МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ «ГОМЕЛЬСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ»

Кафедра иностранных языков

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ПРАКТИКУМ ПО ФАРМАЦЕВТИЧЕСКОЙ ТЕРМИНОЛОГИИ И РЕЦЕПТУ

Учебно-методическое пособие по латинскому языку для студентов 1 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов

PRACTICAL TRAINING IN PHARMACEUTICAL TERMINOLOGY AND PRESCRIPTION

Practical workbook on the Latin language for first-year students of Faculty on preparation of experts for foreign countries of medical higher educational institutions

> Гомель ГомГМУ 2017

УДК 615:811.124(072)=111 ББК 25.81:81.2Лат.я73 К 44

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К 44 Практикум по фармацевтической терминологии и рецепту: учеб.метод. пособие по латинскому языку для студентов 1 курса факультета по подготовке специалистов для зарубежных стран медицинских
вузов = Practical training in pharmaceutical terminology and prescription:
practical workbook on the Latin language for first-year students of Faculty
on preparation of experts for foreign countries of medical higher educational institutions / И. Н. Киселевич. — Гомель: ГомГМУ, 2017. — 48 с.
ISBN 978-985-506-911-0

Учебно-методическое пособие рассматривает закономерности образования фармацевтических терминов и знакомит студентов с методикой их анализа. Составлено в соответствии с программой по латинскому языку и основам медицинской терминологии.

Предназначено для студентов 1 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов.

Утверждено и рекомендовано к изданию научно-методическим советом учреждения образования «Гомельский государственный медицинский университет» 29 декабря 2016 г., протокол № 6.

УДК 615:811.124(072)=111 ББК 25.81:81.2Лат.я73

ISNB 978-985-506-911-0

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LESSON 1. INTRODUCTION TO THE PHARMACEUTICAL TERMINOLOGY

The main objectives of the lesson are:

- 1) to learn the basic theoretical information about pharmaceutical terminology;
 - 2) to train in writing the medicine names in Latin;
- 3) to train in using the capital and small letters in pharmaceutical terminology;
 - 4) to train in writing Latin names of medicinal preparations.

§1. Basic pharmaceutical terms and their definitions

Pharmaceutical terminology is a complex of special terms used in the branch of medicine known as *pharmacy* (Greek *pharmakeia*) which deals with getting, processing, producing, storing and handing out medicines.

The basic pharmaceutical terms are the pharmaceutical substance, the medicinal vegetable raw materials, the medicine (drug), the medicinal form and the medicinal preparation.

Pharmaceutical substance is a substance of natural, synthetic or biotechnological origin having pharmacological activity and used for industrial production of medicines and for making them at pharmacies.

Herbal medicinal raw materials are whole medicinal plants or parts of medicinal plants (roots, rhizomes, tubes, herbs, flowers, spores, fruit, seeds, stalks, bark, leaves) used for industrial production of medicines and for making them at pharmacies.

Medicine (drug) is a pharmaceutical substance or a combination of several pharmaceutical substances which have pharmacological activity and are permitted to be used orally or externally for prevention, diagnostics and treatment of diseases. /Law of the Republic of Belarus of the 20th of July of the year 2006 No 161-3 "On medicines"/

A medicine which has undergone special clinical testing and is approved to be used in medical practice must be obligatory registered in the **International Non-proprietary Names**. INN is a nomenclature system used to identify active ingredients of medicines. Each INN is a unique name that is internationally consistent and globally recognised. The INN system began operating in 1953 and is now administered by the World Health Organisation. The aim of the INN system is to provide healthcare professionals with a unique and universally available designated name to identify each pharmaceutical substance. The existence of such a nomenclature assists in the clear identification, safe prescription and dispensing of medicines to patients; and facilitates communication and exchange of information among healthcare professionals and scientists world-wide.

There are distinguished the **original medicine** having the brand name and the **generic medicine** having the generic /scientific name.

Original medicine is a medicine which differs from the previously registered medicines by its pharmaceutical active substance or a combination of such substances.

Generic medicine is a medicine containing the same pharmaceutical substance or a combination of pharmaceutical substances in the same medicinal form as the original medicine. It is equivalent to the original medicine and therapeutically interchangeable with it.

Original medicine is given a brand name by the pharmaceutical company which developed it. This company takes out a patent (exclusive rights) on this medicine to ensure that it regains the money spent on its research and development. Once the patent protection expires, other companies can produce their own version of the medicine (generic medicine). Generic medicines are usually cheaper because there are fewer research and development costs, but they contain the same active ingredient as the branded products.

Medicinal form is a state of a medicine which makes it convenient to use. There are divided into:

- *liquid medicinal forms* (emulsion; extract; infusion; liniment; mixture; solution; suspension; tincture);
 - soft medicinal forms (ointment; paste; suppository);
 - solid medicinal forms (tablet; capsule; dragee, powder; species; pill).

Medicinal preparation is some medicine in a certain medicinal form (tablet of analgine; zinc paste).

§2. Medicine names

There are three types of medicine names: *non-proprietary names, chemical names and trade names*.

Non-proprietary medicine names consist of one word only. They are not translated into other languages, they are transcribed, i. e. are written with the letters of Latin alphabet and get specific Latin endings. As a rule, such medicine names are **second declension neuter nouns with the ending –um / -ium**.

English name

corvalole

atropine

chloroform

Latin name

Colvalolum, i n

Atropinum, i n

Chloroformium, i n

But many medicines preserve their **chemical names** corresponding to their chemical composition. They are:

- names of chemical elements: Zincum (zinc), Iodum (iodine);
- names of salts: Calcii gluconas (calcium gluconate), Natrii chloridum (sodium chloride);
 - names of inorganic acids: Acidum acetylsalicylicum (acetylsalicylic acid);

• names of oxides, peroxides and hydroxides: *Zinci oxydum (zinc oxide)*, *Aluminii hydroxydum (aluminium hydroxide)*.

Medicines containing two or more pharmaceutical substances in their composition are given **trade names**. They are written in the Nominative case in inverted commas after the name of a medicinal form. These names are given in pharmaceutical reference books.

For example: tablets "Pyrcophen" — tabulettae "Pyrcophenum", ointment "Laevomecol" — unguentum "Laevomecolum".

§3. Capital and small letter

CAPITAL letter is **always** used in the following names:

- 1. names of medicines: *Analgīnum*, *i n; Platyphyllīnum*, *i n; Spirĭtus aethylĭcus ethyl alcohol*;
 - 2. names of medicinal plants: Valeriāna, ae f; Althaea, ae f;
 - 3. names of chemical elements: Calcium, i n; Kalium, i n;

<u>**BUT**</u>: if a chemical element (Natrium, i n, Kalium, i n) is a part of a compound name as apposition, it is written with a small letter after a hyphen: *Oxacillinum-natrium*;

- 4. prescription verbs: Recipe (Take); Da (Give); Signa (Mark);
- 5. the words Aqua, ae f (water), Acidum, i n (acid), Spiritus, us m (alcohol), Oleum, i n (oil);
 - 6. the first word of each new prescription line.

Small letter is used in the following cases:

- 1. names of medicinal forms if they do not begin a prescription line;
- 2. names of plants parts if they do not begin a prescription line;
- 3. names of salts anions;
- 4. all the adjectives and participles as they can never begin a prescription line.

§4. Structure of medicinal preparation

The names of medicines produced by pharmaceutical industry include names of medicinal forms and other characteristics (solvent, percentage concentration, type of vegetable raw materials, etc.). The names of medicinal preparations are presented by word combinations consisting of several pharmaceutical terms. These words should be in a definite order according to the rules used in anatomical terminology.

1) medicinal form + medicine name / medicinal plant

1 2
medicinal form medicine name or medicinal plant
in Nominative Sing. / Plur. in Genitive Sing. with the capital letter

tablets of analgine – tabulett<u>ae</u> Analgin<u>i</u> Zinc paste = paste of zinc – past<u>a</u> Zinc<u>i</u> tincture of motherwort – tinctur<u>a</u> Leonur<u>i</u>

1 medicinal form in Nominative Sing. / Plur.

«trade medicine name» in Nominative Sing.

tablets «Citramon» — tabulett<u>ae</u> «Citramon<u>um</u>» suppositories «Anusol» — suppositori<u>a</u> «Anusol<u>um</u>»

2) adjective + medicinal form + name of medicine / plant

1	2	3
medicinal form in	medicine name or	adjective in Nominative (if referring
Nominative Sing. /	medicinal plant in	to medicinal form) or in Genitive
Plur.	Genitive Sing.	(if referring to the name
	with capital letter	of medicine / plant)

coated tablets of ampicilline — tabulett**ae** Ampicillin**i** obduct**ae**ophthalmic ointment of tetracycline — unguent**um** Tetracyclin**i** ophthalmic**um**liquid extract of motherwort — extract**um** Leonur**i** fluid**um**

REMEMBER!

