

MEDICAL TREATMENT PRESCRIPTIONS AND DRUGS

1. Make sure you know the pronunciation of the following terms:

analgesic [ˌænəl'dʒiːzɪk], antibiotic [ˌæntɪbaɪ'ɒtɪk], antihistamine [ˌæntɪ'hɪstə'miːn], antihypertensive [ˌæntɪˌhaɪpə'ten(t)sɪv], antimalarial [ˌæntɪ:mə'leri:əl], antipyretic [ˌæntɪpaɪ'retɪk], antiseptic [ˌæntɪ'septɪk], antiviral [ˌæntɪ'vaɪərə(ə)l], aspirin [ˈæsp(ə)rɪn], buccal [ˈbʌk(ə)l], disinfectant [ˌdɪsɪn'fektənt], ibuprofen [ˌaɪbjʊ:'prəʊfən], injection [ɪn'dʒekʃ(ə)n], intramuscular [ˌɪntrə'mʌskjələ], intravenous [ˌɪntrə'vi:nəs], laxative ['læksətɪv], opioid ['əʊpɪɔɪd], paracetamol [ˌpærə'si:təmɒl], pharmaceutical [ˌfɑ:mə'sju:tɪk(ə)l], rhinitis [ˌraɪ'natɪs], sedative ['sedətɪv], stimulant ['stɪmjələnt], subcutaneous [ˌsʌbkju:'teɪniəs], sublingual [sʌb'ɪŋgwəl], suppository [sə'pɔzɪt(ə)rɪ], syrup ['sɪrəp].

2. Which of these words do you know? Check new words in a dictionary. Write the translation of the words in the table.

adjunct	['ædʒʌŋ(k)t]	
adjust	[ə'dʒʌst]	
administration	[əd,mɪnɪ'streɪʃ(ə)n]	
analgesia	[ˌænəl'dʒiːzɪə]	
apply	[ə'plɑɪ]	
commence	[kə'men(t)s]	
complementary	[ˌkɒmplɪ'ment(ə)rɪ]	
contraindication	[kɒntrəɪndɪ'keɪʃ(ə)n]	
derive	[dɪ'raɪv]	
dispense	[dɪ'spen(t)s]	
dissolve	[dɪ'zɒlv]	
dropper	['drɒpə]	
enteral	['entərə(ə)l]	

indication	[indi'keɪʃ(ə)n]	
intrathecal	[,ɪntrə'thi:k(ə)l]	
modality	[məʊ'dælɪti]	
non-compliance	[,nɒnkəm'plaɪəns]	
ointment	['ɔɪntmənt]	
origin	['ɔrɪdʒɪn]	
over-the-counter drug	['kauntə]	
parenteral	[pæ'rent(ə)rəl]	
precaution	[pri'kɔ:ʃ(ə)n]	
prescription drugs	[pri'skriptʃ(ə)n]	
putrefaction	[pju:tri'fækʃ(ə)n]	
reassurance	[ri:ə'ʃʊ(ə)rəns]	
target	['tɑ:ɡɪt]	
withhold	[wɪθ'həʊld]	

3. Read the text on the subject.

People consult a doctor to find out what is wrong and what should be done about it. Depending on the diagnosis, treatment may consist of reassurance, surgery or other interventions. Drugs are very often either the primary therapy or an adjunct to another modality. Consequently, doctors of nearly all specialties use drugs extensively.

A pharmaceutical drug (also referred to as medicine, medication, or simply as drug) is a drug used to diagnose, cure, treat, or prevent disease. Drugs are classified in various ways. One of the key divisions is by level of control, which distinguishes prescription drugs (those that a pharmacist dispenses only on the order of a physician, physician assistant, or qualified nurse) from over-the-counter drugs (those that consumers can order for themselves).

