Тебе нужно здесь остаться?

**Did you *have to stay at home*?** Тебе пришлось здесь остаться?

**Will you *have to stay at home*?** Тебе придется здесь остаться?

Для образования отрицания, к вспомогательному глаголу прибавляется частица **not**:

**I *don't have to stay here*.** Мне *не нужно* здесь остаться.

**I *didn't have to stay here*.** Мне не пришлось здесь остаться.

**I *won't have to stay here*.** Мне не придется здесь остаться.

### **to be + Infinitive**

Сочетание глагола **to be** с инфинитивом употребляется для выражения необходимости совершения действия в соответствии с предыдущей договорённостью или заранее намеченным планом. Переводится как "должен, должен был" и т.п.

**I *was to meet her at 3 o'clock*.** Я *должен* был встретить её в 3 часа.

**They *are to begin this work at once*.** Они *должны* начать работу немедленно.

## Причастие I

Причастие I (Participle I) - неличная форма глагола, обладающая свойствами глагола, прилагательного и наречия. Соответствует формам причастия и деепричастия в русском языке.

### Формы причастия

	active	passive
Indefinite	asking	being asked
Perfect	having asked	having been asked

**Participle I Simple** обозначает действие, одновременное с действием глагола-сказуемого.

*While translating difficult texts we use a dictionary.* Переводя трудные тексты, мы пользуемся словарём.

**Participle I Perfect** обозначает действие, предшествующее действию, выраженному глаголом-сказуемым.

*Having read the book I returned it to the library.* Прочитав книгу, я вернул её в библиотеку.

### Функции причастия I

В предложении причастие I (**Participle I**) может быть:

**Определением.** В этой функции употребляется только **Participle I Simple**, которое соответствует русскому причастию настоящего времени в той же функции.

*A smiling girl.* Улыбающаяся девочка.

*A swimming man.* Плывущий человек.

*The men building our house with me are my friends.* Люди, строящие наш дом вместе со мной, - мои друзья.

*The house being built in our street is a new building of school.* Дом, строящийся на нашей улице - это новое здание школы.

**Обстоятельством.** В этой функции Participle I Simple Active чаще всего стоит в начале предложения и переводится на русский язык деепричастием несовершенного вида.

*Translating the article he consulted the dictionary.* Переводя статью, он пользовался словарём.

Перед таким причастием в функции обстоятельства часто стоят союзы **when** или **while**. Такие словосочетания переводятся либо деепричастным оборотом (или деепричастием) с опущением союза, либо придаточным предложением, которое начинается с союзов "когда", "в то время как".

*While translating the article the student consulted the dictionary.* Переводя статью, студент пользовался словарём. / *Когда студент переводил статью, он пользовался словарём.*

**Participle I Simple Passive** переводится на русский язык обстоятельством придаточным предложением.

*Being built of wood the bridge could not carry heavy loads.* Так как мост был построен из дерева, он не мог выдержать больших нагрузок.

**Participle I Perfect Active** переводится деепричастием совершенного вида.

*Having built a house he began building a greenhouse.* Построив дом, он начал строить парник.

Participle I Simple Passive в функции обстоятельства (времени, причины) переводится обстоятельством придаточным предложением. При этом в качестве подлежащего

русского придаточного предложения употребляется подлежащее английского предложения.

**Having been built of concrete, the house was cold in winter.** Так как дом был построен из бетона, зимой в нём было холодно.

**Частью сказуемого.** Participle I Simple Active может быть частью сказуемого.

**They are playing chess.** Они играют в шахматы.

### Причастие II

Причастие II (**Participle II**) - неличная форма глагола (III основная форма глагола), имеет одну неизменяемую форму со страдательным значением и обозначает действие, которое испытывает на себе лицо или предмет. Оно соответствует в русском языке причастию страдательного залога.

Причастие II правильных глаголов имеет ту же форму, что и **Past Indefinite**, и образуется при помощи прибавления суффикса **-ed** к основе глагола **to ask - asked, to help - helped**.

Подобно причастию I, причастие II обладает свойствами глагола, прилагательного и наречия. Как и глагол, оно обозначает действие. Время действия, обозначаемое причастием II, определяется временем действия глагола-сказуемого или контекстом.

**The book discussed yesterday was interesting.** Книга, *обсуждавшаяся* вчера, была интересной.

**The books discussed at the lessons are always interesting.** Книги, *обсуждаемые* на уроках, всегда интересны.

### Функции причастия II

В предложении причастие II может быть:

**Определением.**

**Lost time is never found again.** Потерянное время никогда не вернёшь (дословно - не найти).

**A written letter lay on the table.** Написанное письмо лежало на столе.

**They are reconstructing the house built in the 18<sup>th</sup> century.** Они реставрируют здание, *построенное* в 18 веке.