❖ In the names of vaginal and rectal suppositories the adjectives *vaginalis,e* and *rectalis,e* are written right after the noun *suppositorium, i n*:

vaginal suppositories «Anaesthesol» — suppositoria vaginalia «Anaesthesolum»

The same structure is also used in the names of ophthalmic films (membranŭlae ophthalmicae):

membranŭlae ophthalmĭcae cum Pilocarpīni hydrochlorĭdo

❖ In the names of medicinal preparations obtained from stone-fruits, the name of a fruit is written in the Genitive plural:

peach oil = oil of peaches — Oleum Persic**ōrum** olive oil = oil of olives — Oleum Oliv**ārum**

❖If an adjective characterizes a pharmaceutical substance or medicinal plant, it agrees with the name of this substance or plant:

peppermint oil = oil of peppermint — Oleum Menthae piperītae

Vocabulary 1

Liquid medicinal forms

1. emulsum, i n	emulsion	emuls.
2. extractum, i n	extract	extr.
3. infusum, i n	infusion	inf.
4. linimentum, i n	liniment	lin.
5. mixtūra, ae f	mixture	mixt.
6. solutio, ōnis f	solution	sol.

7. suspensio, ōnis f	suspension	susp.
8. tinctūra, ae f	tincture	tinct.
	Soft medicinal forms	
9. pasta, ae f	paste	past.
10. unguentum, i n	ointment	ung.
11. suppositorium, i n	suppository	supp.
	Solid forms	
12. capsŭla, ae f	capsule	caps.
13. dragee	dragee	drag.
14. granŭlum, i n	granule	gran.
15. pulvis, ĕris m	powder	pulv.
16. tabuletta, ae f	tablet	tab.
17. species, ērum f /plur./	' species	spec.
18. aërosōlum, i n	aerosol	aëros.
19. membranŭlae	ophthalmic films	
ophthalmĭcae	opinthalithe Jilitis	
Nar	mes of plants and medicines	
20. Belladonna, ae f	belladonna	
21. Leonūrus, i m	motherwort	
22. Quercus, us f	oak tree	
23. Valeriāna, ae f	valerian	
1	Parts of medicinal plants	
24. cortex, ĭcis m	bark	cort.
25. herba, ae f	herb	hb., h.
26. radix, īcis f	root	rad., r.
	Adjectives	
27. fluĭdus, a, um	liquid	fluid.
28. obductus, a, um	coated	obd.
29. ophthalmicus, a, um	ophthalmic	
30. siccus, a, um	dry	sicc.
31. spissus, a, um	thick	
32. rectālis, e	rectal	rect.
33. vaginālis, e	vaginal	vagin.

EXTRA information

- * Atropa Belladonna / Belladonna / grows in North Africa, Europe, Crimea and Asia. The common name "belladonna" originates from its historic use by women, as "Bella Donna" is Italian for "beautiful lady". Drops prepared from the belladonna plant were used to dilate women's pupils to get an effect considered to be attractive and seductive. In medicine belladonna has been used in herbal medicine for centuries as a pain reliever, muscle relaxer, and anti-inflammatory, and to treat menstrual problems, peptic ulcer disease, histaminic reaction, and motion sickness. Now Atropine sulphate containing Belladonna is used for eye examination.
- ❖ Motherwort /Leonurus/ has a long history of use as a herb in traditional medicine in Central Europe, Asia, and North America. It was historically used in China to prevent

pregnancy and to regulate menstruation. Motherwort has also been used to ease stomach gas and cramping, menopausal problems, and insomnia.

- ❖ Oak tree /Quercus/ is a tree in the genus of the beech family. There are approximately 600 species of oaks. Oak bark is the bark from several types of oak trees. It is used to make medicine. It is used as a tea for diarrhea, colds, fever, cough, and bronchitis; for stimulating appetite; and for improving digestion. Some people apply oak bark directly to the skin in a compress or add it to bath water for pain and swelling (inflammation) of the skin, mouth, throat, genitals, and anal region; and for red itchy skin due to cold exposure (chilblains).Oak bark contains tannins, which might help treat diarrhea and inflammation.
- ❖ *Valerian /Valeriana/*. The name of the herb is derived from the personal name *Valeria* and the Latin verb *valere* (to be strong, healthy). Crude extract of valerian root is sold as a dietary supplement in the form of capsules. Valerian root may have sedative and anxiolytic effects.

EXERCISES

1. Latinize the following medicine names:

bicilline, boromenthole, amoxicilline, nitroglycerin, glucose, gentamycine, prednisolone, bisoprolole, dibazole.

2. Write the capital letter where necessary:

solutio glucosi; unguentum ditetracyclini ophthalmicum; infusum corticis quercus; suppositoria rectalia "anusolum"; tabulettae prednisoloni obductae; radix valerianae; linimentum "sanitas"; extractum belladonnae spissum; herba leonuri.

3. Choose the correct endings and translate into English:

tabulettae Nitroglycerīni (obducta; obductae; obducti); suspensio (Hydrocortisōnum; Hydrocortisōni); (tinctūra; tinctūrae) Valeriānae; (unguentum; unguenti) Erythromycīni; herba (Leonūri; Leonūrus); infusum (herba; herbae) Leonūri; extractum Leonūri (fluĭdum; fluĭdi; fluĭdus); extractum Belladonnae (siccum; siccae); cortex (Querci; Quercus); decoctum (cortex; cortis; cortĭcis) Quercus; suppositoria (vaiginalis; vaginale; vaginalia).

4. Put the following words into the necessary cases:

<i>Plur.</i>); radix, icis f (<i>Gen. Sing.</i>); suppositorium, i n
(Gen. 5018.), suppositorium, i ii
(Nom. Plur.); Quercus, us f (Gen. Sing.); siccus, a, um
(Nom. Sing., neuter); vaginalis, e(Nom. Plur., neuter); pulvis, eri
m (<i>Gen. Sing.</i>); Belladonna, ae f (<i>Gen. Sing.</i>)
obductus, a, um (Nom. Plur., feminine).

5. Put the necessary case ending instead of dots:

unguent... Dimexin...; solut... Nitroglycerin...; suspens... Griseofulvin...; tabulett... Ibuprophen...; tabulett... «Bellasthesin...»; tabulett... «Cholenzym...» obduct...; suppositori... «Pharmatex...»; unguent... Ditetracyclin... ophthalmic...; suppositori... vaginal... cum Synthomycino.

6. Translate from English into Latin:

coated tablet — coated tablets, rectal suppository — rectal suppositories, vaginal suppository — vaginal suppositories, tincture of motherwort, infusion of

valerian, ophthalmic films, dry extract of belladonna, thick extract of valerian, coated tablets of extract of valerian; liniment of streptocide; aerosol "Cameton"; tincture of valerian; root of belladonna; liquid extract of motherwort; decoction of bark of oak; ophthalmic ointment of dibiomycine; solution of glucose; tablets of validole; vaginal suppositories "Osarbon"; granules of orase.

LESSON 2. STANDARD PRESCRIPTION PHRASES

The main objectives of the lesson are:

- 1) to memorize the basic standard verb phrases and prepositional phrases used in prescription;
 - 2) to train in writing the prescription verbs and prepositional phrases.

§5. Standard prescription verbs denoting orders and instructions

There are several verbs used in the prescription. They denote order, instruction or request as the prescription itself is a written address of a doctor to a pharmacist. These prescription verbs may be used either in Imperative Mood or in Subjunctive Mood. *Prescription phrases in Imperative and Subjunctive mood have the same meaning "order, instruction", therefore they can equally be used in a prescription.*

Imperative mood. Modus imperatīvus

Imporative Singular	Translation
Imperative Singular	Translation
Da!	Give!
Signa!	Mark!
Sterilĭsa!	Sterilize!
Misce!	Mix!
Recĭpe!	Take!
Repěte!	Repeat!
Verte!	Turn over!

Subjunctive mood. Modus conjunctīvus

Subjunctive mood. Modus conjunctivus					
Subjunctive Singular	Translation	Subjunctive Plural	Translation		
Detur	Let it be given.	Dentur	Let them be given.		
Signētur	Let it be marked.				
Sterilisētur	Let it be sterilized.				
Misceātur	Let it be mixed.				
Repetātur	Let it be repeated.				

REMEMBER the following prescription phrases!

Da tales doses numero ... Give such doses in number ...

Dentur tales doses numero ... Let such doses be given in number ...

The verb "fiĕri" in prescription phrases

Usage: While writing out a prescription for a medicine (drug) prepared at a pharmacy in order to indicate the components to prepare the medicine and the medicinal form to make.

Forms: The verb *fiĕri* (*to make*) is used in subjunctive mood singular or plural and is followed by the name of a medicinal form to be made:

- \bullet singular form *fiat* is used when prescribing powders, ointments, liniments, suppositories.
 - plural form *fiant* is used when prescribing species.

After these verb forms the medicinal form is used in **Nominative** Singular or Plural.