Drugs are classified on the basis of their origin. There are drugs from natural origin (plant or mineral origin); drug from chemical as well as natural origin (derived from partial herbal and partial chemical synthesis); drug derived from chemical

synthesis; drug derived from animal origin (for example, hormones, and enzymes); drug derived from microbial origin; drug derived by biotechnology genetic-engineering; drug derived from radioactive substances.

Medicines are classified in various other groups besides their origin on the basis of pharmacological properties, route of administration, biological system affected, or therapeutic effects. A sampling of classes of medicine includes: antipyretics, analgesics, antihistamines, antidepressants, antimalarial drugs, antibiotics, antiseptics, laxatives, mood stabilizers, hormone replacements, sedatives, stimulants etc.

An analgesic or painkiller is any member of the group of drugs used to achieve analgesia, relief from pain. Analgesics include paracetamol, the nonsteroidal anti-inflammatory drugs (NSAIDs), and opioid drugs.

Antihistamines are drugs which treat allergic rhinitis and other allergies. Antihypertensives are a class of drugs that are used to treat hypertension. Antipyretics are substances that reduce fever. The most common antipyretics in the United States are ibuprofen and aspirin.

Antiseptics are antimicrobial substances that are applied to living tissue/skin to reduce the possibility of infection, sepsis, or putrefaction. Antiseptics are generally distinguished from antibiotics by the latter's ability to be transported through the lymphatic system to destroy bacteria within the body, and from disinfectants, which destroy microorganisms found on non-living objects.

Antiviral drugs are a class of medication used specifically for treating viral infections rather than bacterial ones. Most antivirals are used for specific viral infections, while a broad-spectrum antiviral is effective against a wide range of viruses. Unlike most antibiotics, antiviral drugs do not destroy their target pathogen; instead they inhibit their development.

Administration is the process by which a patient takes a medicine. There are three major categories of drug administration: enteral (by mouth), parenteral (into the blood stream), and other (which includes giving a drug through intranasal, topical, inhalation, and rectal means).

Most medicines come in a variety of types.

In liquids the active part of the medicine is combined with a liquid to make it easier to take or better absorbed. A liquid may also be called a mixture, solution or syrup.

In tablets the active ingredient is combined with another substance and pressed into a round or oval solid shape. There are different types of tablets. Soluble tablets can safely be dissolved in water. Buccal tablet is the one which dissolves when it is held between the cheek and gum, permitting direct absorption of the active ingredient through the oral mucosa. Sublingual tablet dissolves when held beneath the tongue.

Capsule is a small gelatinous case enclosing a dose of medication. The active part of the medicine is contained inside a shell that dissolves slowly in the stomach. Some capsules can be taken apart so the contents can be mixed with food. Others need to be swallowed whole so the medicine is not absorbed until the stomach acid breaks down the capsule shell.

Topical medicines are creams, lotions or ointments that are applied directly onto the skin. They come in tubs, bottles or tubes depending on the type of medicine. The active part of the medicine is mixed with another substance that makes it easy to apply to the skin.

A suppository is a solid medicine that is inserted into the rectum (rectal suppository), vagina (vaginal suppository) or urethra (urethral suppository), where it dissolves and exerts local or systemic effects. They are used to deliver both systemically and locally acting medications.

Drops are any liquid medication applied by means of a dropper. These are often used for eye, ear or nose where the active part of the medicine works best if it reaches the affected area directly.

When the active part of the medicine is released under pressure directly into the lungs, the drug is called an inhaler.

Injection is fluid injected into the body for medicinal purposes. There are various types of injection, differing in how and where it is injected. Subcutaneous injections are given just under the surface of the skin. Intramuscular injections are given into a

muscle. Intrathecal injections are given into the fluid around the spinal cord. Intravenous injections are given into a vein.

Description of medicine is called a drug monograph. It includes information concerning chemical or therapeutic class of the drug, the kinds and amounts of ingredients it may contain, indications and contraindications, dose for adults and children, directions for use, precautions, interactions with other drugs and side effects.