**Обстоятельством.** Перед причастием II в функции обстоятельства могут стоять союзы *if, unless, when*. В таком случае английское причастие переводится обстоятельственным придаточным предложением, в котором подлежащее то же, что и в главном предложении.

**If built of the local stone, the road will serve for years.** *Если построить дорогу (Если дорога построена)* из местного камня, она будет служить долгие годы.

### Герундий. The Gerund.

Герундий имеет свойства как глагола, так и существительного. Подобной неличной формы в русском языке нет. Как существительное он может выполнять в предложении функции подлежащего, дополнения, определения и обстоятельства с предлогом. Как глагол может иметь после себя прямое дополнение и определяться наречием, иметь перфектную форму, категорию залога, а также выражать действие как процесс.

Герундий образуется от основы глагола с помощью суффикса **-ing**. **To translate - translating, to read - reading**.

	active	passive
Indefinite	writing	being written
Perfect	having written	having been written



Формы герундия совпадают с формами **Participle I** и **Perfect Participle**. Однако, это разные формы глагола, отличающиеся и по значению и по синтаксическим функциям. Формы **Indefinite Gerund** обозначают действия, одновременные с действием, выраженным глаголом-сказуемым.

**He likes *inviting* friends to his place.** Он любит *приглашать* друзей к себе.

**He likes *being invited* to his friends.** Он любит, *когда его приглашают* к себе его друзья.

Перфектные формы герундия (Perfect Gerund) обозначают действия, предшествующие действию, выраженному глаголом-сказуемым.

**He is proud of *having invited* this man to his place.** Он гордится тем, что *пригласил* этого человека к себе.

**He was proud of *having been invited* to the party.** Он гордился тем, что *его пригласили* на вечер.

Герундий употребляется после некоторых глаголов (start, begin, stop, finish, like)

**He *stopped taking* these tablets.** Он прекратил принимать эти таблетки.

**He *started working* as a doctor in 2009.** Он начал работать врачом в 2009 году.

### Функции герундия

В предложении герундий может быть:

Подлежащим.

**Smoking is not allowed here.** Курить (Курение) здесь не разрешается.

Определением.

**There are different ways of obtaining this substance.** Существуют различные способы получения этого вещества.

Именной частью сказуемого.

**His hobby is driving a car.** Его хобби - вождение (водить) машину (ы).

Прямым дополнением.

**The car needs repairing.** Машина нуждается в ремонте (Машину нужно ремонтировать).

В вышеприведённых функциях герундий переводится существительным или инфинитивом.

Предложным дополнением.

**They spoke about their travelling.** Они говорили о своём путешествии (том, как они путешествовали).

В данной функции герундий переводится существительным или придаточным предложением.

Обстоятельством.

**Learning rules without examples is of little use.** Изучение правил (изучать правила) без примеров приносит мало пользы.

**I like reading.** Я люблю чтение (читать).

**Think before answering.** Подумай прежде чем ответить.

**By doing that you'll save a lot of time.** Делая это, ты сэкономишь много времени.

**I am tired of waiting.** Я устал от ожидания (устал ждать).

**The floor of the room needs painting.** Пол этой комнаты нуждается в покраске (нужно покрасить).

**Everybody laughed on hearing his answer.** Все рассмеялись, услышав (когда услышали)

его ответ.

**Thank you for coming.** Спасибо за то, что вы пришли.

**He is proud of having won in the tournament.** Он гордится тем, что *победил* в турнире.

**She is sorry for being late.** Она сожалеет, что *опоздала*.

**He ran without stopping.** Он бежал, *не останавливаясь*.

**Before going to bed, she locked the door.** *Прежде чем лечь спать*, она заперла дверь.

В данной функции герундий переводится существительным с предлогом, деепричастием, придаточным предложением.