REMEMBER the prescription phrases with these forms!

Misce fiat unguentum / pulvis / suppositorium. – *Mix to make ointment / powder / suppository.*

Misce fiant species. — Mix to make species.

§6. Standard prepositional phrases used in prescription

ad 100 ml up to 100 ml

ad usum internum (externum) for internal (external) use

contra tussim against cough cum Glycerino with glycerine cum radicibus with roots

ex 0,5 – 180 ml from 0.5 gram (of dry substance) – 180 ml

(of decoction, infusion)

in ampullis in ampoules

in capsŭlis gelatinosis in gelatinous capsules

in charta cerāta in waxed paper

in tabulettis in tablets

in tabulettis obductis in coated tablets in vitro nigro in a dark phial

per se by itself

pro auctore (pro me) for the author (for me)

pro infantĭbus for children
pro injectionĭbus for injections
pro narcōsi for narcosis
pro suspensiōne for suspension

Vocabulary 2

Names of medicines

1. aqua, ae f	water	aq.
2. Camphora, ae f	camphor	
3. oleum, i n	oil	ol.
4. Oleum Ricĭni	castor oil	
5. spirĭtus, us m	alcohol	spir.
6. Spirĭtus aethylĭcus, spirĭtus aethylĭci	ethyl alcohol	
Names of medic	inal plants	
7. Hyperīcum , i n	St. John's Wort	
8. Mentha, ae f	mint	
9. Mentha piperīta, ae f	peppermint	
10. Rheum, i n	rhubarb	
11. Urtīca, ae f nettle		
12. Virĭde nitens, Virĭdis nitentis	brilliant green	
Parts of medici	nal plants	
13. folium, i n	leaf	fol.
14. rhizōma, ātis n	rhizome	rhiz.
Adjectiv	es	
15. aethylĭcus, a, um	ethyl	
16. destillātus, a, um	distilled	destill.
17. gelatinōsus, a, um	gelatinous	gel.
18. oleōsus, a, um	oily	
19. purificātus, a, um	purified	purif.
20. spirituōsus, a, um	spirituous	

EXTRA information

- ❖ Mentha /Mint/ All mints grow near pools of water in partial shade all year round. Mint was originally used as a medicinal herb to treat stomach ache and chest pains. There are several uses in traditional medicine and preliminary research for possible use in treating irritable bowel syndrome. Menthol from mint essential oil (40–90 %) is an ingredient of many cosmetics and perfumes. Menthol and mint essential oil are also used in aromatherapy which may have clinical use to alleviate post-surgery nausea.
- ❖ Viride nitens /Brilliant green/ is a synthetic medicine. It has been used to color silk and wool. In Eastern Europe and Russia the dilute alcoholic solution of Brilliant Green is sold as a topical antiseptic. It is effective against gram-positive bacteria. The main advantage of Brilliant Green over the more common antiseptics such as iodine is that it does not irritate mucous membranes as harshly on accidental contact.

EXERCISES

1. Translate into Latin:

water of peppermint; distilled water; spirituous solution of brilliant green; root of rhubarb; leaves of nettle; purified water; infusion of leaves of peppermint;

dry extract of rhubarb; coated tablets of nystatin; oil of peppermint; emulsum of castor oil; oily solution of camphor; spirituous solution of menthole; herb of St. John's Wort; infusion of rhizome of valerian; powder of root of rhubarb.

JOIIII S	wort, mir	asion of finzonic of valenan, powder of foot of findbard.
Ny extern_ Valeria	vstatinum ; Oleu n; p	mecessary prepositions or endings and translate into English: tabulettis obduct; tabulettae Furacilin ad usum m Ricini capsul gelatinosis; rhizoma radicibus ulvis Polysorb tussim; solutio Glucos in appositoria rectal cum Theophyllin; tabulettae infantibus; tabulettae Ampicillin pro suspension
with icl for chil cough nitrogly	lution of athyole; oldren; wa for chil accerine in	penicillin for injections; collargol in a dark phial; suppositories oily solution of camphor for external use; tablets of dimedrole ater for injections; validole in capsules; dry mixture against dren; powder with levorine for suspension; solution of ampoules; rhizome with roots of valerian; theophylline by for narcosis; amidoprocaine in coated tablets.
to make omake of 9) Mark capsule	Give suce a suppointment. 3. 10) Mix s. 12) Ta	h doses in number 10 in tablets. 2) Give in waxed paper. 3) Mix sitory. 4) Give such doses in number 20 in ampoules. 5) Mix to 6) Sterilize. 7) Give in a dark phial. 8) Mix to make liniment to make species. 11) Give such doses in number 15 in gelatinous the ethyl alcohol 70% up to 100 ml. 13) Mix to make powder sees in number 10 in coated tablets. 15) Mix to make paste.
		d analyze the underlined endings: Menthōli 0,2 Spirĭtus aethylĭci 90% 50,0 Misce. Da. Signa:
2. 1	Recĭpe:	Aqu <u>ae</u> Menth <u>ae</u> piperīt <u>ae</u> Glycerīn <u>i</u> Spirĭtus aethylĭci 70% ana 30 ml Misce. Da. Signa:
3.	Recĭpe:	Unguent <u>i</u> Xeroformii 3% 10,0 Da. Signa:
4.	Recĭpe:	Solutiōnis Phentanyli 0,005% – 5 ml

Da tales doses numero 10 in ampullis

Signa:

LESSON 3. LATIN CHEMICAL TERMINOLOGY

The main objectives of the lesson are:

- 1) to learn the Latin names of main chemical elements;
- 2) to learn the Latin names of oxides, peroxides, hydroxides and acids;
- 3) to train in writing the Latin names of oxides and acids.

§7. Latin names of chemical elements

- All the names of chemical elements are always written with the CAPITAL letter.
 - Latin names of chemical elements are 2nd declension neuter nouns:

E.g.: Ferrum, i n - iron; Zincum, i n - zinc.

Exceptions: Sulfur, ŭr**is** n (3rd declension)

Phosphŏrus, i **m** (masculine).

• The chemical elements *fluorine* and *magnesium* have two Latin names:

fluorine: Phthorum and Fluōrum;

magnesium: Magnium and Magnesium.

Names of the most important chemical elements

Names of the most important chemical elements					
Latin name	Symbol	English name	Latin name	Symbol	English name
Aluminium, i n	Al	aluminium	Hydrargÿrum, i n	Нg	mercury
Argentum, i n	Ag	silver	Iōdum, i n	I	iodine
Arsenĭcum, i n	As	arsenic	Kalium, i n	K	potassium
Aurum, i n	Au	gold	Lithium, i n	Li	lithium
Borum, i n	В	boron	Magnesium, i n	M_{α}	ma a on o si um
Bromum, i n	Br	bromine	Magnium, i n	Mg	magnesium
Barium, i n	Ва	barium	Mangănum, i n	Mn	manganese
Bismŭthum, i n	Bi	bismuth	Nitrogenium, i n	N	nitrogen
Carboneum, i n	C	carbon	Natrium, i n	Na	sodium
Chlorum, i n	Cl	chlorine	Oxygenium, i n	0	oxygen
Calcium, i n	Ca	calcium	Plumbum, i n	Pb	lead
Cuprum, i n	Си	copper	Phosphŏrus, i m	P	phosphorus
Fluorum, i n	F	fluorino	Sulfur, ŭris n	S	sulphur
Phthorum, i n	Γ	fluorine	Silicium, i n	Si	silicon
Ferrum, i n	Fe	iron	Zincum, i n	Zn	zinc
Hydrogenium, i n	Н	hydrogen			

§8. Names of oxides, hydroxides, peroxides

Latin names of oxides, hydroxides and peroxides consist of two words:

1 2		
name of a chemical element	the word "oxide, hydroxide, peroxide"	
■ non-changeable	■ changeable	
always in Genitive Singular	Nominative or Genitive Singular	
with the capital letter	with the small letter	

English	Nom.	Gen.
zinc oxide	Zinc i oxÿd um	Zinci oxydi
aluminium hydroxide	Alumini i hydroxÿd um	Alumini i hydroxydi
hydrogen peroxide	Hydrogeni i peroxyd um	Hydrogenii peroxydi

§9. Names of acids

Latin names of acids consist of the noun *Acĭdum, i n, acid*, which is written with the capital letter, and the adjective denoting the name of the acid of neuter gender. Both words are declined.

1	2
Acidum (acid)	adjective of neuter gender (- um)
Acidum	ascorbinicum
changeable	■ changeable
with the capital letter	■ with the small letter
■ Nom. Sing. – um	■ Nom. Sing. – um
Gen. Sing. – i	■ Gen. Sing. – i

English	Nom. Sing.	Gen. Sing.
sulfuric acid	Acĭd um sulfurĭc um	Acĭdi sulfurĭci
sulfurous acid	Acĭd um sulfurōs um	Acĭdi sulfurōsi
hydrochloric acid	Acĭd um hydrochlorĭc um	Acĭdi hydrochlorĭci

REMEMBER the following names of acids!!!