An indication is a valid reason to use a certain medication. The opposite of it is a contraindication, a reason to withhold a certain medical treatment because it could harm a patient. Warnings or precautions are conditions in which special attention is required for patients. A side effect is usually regarded as an undesirable secondary effect which occurs in addition to the desired therapeutic effect of a medication. Side effects can be caused by all kinds of medicines, including prescription and over-the-counter medicines, complementary medicines like herbal preparations, vitamins. They may vary for each individual depending on the person's disease state, age, weight, gender, ethnicity and general health. Side effects can occur when commencing, decreasing/increasing dosages, or ending a drug or medication regimen. Side effects may lead to non-compliance with prescribed treatment. When they are severe, the dosage may be adjusted or a second medication may be prescribed. Lifestyle or dietary changes may also help to minimize side effects.

4. Ask your partners:

- 1) about types of drugs on the basis of their origin;
- 2) about the difference between prescription drugs and over-the-counter drugs;
- 3) what the abbreviation NSAID stands for;
- 4) about the difference between antiseptics, antibiotics and disinfectants;
- 5) about the difference between antivirals and antibiotics;
- 6) about the major categories of drug administration;
- 7) how a description of medicine is called;
- 8) what information a drug monograph provides;

- 9) where topical medicines are applied;
- 10) about the types of injections;
- 11) when side effects can occur;
- 12) what drops are used for.

5. Complete each sentence with a type of medicine.

a painkiller, a sedative, an anti-inflammatory, an inoculation, an antibiotic, an antihistamine, a stimulant, an antidepressant, a laxative, a supplement

- 1. _____ kills bacteria and other germs.
- 2. _____ protects you against infectious diseases.
- 3. _____ relieves pain.
- 4. _____ reduces swelling.
- 5. _____ encourages bowel movements.
- 6. _____ provides a substance that the body lacks.
- 7. _____ treats allergies.
- 8. _____ increases activity in the body.
- 9. _____ reduces feelings of extreme sadness.
- 10. _____ makes you relaxed and sleepy.

6. Match terms with their definitions.

1. indication	a) a small tube with a thin hollow needle at the end used for putting liquids into things and for taking liquids out.
2. cream	b) a small device that helps you to breathe more easily by sending a small amount of a drug into your lungs.
3. side effect	c) a piece of medical equipment by which a liquid is slowly passed through a tube into a patient's blood.
4. dropper	d) a smooth oily substance that is rubbed on the skin for medicinal purposes or as a cosmetic.
5. inhaler	e) a thick, smooth liquid preparation designed to be applied to

	the skin for medicinal or cosmetic purposes.
6. syringe	f) a short glass tube with a rubber bulb at one end and a tiny hole at the other, for measuring out drops of medicine.
7. ointment	g) a medicine in the form of a thick, sweet liquid.
8. IV drip	h) a symptom that suggests certain medical treatment is necessary
9. lotion	i) an unpleasant effect of a drug that happens in addition to the main effect
10. syrup	j) a thick liquid or semi-solid cosmetic or medical preparation applied to the skin

7. Use the words from ex. 6 in the following sentences:

- _____ for dimotane are runny nose, sneezing, itching, and watery eyes caused by allergies, common cold, or flu.
- Treatment of orbital cellulitis is with antibiotics, usually given intravenously via an _____, in hospital.
- Medicinal _____ are widely consumed as children medicines, though medicated _____ for adults are also available.
- The difference between _____, _____ and _____ is the proportion of lipid to water. The lipid content is the lowest in _____, intermediate in _____ and the highest in _____.
- Apply enough pressure to the _____ to release one drop into your eye.
- The medicine inside an _____ goes straight into the airways when you breathe in.
- Gastro-intestinal irritation is a _____ of aspirin.
- Medical _____ were once made of metal or glass, and required cleaning and sterilization before they could be used again.