### Именные безличные предложения в английском языке.

Безличные предложения состоят из местоимения "IT" + "TO BE" + прилагательное, существительное или числительное и часто описывают явления природы, состояние природы, а также могут обозначать время :

**It is summer now .** Сейчас лето.

**It was nine o'clock when we got home.** Было девять часов, когда мы пришли домой.

**It's very cold outside.** На улице очень холодно.

В вопросительной форме "TO BE" ставится в начале предложения:

**Is it winter now in that part of the world?** Сейчас зима в той части мира?

**Was it six o'clock when the film started?** Было шесть часов когда начался фильм?

**Is it cold outside?** На улице холодно?

В отрицательной форме частица "NOT" ставится после вспомогательного глагола "TO BE":

**It is not spring yet.** Ещё не наступила весна.

**It's not always cold in September.** В сентябре всегда холодно.

**It wasn't dark yet when we got back .** Ещё не стемнело, когда мы вернулись.

### Active and Passive Voices. Действительный и страдательный залого.

Залог - это форма глагола, которая показывает, является ли подлежащее предложения производителем или объектом действия, выраженного сказуемым. Как уже было сказано выше, в английском языке имеется два залога: the Active Voice (действительный залог) и the Passive Voice (страдательный залог).

Страдательный залог употребляется, когда исполнитель действия очевиден или несуществен, или когда действие или его результат более интересны, чем исполнитель. Страдательный залог образуется с помощью глагола to be в соответствующем времени и III формы глагола ( причастие II ).

PASSIVE VOICE			
	Indefinite	Continuous	Perfect
Present	am is + V3 are	am is + being + V3 are	have (has) + been + V3
Past	was + V3 were	was + being + V3 were	had + been + V3
Future	shall + be + V3 will		shall + have + been + V3 will
Future-in-the-Past	should + be + V3		should + have + been + V3

			would
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Вопросительная форма образуется путём переноса (первого) вспомогательного глагола на место перед подлежащим, например:

**When was the work done?**

**Has the work been done?**

Отрицательная форма образуется с помощью отрицания *not*, которое ставится после первого вспомогательного глагола, например:

**The work was not done last week.**

**The work will not done tomorrow.**

Сравним действительный залог со страдательным залогом:

#### Active Voice.

**Tom delivers the mail.** Том доставляет почту.

**Tom delivered the mail.** Том доставлял почту.

**Tom will deliver the mail.** Том доставит почту.

#### Passive Voice.

**The mail is delivered by Tom.** Почта доставляется Томом.

**The mail was delivered by Tom.** Почта доставлялась Томом.

**The mail will be delivered by Tom.** Почта будет доставляться Томом.

Как и в русском языке, существительное, играющее роль дополнения в предложении действительного залога, в предложении страдательного залога становится обычно подлежащим. Если в оборотах со страдательным залогом указан производитель действия, то в русском языке он обозначается творительным падежом, а в английском ему предшествует предлог *by*. Употребление времени в английском страдательном залоге принципиально не отличается от его употребления в действительном залоге. При переводе страдательного залога на русский язык возможны следующие варианты:

1. Краткая форма причастий страдательного залога

**I am invited to a party.**

Я приглашён на вечеринку.

2. Глаголы, оканчивающиеся на *-ся*

**All observations were made by a team of famous scientists.**

Все наблюдения проводились группой знаменитых учёных.

3. Неопределённо-личные предложения ( этот способ перевода применим лишь в тех случаях, если производитель действия в английском страдательном залоге не упомянут).

**We were asked to come as early as possible.**

Нас попросили прийти как можно раньше.

#### Perfect Tenses. Свершенные времена.

Обозначают действия, закончившиеся к определённом моменту или происходившиеся ранее других действий в настоящем, прошедшем или будущем. Временные формы этой группы имеют следующие общие признаки:

1. Глаголы во всех временных формах этой группы состоят из вспомогательного глагола "to have" в соответствующем времени и смыслового глагола в третьей форме - III (ed).(Participle II) - (Причастие II)

Правильный глагол *to work*  
 настоящее: **I have worked.**

прошедшее: **He had worked.**  
будущее: **We shall have worked.**  
будущее в прошедшем: **I should have worked.**

Неправильный глагол to write  
настоящее: **I have written.**  
прошедшее: **He had written.**  
будущее: **We shall have written.**  
будущее в прошедшем: **I should have written.**

2. В вопросительной форме подлежащему предшествует вспомогательный глагол:

**Have I worked?**  
**Had I worked?**  
**Shall I have worked?**  
**What have you seen there?**

3. В отрицательной форме за первым вспомогательным глаголом следует отрицание "not":

**I have not written the letter.**  
**I had not written the article.**  
**I should not have written the test work.**

### **Present Perfect Tense. Настоящее свершенное время.**

The Present Perfect Tense обозначает действие, которое завершилось к настоящему моменту или завершено в период настоящего времени (в этом году, на этой неделе.) Хотя глаголы в the Present Perfect часто переводятся на русский язык в прошедшем времени, следует помнить, что в английском языке эти действия воспринимаются в настоящем времени, так как привязаны к настоящему результатом этого действия.