English
acetic acid
acetylsalicylic acid
ascorbic acid
benzoic acid
boric acid
carbolic acid
carbonic acid
citric acid

Acĭdum folĭcum, i n
Acĭdum glutaminĭcum, i n
Acĭdum hydrochlorĭcum, i n
Acĭdum lactĭcum, i n
Acĭdum lipoĭcum, i n
Acĭdum nicotinĭcum, i n
Acĭdum nitrĭcum, i n
Acĭdum salicylĭcum, i n
Acĭdum sulfurĭcum, i n
Acĭdum sulfurŏsum, i n

folic acid
glutaminic acid
hydrochloric acid
lactic acid
lipoic acid
nicotinic acid
nitric acid
salicylic acid
sulphuric acid
sulphurous acid

Vocabulary 3

Chemical terms

	Chemical terms		
1. Acĭdum, i n	acid		
2. Cuprum, i n	copper		
3. Ferrum, i n	iron		
4. Fluorum, i n	fluorine		
Phthorum, i n	jidonne		
5. Hydrargÿrum, i n	mercury		
6. hydroxÿdum, i n	hydroxide		
7. lōdum, i n	iodine		
8. Kalium, i n	potassium		
9. Magnium, i n	maanasium		
Magnesium, i n	magnesium		
10. Natrium, i n	sodium		
11. oxÿdum, i n	oxide		
12. peroxÿdum, i n	peroxide		
13. Phosphŏrus, i m	phosphorus		
14. Sulfur, ŭris n	sulphur		
	Names of medicinal plants		
15. Chamomilla, ae f	matricaria		
16. Convallaria, ae f	lilly of the valley		
17. Foeniculum, i n	fennel		
18. Glycyrrhiza, ae f	liquorice		
	Parts of medicinal plants		
19. flos, floris m	flower	fl.	
20. fructus, us f	fruit	fr., fruct.	
	Adjectives		
21. concentratus, a, um	concentrated	concentr.	
22. dilutus, a, um	diluted	dil.	
23. flavus, a, um	yellow		

Extra information

- ❖ Fennel /Foeniculum/ Its "relatives" are well known to us plants like celery, cumin, coriander, carrots, parsnips and parsley. Fennel seeds and fennel oil are sold in pharmacies. Dill water, which is often given to children with colic is nothing less than the solution of the essential oil of fennel in warm water. Useful properties of fennel allow to include it in the composition of many drugs charges: diuretic, choleretic, laxative, pectoral, sedative. Fennel has an antispasmodic and antiseptic action. It helps when you have cough, insomnia, pain in the stomach.
- * Liquorice /Glycyrrhiza/ The word "liquorice" is derived from the Greek (glukurrhiza), meaning "sweet root". Countries producing liquorice include India, Iran, Italy, Afghanistan, China, Pakistan and others. It has demonstrated antiviral, antimicrobial, anti-inflammatory, hepatoprotective, and blood pressure-increasing effects.
- **❖** *Matricaria* /*Chamomilla*/ The word "chamomile" derives from Greek (*khamaimēlon*) meaning "earth apple". Flowers of matricaria are used as herbal medicinal raw material in forms of dried flowers and extract. Matricaria flowers are a part of gastric and sudorific species. Infusion of matricaria flowers has an anti-inflammatory, antiseptic, analgetic and sedative effect.

EXERCISES

1. Make the names of oxides with the following chemical elements (use them in Nominative and Genitive Singular):

iron; mercury; hydrogen; sodium; zinc; bismuth.

2. Choose the right variant:

Acidum ascorbinic(us; um; i); (Acidum; acidum) nicotinicum; tabulettae Acid(um; i) folic(um; i); solutio (Acidi; acidi) (Nicotonici; nicotinici); Zinc(um; i) oxydum; Acid(um; i) acetylsalicylic(um; i); (Magensii; magnesium) peroxyd(um; i).

3. Translate into Latin:

- **A.** tablets of magnesium oxide; solution of nicotinic acid in ampoules; ointment of yellow mercury oxide; diluted hydrochloric acid; tablets of acetylsalicylic acid; paste of zinc oxide; concentrated solution of hydrogen peroxide; spirituous solution of iodine; tablets of lipoic acid; dragee of ascorbinic acid; iodine in tablets.
- **B.** tincture of the lilly of the valley; root of liquorice; flowers of matricaria for external use; rhizome with roots of liquorice; herb of lilly of the valley; fruits of fennel.
- 4. Translate the following prescriptions into Latin. Mind using Genitive form after the prescription verb "Recipe":

1) Take: Salicylic acid 5,0 Zinc oxide 25,0

Talc 50,0

Mix to make powder

Give. Mark:

2) Take: Solution of nicotinic acid 1 % — 1 ml

Give such doses in number 10 in ampoules

Mark:

3) Take: Concentrated solution of hydrogen peroxide 33 % — 1,0

Distilled water 15 ml Mix. Give. Mark:

4) Take: Oily solution of boric acid 1 % — 40 ml

Give. Mark:

5) Take: Benzoic acid 0,6

Salicylic acid 0,3 Vaseline 10,0

Mix to make ointment

Give. Mark:

6) Take: Spirituous solution of iodine 5 % — 20 ml

Tannine 3,0 Glycerine 10,0 Mix. Give. Mark:

7) Take: Resorcine 2,0

Salicylic acid 3,0

Ethyl alcohol 70 % up to 100 ml

Mix. Give. Mark:

8) Take: Folic acid 0,0008

Ascorbic acid 0,1

Give such doses in number 30 in tablets

Mark:

9) Take: Aluminium hydroxide 0,5

Give such doses in number 10 in tablets

Mark:

10) Take: Yellow mercury oxide 0,6

Ichthyole 0,8 Zinc oxide 20,0

Mix to make ointment

Give. Mark:

11) Take: Diluted hydrochloric acid 5 ml

Pepsine 2.0

Purified water up to 180 ml

Mix. Give. Mark:

12) Take: Ointment of boric acid 10,0

Give. Mark:

LESSON 4. LATIN NAMES OF SALTS

The main objectives of the lesson are:

- 1) to learn the structure of the Latin names of salts;
- 2) to train in writing Latin names of salts.

§10. Names of salts

Latin names of salts consist of two nouns:

- 1 the name of **cation** in Genitive Singular with the capital letter.
- 2 the name of **anion** with the small letter. The name of anion may be used in Nominative Singular or Genitive Singular.

1	2
cation	anion
name of a chemical element	the name of the acid stem
or a drug	+ "-as"; "-is"; "-idum"
■ non-changeable	■ changeable
■ always in Genitive Singular	 Nominative or Genitive Singular
with the capital letter	■ with the small letter

*** You should keep in mind the relation between English endings of anion and Latin names. This table will help you.

English		Latin			
	English	Nom.	Gen.	gender	
-ate	sulf ate	-as	-ātis	m	sulf <u>as</u> – sulf <u>atis</u>
-ite	nitr ite	-is	-ītis	m	nitr <u>is</u> – nitr <u>itis</u>
-ide	hydrochlor ide	-ĭdum	-ĭdi	n	hydrochlor <u>idum</u> — hydrochlor idi

*** FOR EXAMPLE!!!

English	Latin		
	Nom. Sing.	Gen. Sing.	
atropine sulfate	Atropīn i sulf as	Atropīni sulf ātis	
sodium nitrite	Natri i nitr is	Natri i nitr ītis	
hydrocortisone acetate	Hydrocortisoni acetas	Hydrocortisoni acetatis	
bismuth subcitrate	Bismuthi subcitras	Bismŭthi subcitrātis	
morphin hydrochloride	Morphīni hydrochlor ĭdum	Morphīni hydrochloridi	

REMEMBER!!!!

✓ Two-component names of **potassium and sodium salts** are written with the hyphen, both words can change from Nominative into Genitive and the words *natrium* and *kalium* are written with the small letter after the hyphen:

sulphacyl-sodium: Sulfacyl<u>um</u>-natri<u>um</u> - Sulfacyl<u>i</u>-natri<u>i</u>

✓ The name of the salt *caffeine and sodium benzoate* has got a specific equivalent in Latin:

Nom. Sing.: Coffeinum-natrii benzoas / Gen. Sing.: Coffeini-natrii benzoatis.