8. Match the common prescription abbreviations with their meaning.

Note that *a* means *before*, *p* means *after*, and *q* means *each, every*.

ac	as required, according to necessity
IM	four times a day
IV	sublingual
od	after meals
om	in the morning
pc	every hour
PO	every four hours
prn	intramuscular
qh	by mouth, orally
q4h	before meals
qid / qds	intravenous
SL	once a day

9. Write and say the meaning of these abbreviations used in administering medicines. Use ex. 8 to help you.

Abbreviation	Meaning
The frequency of drugs	
on	
od	once a day
bd	a day
tds	a day
qds	a day
q4-6h	
q8h	
q1-4h	
The route of administration	
IV	intravenous
IM	intramuscular

SC	
PO	by mouth
PR	by
INH	by
NEB	by
Measurements	
g	gram [græm]
µg	
mg	
ml	

10. Read the chart aloud. Say abbreviations as complete words.

EXAMPLE. *Give the patient one gram of paracetamol four times a day by mouth up to maximum of 4 grams.*

Drug	Dose	Freq	Route	24h Max
paracetamol	1g	qds	PO	4g
loperamide	4mg	PRN	PO	16 mg
ranitidine	150 mg	bd	PO	300 mg
atorvastatin	10 mg	od	PO	80 mg
dimotane	10 mg	q8h	IM	30 mg
metamucil	15 mg	tds	PO	45 mg
tramadol	50 mg	q4h	IM	600 mg

Note the pronunciation of medicines:

paracetamol [ˌpærə'si:təmɒl], loperamide [ləʊ'perəmaɪd], ranitidine [ra'nɪtɪdɪ:n], atorvastatin [əˌtɔrvə'stætɪn], dimotane [daɪ'mɔ:tɛn], metamucil [met(ə)'mju:sɪl], tramadol [ˌtræmə'dəʊl].

11. Read about explaining side effects.

When you explain the benefits of a drug to a patient, you state what the drug does. To show that a drug causes side effect in some people, it is important to understand the difference between *can* and *may*. Both words are used to express possibility and are often used interchangeably. However, *can* indicates a theoretical possibility while *may* indicates a real possibility. Compare.

Can. This medication can cause some stomach irritation.

Here *can* indicates that stomach irritation is a possibility. You emphasize that the side effect is theoretically possible, but not of serious concern to the patient you are talking to. In this situation you can also say:

This occasionally causes stomach irritation in some patients.

Sometimes people get stomach irritation with this, but it isn't usually a problem.

May. This medication may cause some stomach irritation.

In this case, the word *may* indicates that stomach irritation is a strong possibility. In this situation you can also say:

There is a strong possibility that this will upset your stomach.

12. Use the words to complete sentences.

possibility, will, probably, may, can, may not
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1. In some people, it can cause a fleeting headache, but it doesn't mean you _____ get one.
2. Theoretically, this can cause low blood pressure, but you _____ won't have a problem.
3. Some people get blurred vision, but it _____ happen in your case.
4. There is a strong _____ that this will upset your stomach. In fact, it may make you feel really ill.
5. Swelling of the ankle is not common but it is possible – it _____ happen.
6. This _____ make you feel dizzy, so you should be careful when you drive.

13. Work in pairs. Look the benefits and side effects of drugs in the table and fill in names of medicines:

metformin [met'fɔ:.mɪn], omeprazole [o'meprəzəʊl],

levothyroxine ['li:vəʊ θaɪ'rɒksi:n], lisinopril [li'sɪnə,prɪl].