В собственном значении the Present Perfect употребляется для выражения действий, которые в момент речи воспринимаются как свершившиеся. В этом случае в центре внимания находится само свершившееся действие.

**We have bought a new TV set.**

Мы купили новый телевизор ( у нас есть новый телевизор).

**The students have left the room.**

Студенты ушли из комнаты (студентов сейчас в комнате нет).

**Go and wash your hands.**

Пойди и вымой руки.

**I have washed them.**

Я их вымыл (руки у меня чистые).

Хотя глаголы в the Present Perfect часто переводятся на русский язык в прошедшем времени, следует помнить, что в английском языке эти действия являются действиями настоящего времени.

Для the Present Perfect характерны наречия:

already, still, yet, ever, just, recently, never, today, this week.

Употребление:

1. Для обозначения действий, (не) закончившихся к моменту речи (часто с "just" - только что, "yet" - ещё не и др.):

- **Have you finished your job?**

- Ты закончил работу?

- **Yes, I have/ No, I haven't.**

- Да/Нет.

**The train has just arrived.**

Поезд только что прибыл.

**-She hasn't written the test yet.**

Она ещё не закончила контрольную.

2. Для обозначения действий, происходивших в прошлом, но актуальных в настоящем:

**-Have you passed your driving test?**

- Вы уже сдали экзамен на право вождения автомобиля?

**-We can't enter the room.I've lost my key.**

- Мы не можем войти в (эту) комнату. Я по потеряла ключ.

3. Для описания действий, начавшихся в прошлом и продолжающихся до настоящего момента ( часто с "since" - с или "for" - в течение):

**I' ve always liked him.**

Он мне всегда нравился (раньше и теперь).

**I have known him for years / since my youth / since 1990.**

Я знаю его много лет / с юности/ с 1990 года.

**He has written about a hundred novels.**

Он написал около ста романов.

**( He is alive and can write more.)**

(Он жив и может написать ещё).

но:

**He wrote about a hundred novels.(He is dead).**

Он написал около ста романов.( Его нет в живых).

4. Для обозначения действий, имевших место в неистекший период времени ( с выражениями типа "this morning" / "afternoon" / "week" - сегодня утром / днём / на этой неделе и т.п.:

**Has the postman come this morning?**

Почтальон приходил сегодня утром?

**He hasn't phoned this afternoon.**

Он ещё не звонил сегодня днём.

<b>have</b>
<b>+ V3</b>
<b>has (3л. ед. ч.)</b>

+ He has dressed himself.

- He has not dressed himself.

? Has he dressed himself?

Yes, he has. No, he has not. (No, he hasn't.)

### **Past Perfect Tense. Прошедшее свершенное время.**

The Past Perfect Tense обозначает действие, которое произошло до какого-то момента в прошлом.

<b>had + V3</b>
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Употребление:

1. Когда есть указание момента времени, к которому закончилось действие в прошлом:

**By 9 o'clock we'd finished the work.**

К 9 часам мы закончили работу.

**She had written only two letters by noon.**

К полудню она написала только 2 письма.

2. Когда действие в прошлом имело место ранее другого действия:

**When you arrived, he had just left.**

Когда вы прибыли, он только что уехал.

**He had worked at the university for thirty years before he retired.**

Он проработал в университете 30 лет, прежде чем ушёл на пенсию.

3. В косвенной речи для передачи настоящего свершенного и простого прошедшего времени:

**He said he had studied English for two years. (He said: "I have studied English for two years.")**

Он сказал, что изучает английский язык два года.

**She said she had published her first story 10 years before. (She said: "I published my first story 10 years ago.")**

Она сказала, что опубликовала свой первый рассказ 10 лет тому назад.

+ She had written a letter by 5 o'clock on Saturday.

- She had not written a letter by 5 o'clock on Saturday.

? Had he written a letter by 5 o'clock on Saturday?

Yes, he had. No, he had not. (No, he hadn't.)

### **Future Perfect Tense. Будущее свершенное время.**

The Future Perfect Tense обозначает действие, которое завершится к определенному моменту в будущем.

<b>shall</b>
<b>+ have + V3</b>
<b>will</b>

+ She will have finished.

- She will not have finished.

? Will she have finished?

Yes, she will. No, she will not. (No, she won't.)

Будущее свершенное время часто заменяется простым будущим. Употребляется часто с обстоятельствами "by then" - к тому времени, "by... o'clock" - к ... часу, "by the end of" - к концу:

**By 2 o'clock we'll have discussed all the problems.**

К двум часам мы уже обсудим все проблемы.