Vocabulary 4

1. Aether, eris m ether 2. Chinīni sulfas, ātis m quinine sulphate 3. Coffeinum-natrii benzoas, Coffeini-natrii caffeine and sodium benzoate benzoātis 4. isotonicus, a, um isotonic, having the same pressure 5. Saccharum, i n sugar, sachar 6. Solutio Ammonii caustici, Solutionis ammonia solution Ammonii caustici 7. Sulfacylum-natrium — Sulfacyli-natrii sulphacyle-sodium

EXERCISES

1. Add the necessary endings in the names of salts:

barium sulphate - Bari sulf; iron lactate - Ferr lact;
potassium chloride - Kali; codeine phosphate - Codein;
phosph; mercury iodide - Hydrargyr iod; copper citrate - Cupr
citr; sodium nitrite – Natri nitr

2. Translate the names of salts into Latin and make them Genitive singular:

testosterone propionate – Testosteroni propionas / Testosteroni propionatis potassium acetate, potassium chloride, lithium carbonate, magnesium sulphate, morphine hydrochloride, sodium salicylate, sodium thiosulphate, silver nitrate, quinine sulphate, sulphacyle-sodium; ethylmorphine hydrochloride, apomorphine hydrochloride, bismuth subnitrate, caffeine and sodium benzoate, sodium nitrite, zinc sulphate.

3. Translate into Latin:

barbitale-sodium in tablets; solition of aethazole-sodium in ampoules; bismuth subnitrate with extract of belladonna; solution of sodium arsenate for injections; ointment of copper citrate; solution of aethazole-sodium in ampoules; ointment of aethacridine lactate; solution of sodium nitrite in ampoules; tablets of potassium orotate for children; ether for narcosis; isotonic solution of sodium chloride for injections; oily solution of retinole acetate; ointment of sulphacyle-sodium; suspension of hydrocortisone acetate for injections.

4. Translate the prescriptions into Latin:

1) Take: Phenobarbitale 0,05

Bromisovale 0,2

Caffeine and sodium benzoate 0,015

Calcium gluconate 0,5 Mix to make powder

Give such doses in number 24

Mark:

2) Take: Sodium hydrocarbonate 1,0

Glycerine 5,0

Distilled water 15 ml Mix. Give. Mark:

3) Take: Papaverine hydrochloride 0,25

Atropine sulphate 0,0001 Distilled water 10 ml

Mix. Sterilize! Give. Mark:

4) Take: Bismuth subnitrate 0,25

Extract of valerian 0,015 Mix to make powder

Give such doses in number 10

Mark:

5) Take: Atropine sulfate 0,1

Aethylmorphine hydrochloride 0,3 Solution of boric acid 2 % 10 ml

Mix. Give. Mark:

6) Take: Mercury dichloride 0,2

Carbolic acid 40,0 Lanoline 50,0 Vaseline 40,0

Mix to make ointment

Give. Mark:

7) Take: Acetylsalicylic acid 0,3

Phenacetine 0,2

Phenobarbitale 0,025

Coffeine 0,025

Codeine phosphate 0,01

Give such doses in number 10 in tablets

Mark:

8) Take: Boric acid 1.0

Salicylic acid 5,0 Zinc oxide 25,0

Talc 50,0

Mix to make powder

Give. Mark:

9) Take: Zinc sulfate 0,25

Lead acetate 0,3

Distilled water 200 ml Mix. Give. Mark:

10) Take: Acetylsalicylic acid 0,25

Paracetamole 0,1

Caffeine and sodium benzoate 0,2

Give such doses in number 10 in tablets

Mark:

11) Take: Dimedrole 0,01

Ephedrine hydrochloride 0,1

Oil of mint 10 ml Mix. Give. Mark:

12) Take: Calcium carbonate 0,5

Sodium hydrocarbonate 0,4 Bismuth subnitrate 0,5 Mix to make powder

Give such doses in number 10

Mark:

13) Take: Salicylic acid 1,0

Mercury amidochloride 10,0

Bismuth subnitrate 9,0

Vaseline 10,0 Lanoline 8.0

Mix to make ointment

Give. Mark:

12) Take: Riboflavine 0,05

Ascorbic acid 0,1 Nicotinic acid 0,03

Give such doses in number 50 in tablets

Mark:

14) Take: Powder of root of rhubarb 0,2

Magnesium oxide 0,3 Extract of valerian 0,015 Mix to make powder

Give such doses in number 10

Mark:

15) Take: Solution of thiamine bromide 3 % — 2 ml Give such doses in number 10 in ampoules

Mark:

LESSON 5. MEDICAL PRESCRIPTION. PRESCRIBING LIQUID MEDICINAL FORMS

The main objectives of the lesson are:

- 1) to learn the main requirements to the Latin part of a prescription;
- 2) to learn the doses of medicinal substances and the types of a prescription;
 - 3) to train in prescribing liquid medicinal forms.

§11. Medical prescription

The **prescription** (*lat. receptum* — *received*) is the doctor's written appeal to the pharmacist about producing and selling medicines to the patient with indicating the way of their use. It is the important document. The prescription must be written according to the official rules on preprinted prescription forms.

Traditionally a prescription is composed of **four** parts: "superscription", "inscription" "subscription" and "signature".

- The "**superscription**" part contains the information about the date of the prescription, the doctor and the patient information. It is written in the state language of the country.
- The "**inscription**" begins from Latin word *Recipe*, /*Rp*. in reduced/, that means take. In English prescriptions a special prescription symbol (*see below*) is used in this part of the prescription. After "Rp." substances necessary for dispensing or preparing the medicines are accounted. The names of these substances are written in Latin in the Genitive case, each from the capital letter and from the new line. After the medicine name its quantity (dose) is indicated.

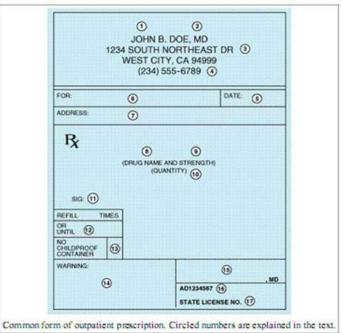
R prescription symbol used in English prescriptions

- The "**subscription**" part contains the directions to the pharmacist about the medicinal form and the quantity of the medicine. This part is written in Latin. There are used the following prescription phrases: *Misce. Misce fiat / fiant ... Da. Da tales doses numero ...*.
- The "**signature**" part is appointed for the patient. That's why it is written in the state language without any reductions. It describes the way of using the prescribed medicine. At the end the prescription there is the doctor's signature and his (her) personal seal.



The medical prescription abroad

The prescription in foreign countries has the same function as in our country. In English speaking countries and countries with English speaking education system (India, Pakistan and others); prescription is written out in English on special prescription forms according to all structural stages of the prescription.



Superscription

- /1/ doctor's surname;
- /2/ license classification or his professional degree;
- /3/ address of the medical establishment;
- /4/ work telephone number of the doctor;
- /5/ the date of writing out the prescription;
- /6/ the patient's surname;
- /7/ the patient's address;

Inscription

prescription symbol meaning "Recipe" has already been printed;

/8/ the name of the medicine;

/9/ indication of the medicine dose (in milliliters or milligrams);

Subscription

/10/ the quantity of the medicinal preparation determined by the duration of the treatment course;

Signature "Sig." ("S:")

/11/ the detailed direction for the patient about using this medicine;

Recĭpe: Analgin<u>i</u> 0,2 Recĭpe: Protargol<u>i</u> 0,2 Da tales doses numero 10 in

Glycerin<u>i</u> 5,0

tabulettis Aqu**ae** destillat**ae** 15 ml Misce. Da. Signa: 1 spoon Signa: 1 tab. 2 times a day

3 times a day

Special marks

/12/ doctor's marks about the necessity of repeating the treatment course;

/13/ doctor's marks about the necessity of keeping this medicine in the inaccessible for children;

/14/ the information about the necessity to keep some precautionary measures while taking this medicine;

/15/ doctor's signature;

/16/ doctor's identification number;

/17/ the state license number.

In some jurisdictions, the preprinted prescription contains two signature lines: one line has "dispense as written" printed underneath; the other line has "substitution permitted" underneath. In other jurisdictions the protocol is for the prescriber to handwrite one of the following phrases: "dispense as written", "DAW", "brand necessary", "do not substitute", "no substitution", "medically necessary", "do not interchange". In some jurisdictions, it may be a legal requirement to include the age of child on the prescription. For pediatric prescriptions some advise to include the age of the child if the patient is less than twelve and the age and months if less than five. Adding the weight of the child is also helpful.

§12. Doses of pharmaceutical substances

• Quantity of **solid pharmaceutical substances** is indicated in *grams*. The abbreviation "gr" is not indicated, the quantity is written with *decimal* points: 10,0 (10 gr.); 0,25 (0,25 gr.).

Recĭpe: Vaselini 5,0

• **Liquid pharmaceutical substances** are written out in *millilitres* using a whole number with the abbreviation "*ml*":

Recipe: Solutionis Glucosi 10 % — 100 ml

• Quantity of a **liquid pharmaceutical substance less than 1 ml** is measured in *drops*. The number of drops is indicated with a *Roman* numeral and the Latin word "drop" (*gutta*, *ae f*) in the Accusative case before it:

1 drop - guttam I 4 drops - guttas IV

Recipe: Olei Menthae piperītae guttas IV (guttam I)

• If the medicinal substance is dosed in activity unit (OD), in the prescription activity unites quantity is specified (for example: 200 000 OD).