Medicine	Benefit	Side effects
	Decreases the amount of acid in the stomach, relieves symptoms such as heartburn, difficulty swallowing, and persistent cough, helps heal acid damage to the stomach and esophagus	Headache or abdominal pain may occur. Serious side effects can occur: swelling of the hands/feet, unusually irregular heartbeat, persistent muscle spasms, seizures, sudden weight gain
	Treats an underactive thyroid, replaces or provides more thyroid hormone, which is normally produced by the thyroid gland.	Hair loss may occur during the first few months of treatment. Effects of high thyroid hormone levels can occur: increased sweating, sensitivity to heat, mental/mood changes, tiredness, diarrhea, tremor, headache, shortness of breath.
	Treats high blood pressure. Lowering high blood pressure helps prevent strokes, heart attacks, and kidney problems.	Dizziness, lightheadedness, tiredness, or headache, dry cough may occur. Fainting, muscle weakness, slow/irregular heartbeat, change in the amount of urine, decrease in vision, eye pain can occur.
	Used to control high blood sugar. Controlling high blood sugar helps prevent kidney damage, blindness, nerve problems, loss of limbs, and sexual function problems.	Nausea, vomiting, stomach upset, diarrhea, weakness, or a metallic taste in the mouth may occur.

14. Work in pairs. Explain the benefits and side effects of the medicines in ex. 13 to your patients.

USEFUL EXPRESSIONS

It is used to ...

It is prescribed to ...

It helps ...

In some cases it can ...

Some people can get ...

You may get ...

In some people, it can cause ...

ANSWER KEY

4. 1. What are the types of drugs on the basis of their origin? 2. What is the difference between prescription drugs and over-the-counter drugs? 3. What does the abbreviation NSAID stand for? 4. What is the difference between antiseptics, antibiotics and disinfectants? 5. What is the difference between antivirals and antibiotics? 6. What major categories of drug administration are there? 7. How is a description of medicine called? 8. What information does a drug monograph provide? 9. Where are topical medicines applied? 10. What types of injections are there? 11. When can side effects occur? 12. What are drops used for?

5. 1 an antibiotic, 2 an inoculation, 3 a painkiller, 4 an anti-inflammatory, 5 a laxative, 6 a supplement, 7 an antihistamine, 8 a stimulant, 9 an antidepressant, 10 a sedative.

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

7. 1 Indications, 2 IV drip, 3 syrups, syrups, 4 lotions, creams and ointments, lotions, creams, ointments, 5 dropper, 6 inhaler, 7 side effect, 8 syringes

8.

ac	before meals
IM	intramuscular
IV	intravenous
od	once a day
om	in the morning
pc	after meals
PO	by mouth, orally
prn	as required
qh	every hour
q4h	every four hours
qid / qds	four times a day
SL	sublingual

9.

Abbreviation	Meaning
The frequency of drugs	
on	at night
od	once a day
bd	twice a day
tds	3 times a day
qds	4 times a day
q4-6h	every 4-6 hours
q8h	every 8 hours
q1-4h	every 1-4 hours
The route of administration	
IV	intravenous
IM	intramuscular
SC	subcutaneous
PO	by mouth
PR	by rectum
INH	by inhalation
NEB	by nebuliser
Measurements	
µg	microgram ['maɪkrə,græm]
mg	milligram ['mɪlɪgræm]
ml	millilitre ['mɪlɪ,li:tə]

10.

Give the patient one gram of paracetamol four times a day by mouth up to maximum of 4 grams.

Give the patient 4 milligrams of loperamide as required, by mouth, up to maximum of 16 milligrams.

Give the patient 150 milligrams of ranitidine twice a day, by mouth, up to maximum of 300 milligrams.

Give the patient 10 milligrams of atorvastatin once a day, by mouth, up to maximum of 80 milligrams.

Give the patient 10 milligrams of dimotane every eight hours, intramuscularly, up to maximum of 30 milligrams.

Give the patient 15 milligrams of metamucil three times a day, by mouth, up to maximum of 45 milligrams.

Give the patient 50 milligrams of tramadol every four hours, intramuscularly, up to maximum of 600 milligrams.

12. 1 will, 2 probably, 3 may not, 4 possibility, 5 can, 6 may.

13. omeprazole [o'meprəzəʊl], levothyroxine ['li:vəʊ θəi'rɒksi:n], lisinopril [li'sinə,pril], metformin [met'fɔ:.mɪn].