Recipe: Insulini 250D

• If two or more ingredients are prescribed in the same amount, the dose is written after the last of them with the adverb *ana* (equally, of each):

Recĭpe: Cupri citratis Lanolini Vaselini **ana** 5,0

• If the name of a pharmaceutical substance is too long to be written in one line, it is allowed to move it to another line but the continuation must be shifted to the right in such a way that the first letter should not fall on the beginning of a prescription line and the amount of pharmaceutical substance should be to the right:

Recĭpe: Solutiōnis Platyphyllīni hydrochlorĭdi 1 % 10 ml

§13. Types of prescriptions

There are two ways of prescribing medicines: shortened /simple/ and detailed /complex/ prescribings.

In contemporary practice, doctors most often prescribe medicines of industrial production. Prescribing of such medicines is known as *officinal* and *shortened* /simple/ prescribing is used. The prescription line of such a prescription includes *the medicinal form, the name of pharmaceutical substance, its dose and its quantity for the whole course of treatment.*

Recĭpe: Unguenti Xeroformii 3 % — 10,0

Da. Signa:

Recipe: Tincturae Valerianae 30 ml

Da. Signa:

Complex prescriptions are written out for medicines made directly at the pharmacy. Such prescribings are called **magistral prescribings** and written out in a detailed form.

In a complex prescription, all the ingredients of the medicinal preparation and their dosage are enumerated. Each pharmaceutical substance is written on a separate prescription line. Then it is necessary to indicate the medicinal form to be made. This prescribing is presented by the prescription phrase "*Misce fiat / fiant*". Then an explanation how to use the medicine follows.

Recĭpe: Xeroformii 1,0 Zinci oxydi 5,0 Lanolini

Vaselini ana 10,0

Misce, fiat unguentum

Da. Signa:

§14. Rules of prescribing liquid medicinal forms

Liquid medicinal forms include solutions, tinctures, infuses, decoctions, balsams, liquid extracts, mixtures, elixirs, suspensions, syrups, juices, musses and other medicinal products. These medical forms are dosed in milliliters, some of them – in drops. Liquid forms are better entering into the blood, soaking up in the skin and acting more quickly, than solid medicinal forms. They may be written out in a shortened way (simple prescription) and in a detailed way (complex prescription).

In a <u>simple prescription</u>, the name of a medicinal form, pharmaceutical substance or medicinal vegetable raw materials is written in Genitive Singular with the capital letter after the prescription verb *Recipe*. The line is finished with the amount of a medicine. Concentration of solutions may be denoted in percentage (5 %), in ratios (1:1000) or in mass-and-volumetric ratios, when the first figure denotes the amount of medicinal vegetable raw materials and the second one denotes the amount of the obtained infusion or decoction (0,6–180 ml).

Recipe: Tinctūrae Leonūri 25 ml Da. Signa:

Recĭpe: Solutiōnis Camphŏrae oleōsae 10 % — 100 ml

Da. Signa:

Recipe: Solutiōnis Furacilīni 1: 5000 — 500 ml

Da. Signa:

Recipe: Solutiōnis Furacilīni 0,1 — 500 ml

Da. Signa:

Preparations which are prepared at the pharmacy according to a doctor's prescription are written out in a detailed form using a *complex prescription*:

Recĭpe: Olei Ricini 20 ml

Xeroformii 1, Vinylini 1ml

Misce, fiat linimentum

Da. Signa:

When prescribing <u>mixtures</u> in a detailed way, the direction "Misce, fiat mixtūra" is **not written**. Misce. Da. Signa. is written:

Recĭpe: Mentholi 0,1

Phenylii salicylatis 0,3 Olei Vaselini ad 10 ml

Misce. Da. Signa: nasal drops

§15. Medicinal forms for injections

Aqueous and oily solutions as well as suspensions are often used for injections. In medical practice, such forms of industrial production as ampoules and vials are mostly used. The very form of output testifies that special demands for these medicinal forms are observed, therefore the phrase "pro injectionĭbus" is not written in a prescription as it goes without saying.

When writing out solutions and suspensions in ampoules, the sequence is the following:

- a medicinal form is indicated first in Genitive Singular (Solutionis / Suspensionis);
- then follows the name of pharmaceutical substance in Genitive Singular, its concentration in percentage and the volume of one ampoule ($Glucosi\ 40\ \%$ $5\ ml$);
- the number of doses and the form of output are written on the next line: "Give such doses in number ... in ampoules Da tales doses numero ... in ampullis";
 - the prescription is finished with the prescription verb *Signa*:

Recipe: Solutiōnis Thiamini bromidi 3 %— 1 ml

Da tales doses numĕro 10 in ampullis

Signa: 1 ml intramuscular

When writing out <u>medicines in vials</u> a prescription is drawn up according to the same rules as when writing out medicines in ampoules but the word "vial" is not written.

Recĭpe: Benzylpenicillini-natrii 500 000 ЕД

Da tales doses numero 12

Signa:

VOCABULARY 5

Names of medicinal plants

1. Aloë, es f aloe

2. Althaea ,ae f marshmallow

3. Anisum, i n
4. Eucalyptus, i f
5. Frangula, ae f
6. Oleum Cacao, Olei Cacao
anise
eucalypt
buckthorn
cacao butter

7. sirupus, i m syrup

Adjectives

8. compositus, a, um compound
9. diureticus, a, um diuretic
10. laxans, ntis laxative
11. pectoralis, e pectoral
12. sedativus, a, um sedative

EXERCISES

1. Translate into Latin:

compound liniment of chloroform; syrup of marshmallow against cough; liquid extract of aloe for injections; coated tablets of aloe; infusion of root of marshmallow; bark of buckthorn; pectoral species; extract of bark of buckthorn; fruits of anise; leaves of eucalypt; oil of anise; diuretic species; liquid extract of buckthorn; compound powder.

2. Translate the following prescriptions into Latin:

1) Take: Root of marshmallow

Root of liquorice equally 20,0

Fruits of fennel 10,0 Mix to make species

Give. Mark:

2) Take: Solution of litonite 10 % — 1 ml

Give such doses in number 10 in ampoules

Mark:

3) Take: Oily solution of camphor 10 % — 100 ml

Give. Mark:

4) Take: Decoction of bark of oak 200 ml

Give. Mark:

5) Take: Tincture of lilly of the valley

Tincture of valeriane equally 10 ml

Tincture of belladonna 5 ml

Mix. Give. Mark:

6) Take: Dry extract of root of marshmallow 2,0

Syrup of sacchar 90 ml

Mix. Give. Mark:

7) Take: Solution of norsulfazole-sodium 10 %

Isotonic solution of sodium chloride equally 10 ml

Mix. Give. Mark:

8) Take: Root of marshmallow

Root of liquorice equally 10,0

Fruits of anise

Leaves of eucalypt equally 5,0

Mix to make species

Give. Mark:

9) Take: Solution of aminophylline 24 % — 1 ml

Give such doses in number 6 in ampoules

Mark:

10) Take: Fluid extract of buckthorn 4,0

Powder of root of rhubarb 3,0 Dry extract of belladonna 0,7

Mix. Give. Mark:

3. Write Latin part of a simple prescription for the following medicines:

- 1) 10 ampoules of solution of ascorbic acid 5 % 1 ml;
- 2) solution of furaciline 0,02 % 10 ml;
- 3) ointment of oxoline 0,5 % 10,0;
- 4) liniment of synthomycine 1% with novocaine 0,5 % 25,0;
- 5) spirituous solution of iodine 5 % 10 ml;
- 6) oily solution of camphor 10 % 100 ml;
- 7) suspension of griseofulvine 100 ml;
- 8) 10 ampoules of solution of nicotinic acid 2 % 1 ml;
- 9) 10 ampoules of liquid extract of aloe 1 ml;
- 10) ophthalmic ointment of tetracycline 10,0;
- 11) 10 ampoules of adrenaline hydrochloride 0,1 % 1 ml;
- 12) 10 ampoules of solution of caffeine and sodium benzoate 10 % 1 ml.

4. Write Latin part of a complex prescription for the following medicines:

1) mixture consisting of infusion of root of valerian from 15,0–200 ml; tincture of mint 3 ml; tincture of motherwort 10 ml;

- 2) ointment consisting of yellow mercury oxide 0,6; ichthyole 0,8; zinc oxide 20,0;
 - 3) ointment consisting of benzoic acid 0,6; salicylic acid 0,3; vaseline 10,0;
 - 4) mixture consisting of magnesium oxide 20,0; distilled water 120 ml;
- 5) mixture consisting of diluted hydrochloric acid 4,0; pepsine 2,0; purified water up to 200,0;
- 6) 24 doses of powder consisting of phenobarbitale 0,05; bromisovale 0,2; caffeine and sodium benzoate 0,015; papaverine hydrochloride 0,03; calcium gluconate 0,5;
- 7) mixture consisting of atropine sulfate 0,1; aethylmorphine hydrochloride 0,3; solution of boric acid 2 % 10ml;
 - 8) mixture consisting of peppermint 3 ml; camphor 7,0; tincture of valerian 10 ml;
 - 9) ointment consisting of sulfacyle-sodium 1.0, lanoline 0,4, vaseline up to 5,0;
- 10) 20 doses of powder consisting of codeine 0,015; acetylsalicylic acid 0,5; calcium lactate 0,1; ascorbic acid 0,2, rutine 0,02; dimedrole 0,03;
- 11) mixture consisting of menthole 0,25; tincture of eucalypt 50 ml; ethyl alcohol 90 % up to 100 ml;
 - 12) liniment consisting of castor oil 20 ml; xeroform 1,2; vinyline 1,0;
- 13) mixture consisting of chloroform, ethyl alcohol 95 % equally 20 ml; ethyl ether 10 ml; ammonia solution X drops.

LESSON 6. PRESCRIBING SOFT MEDICINAL FORMS

The main objectives of the lesson are:

- 1) to learn the structure of a simple and a complex prescription for soft medicinal forms;
 - 2) to train in writing out soft medicinal forms.

§16. Rules of writing out soft medicinal forms

Ointments /1/, pastes, and suppositories /2; 3/ are soft medicinal forms. They may be produced by pharmaceutical industry and prepared at the pharmacy according to a magistral prescription. So they may be written out in both shortened and detailed form.







Ointment / paste – Simple prescription

A shortened form of prescribing ointment and paste is the following:

- it starts with the name of a medicinal form in Genitive Singular (Unguenti / Pastae);
- then follows an active pharmaceutical substance in the Genitive Singular form with its percentage concentration (*Xeroformii 3 %*);
 - the line is concluded with the amount of the prescribed remedy (10,0).

Recipe: Unguenti Xeroformii 3 % — 10,0

Da. Signa: ophthalmic ointment

Recipe: Pastae Zinci 50,0

Da. Signa:

Ointment / paste — *Complex prescription*

Using a detailed form of prescribing, all the ingredients and their amount are written on separate prescription lines. Further, the direction "Mix to make ointment/paste-Misce fiat unguentum/pasta" is given.

Recipe: Argenti nitritis 0,25

Vinylini 1,0 Vaselīni 30,0

Misce, fiat unguentum

Da. Signa:

Recipe: Iodoformii 10,0

Amÿli Tritĭci

Zinci oxydi ana 5,0 Vaselīni ad 50,0 Misce, fiat pasta

Da. Signa:

Suppositories

Suppositories are dosed medicinal forms, solid at room temperature and melting at body temperature. There are rectal and vaginal suppositories (*suppositoria rectalia et vaginalia*). Rectal suppositories usually have the form of a cone or of a cylinder with a sharpened end. Their mass varies from 1.1 to 4.0 grams; in pediatric practice — from 0.5 to 1.5 grams.

Vaginal suppositories may be spherical (*globŭli*), egg-shaped (*ovŭla*) or look like a flat body with a rounded end (*pessaria*). Their mass is from 1.5 to 6.0 grams.

Simple prescription. Suppositories of industrial production are prescribed in a shortened way, like other officinal medicinal forms.

— prescribing starts with the name of a medicinal form in the Accusative Singular form which is the same as Nominative Singular form (*Suppositorium*);

- the name of a pharmaceutical substance is indicated after the preposition *cum* (with) in Ablative Singular form. As most medicine names are IInd declension nouns, their Ablative Singular form is formed by the ending –o (*cum Ichthyolo*);
 - then the dose of the substance is indicated (0,2);
- the prescribing is finished with the direction "Da tales doses numěro..." and a prescription signature.

Recĭpe: Suppositorium cum Ichthyōlo 0,2 Da tales doses numĕro 10 Signa:

If the name of a medicinal form is used in the Accusative Plural, the same as Nominative Plural (*Suppositoria*), the prescribing is written in one line and finished with the number of doses (*numero 10*).

Recĭpe: Suppositor<u>ia</u> cum Glycerino 1,44 numĕro 10 Da. Signa:

Recipe: Suppositori<u>um</u> vaginal<u>e</u> cum Synthomycīno 0,25 Da tales doses numĕro 5

Signa:

Recĭpe: Suppositori<u>a</u> vaginal<u>ia</u> cum Synthomycīno 0,25 numĕro 5 Da. Signa:

When writing out suppositories of complex composition with a **trade name**, a medicinal form is written in the Accusative Plural; the name of a preparation in inverted commas keeps its initial form; the line is finished with the number of suppositories. Doses of pharmaceutical substances are not given in such prescriptions.

Recipe: Suppositoria "Anusolum" numero 10 Da. Signa:

Complex prescription. Suppositories may be prepared at a pharmacy according to magistral prescribing. In this case a prescription is written in a detailed form indicating all the ingredients and their doses.

It is possible not to indicate the mass of a base in a prescription. In this case one should write *quantum satis* (as much as necessary).

Recĭpe: Promedoli 0,02 Olei Cacāo 3,0

Misce, fiat suppositorium rectāle

Da tales doses numero 6

Signa:

Recipe: Promedoli 0,02

Olei Cacão quantum satis

Misce, fiat suppositorium rectāle

Da tales doses numĕro 6

Signa:

EXERCISES

1. Translate the following prescriptions into Latin:

1) Take: Ointment of boric acid 10,0

Give such doses in number 2

Mark:

2) Take: Suppositories "Novurit" in number 10

Give. Mark:

3) Take: Ophthalmic ointment of tetracycline 10,0

Give. Mark:

4) Take: Suppositories with glycerine 1,44 in number 10

Give. Mark:

5) Take: Vaginal suppository with synthomycine 0,25

Give such doses in number 10

Mark:

6) Take: Rectal suppositories with novocaine 0,1 in number 10

Give. Mark:

7) Take: Extract of belladonna 0,02

Xeroform 0,1

Zinc sulphate 0,05 Glycerine 0,12 Cocao butter 2,0

Mix to make suppository

Give such doses in number 10

Mark:

8) Take: Ointment of bismuth subnitrate 20,0

Give such doses in number 2

Mark:

9) Take: Suppositories with digitoxine 0,00015 in number 10

Give. Mark:

10) Take: Benzoic acid 5,0

Salicylic acid 0,3 Vaseline 10,0

Mix to make ointment

Give. Mark:

2. Write the Latin part of a simple or complex prescription:

- 1. ointment of neomycine sulfate 1% 50,0;
- 2. paste of zinc 50,0;
- 3. ointment consisting of sulfacyle-sodium 1,0; lanoline 0,4; vaseline up to 5,0;
- 4. paste consisting of iodoform 10,0; zinc oxide 5,0; vaseline up to 50,0;
- 5. 10 suppositories with ichthyole 0,2;
- 6. 20 suppositories "Anusol";
- 7. 10 suppositories consisting of atropine sulfate 0,0005; cocoa butter as much as necessary;
 - 8. ointment of anaesthesine 5 % 10,0;
- 9. ointment consisting of menthole 0,02; zinc oxide 10,0; solution of adrenaline hydrochloride 1 % 5 drops; vaseline 10,0;
- 10. 10 vaginal suppositories consisting of chinosole 0,03; boric acid 0,3; tannine 0,06; cocao butter as much as necessary.

LESSON 7. PRESCRIBING SOLID MEDICINAL FORMS

The main objectives of the lesson are:

- 1) to learn the structure of a prescription for solid medicinal forms;
- 2) to learn the rules of prescribing ophthalmic fims and aerosol

§17. Rules of writing out solid medicinal forms



Tablets /1/, dragée /2/, powders /3/, granules, pills and capsules /4/ are solid medicinal forms. Tablets, dragée and powders are most often used.

Tablets are solid medicinal forms obtained by pressing pharmaceutical substances and adjuvants. Nowadays tablets are not prepared at the pharmacy and therefore magistral prescribing isn't used.

- (1) The most widespread prescribing of tablets is the following:
- first goes the name of a pharmaceutical substance in the Genitive Singular form and its single dose (Analgini 0,5);
- then follows the direction about the number of the prescribed tablets (*Da tales doses numero 10*) which is finished with the prepositional phrase *in tabulettis* (*in tablets*).

Recipe: Analgīni 0,5 Da tales doses numero 10 in tabulettis Signa:

- (2) Another version of prescribing tablets:
- starts with the name of a medicinal form in the Accusative Singular form (*Tabulettam*)
- then the name of a pharmaceutical substance and its single dose are indicated (Analgini 0,5)
- the direction for the number of the prescribed tablets is indicated on the next line (*Da tales doses numero 10*)

Recipe: Tabulettam Analgīni 0,5 Da tales doses numero 10 Signa:

- (3) There is one more way of prescribing tablets:
- It starts with the name of a medicinal form in the Accusative Plural form (*Tabulettas*);
- then the name of a pharmaceutical substance and its single dose are indicated (*Analgini 0,5*);
- the direction about the number of the prescribed tablets is indicated on the same line (numero 10).

Recipe: Tabulettas Analgīni 0,5 numero 10 Signa:

If the adjective *obductus*, *a*, *um* is necessary to use in the prescription, this adjective is placed after the dose and takes the same endings as the noun "tablet".

Recĭpe: Tabulettam Oleandomycini phosphatis 0,125 obductam Da tales doses numĕro 25 Signa:

Recĭpe: Tabulettas Oleandomycini phosphatis 0,125 obductas numero 25

Signa:

When prescribing tablets with a special **trade name**, it's necessary to start the prescription with the name of a medicinal form in the Accusative plural (*Tabulettas*); then the drug name in the Nominative case in inverted commas follows ("*Pentalginum*"); the line is finished with the number of doses (*numero 10*). A single dose of pharmaceutical substances is not indicated as it is standard. Other versions of prescribing for tablets with a commercial name are impossible.

Recipe: Tabulettas "Pentalginum" numero 10 Da. Signa:

Dragée is a solid medicinal form in doses for internal use obtained by making multiple layers of pharmaceutical substances and adjuvants over sugary granules and prescribed like tablets. The Latin noun "dragee" has the same form in all versions of prescription:

Recipe: Dragée Diazolīni 0,05

Da tales doses numero 20

Signa:

Recipe: Dragée "Hexavitum" numëro 50

Da. Signa:

Powder is a solid medicinal form for internal and external use. There are <u>simple</u> powders (consisting of one substance), <u>compound</u> powders (consisting of two or more ingredients), <u>dosed</u> powders which are divided into separate doses and <u>non-dosed</u> powders which are not divided into separate doses.

Prescribing simple non-dosed powder Prescribing simple dosed powder

Recĭpe: Pulveris Ampicillini 60,0 Recĭpe: Pulveris Theobromini 0,5
Da. Signa: Da tales doses numero 10

Signa:

Prescribing compound non-dosed powder Pescribing compound dosed powder

Recipe: Benzylpenicillini-natrii Recipe: Euphyllini 0,01

125 000 OD Dimedroli 0,0125 Aethazōli 5,0 Sacchari 0,2

Misce, fiat pulvis

Misce fiat pulvis

Da. Signa: Da tales doses numero 10

Signa:

Capsules are covers for powdery, paste-like, granulated or liquid pharmaceutical substances in doses for internal use. When prescribing medicines in capsules, the following form of a prescription is used:

Recĭpe: Solutionis Nitroglycerini 1 % oleosae 0,5

Da tales doses numero 50 in capsulis gelatinosis

Signa:

Ampicillīni 0,25 Recĭpe:

Da tales doses numĕro 20 in capsŭlis

Signa:

§18. Other medicinal forms

Ophthalmic films (membranŭlae ophthalmĭcae) and **aerosols** (aërosōla) are produced only by pharmaceutical industry and, like other ready medicinal forms, they are prescribed in a shortened way. The name of a medicinal form is used in the Accusative case.

Recipe: Membranulas ophthalmicas cum Apilaco 0,2 numero 6

Da. Signa:

Recĭpe: Aërosōlum "Ephatinum" numĕro 1

Da. Signa:

		EXERCISES
1. C	omplete the	prescription with the necessary endings
	-	Cyclophosphān 0,05 Da tales doses numĕro 50 in tabulett obduct Signa:
2.	Recĭpe:	Tabulett "Citramon" numĕro 6 Da. Signa:
3.	Recĭpe:	Tabulett Nitrogranulong 0,029 obduct Da tales doses numero 50 Signa:
4.	Recĭpe:	Aerosōl "Amprovisol" numĕro 1 Da. Signa:
5.	Recĭpe:	Membranŭl ophthalmĭc cum Dicaīn 0,2 numĕro 6 Da. Signa:
	Recĭpe:	Pulver radic Rhe_ 0,5 Da. Signa.

2. Write the Latin part of a prescription for the following medicines:

- 1. 20 tablets of acyclovir 0.2;
- 2. 15 gelatinous capsules of castor oil 1,0;
- 3. 10 tablets of "Bellaesthesin";
- 4. aerosol "Camethon" 30 ml in number 2;
- 5. 10 tablets of ampicillin 0,25;
- 6. 20 coated tablets of aloe 0,005;
- 7. 50 tablets of lipoic acid 0,025;
- 8. 15 doses of powder consisting of sulphur and powder of liquorice equally 0,25;
 - 9. 50 tablets of potassium orotate 0,5 for children;
- 10. 3 doses of powder consisting of sodium tetraborate; sodium hydrocarbonate equally 20,0; oil of mint 3 drops;
 - 11. 10 tablets "Thepaphylline";
 - 12. 30 coated tablets of oleandomycine phosphate 0,125;
 - 13. 10 ophthalmic films with pilocarpine hydrochloride 2,7;
 - 14. 10 doses of powder of theobromine 0,5;
 - 15. 50 dragee "Undevit".

LESSON 8. ABBREVIATIONS IN PRESCRIPTIONS

The main objectives of the lesson are:

- 1) to learn the main abbreviations used in prescription;
- 2) to train in writing the Latin part of prescription using abbreviations.

§19. Abbreviations in prescriptions

Abbreviation	Full Latin form	Translation
Ac. (Acid.)	acĭdum	acid
aa	ana	equally, of each
amp.	ampulla	ampoule
aq.	aqua	water
Aq. destill.	Aqua destillāta	distilled water
Aq. purif.	Aqua purificāta	purified water
aëros.	aërosōlum	aerosol
caps.	capsŭla	capsule
comp., cps., cp.	compositus, a, um	compound, compounded
concentr.	concentrātus, a, um	concentrated
cort.	cortex	bark

Abbreviation	Full Latin form	Translation
D.	Da.	Give.
	Detur.	Let it be given.
	Dentur.	Let them be given.
D.S.:	Da. Signa:	Give. Mark:
	Datur Signatur	Let it be given. Let it be
	Detur. Signetur:	marked:
D.t.d. N.	Da tales doses numero	Give such doses in number
dec., dct.	decoctum	decoction
dep.	depurātus, a, um	purified
dest., destill.	destillātus, a, um	distilled
dil.	dilūtus, a, um	diluted
empl.	emplastrum	plaster
emuls.	emulsum	emulsion
ext.	externus, a, um	external
extr.	extractum	extract
f.	fiat (fiant)	let it be made
fl.	flos	flower
fluid.	fluĭdus, a, um	fluid, liquid
fol.	folium	leaf
fr., fruct.	fructus	fruit
gran.	granŭlum	granule
gtt.	guttam	drop
gtts.	guttas	drops
h., hb.	herba	herb
in ampull.	in ampullis	in ampoules
in caps. (gel.)	in capsŭlis (gelatinōsis)	in (gelatinous) capsules
in tab.	in tabulettis	in tablets
in vitr. nigr.	in vitro nigro	in a dark phial
inf.	infūsum	infusion
int.	internus, a, um	internal
lin.	linimentum	liniment
liq.	liquor	liquor, solution
M.	Misce.	Mix.
	Misceātur.	Let it be mixed.
M.D.S.:	Misce. Da. Signa:	Mix. Give. Mark:
mixt.	mixtūra	mixture
mucil.	mucilāgo	mucilage
N.	numĕro	in number
obd.	obductus, a, um	coated
past.	pasta	paste

Abbreviation	Full Latin form	Translation
pil.	pilŭla	pill
praec., ppt.	praecipitātus, a, um	precipitated
pro inject.	pro injectionĭbus	for injections
pulv.	pulvis	powder
purif.	purificātus, a, um	purified
q.s.	quantum satis	as much as necessary
rad., r.	radix	root
rect.	rectālis, e	rectal
rectif.	rectificātus, a, um	rectified (about liquid
	rectificatus, a, um	substances)
Rep.	Repĕte!	Repeat!
	Repetātur!	Let it be repeated!
rhiz.	rhizōma	rhizome
Rp.:	Recĭpe:	Take:
S.:	Signa:	Mark:
	Signetur:	Let it be marked:
sem.	semen	seed
sicc.	siccus, a, um	dry
simpl.	simplex, ĭcis	simple
sir.	sirŭpus	syrup
sol.	solutio	solution
spec.	species	species
Spir.	Spirĭtus	spirit
Steril.	Sterilĭsa!	Sterilize!
	Sterilisētur!	Let it be sterilized!
supp.	suppositorium	suppository
susp.	suspensio	suspension
tab.	tabuletta	tablet
tinct., t-ra, tct.	tinctūra	tincture
ung.	unguentum	ointment
vagin.	vaginālis, e	vaginal

EXERCISES

1. Write the Latin part of the prescription the using abbreviations

- 1. 10 tablets of methyloestradiole 0,0002;
- 2. mixture for intravenous injection consisting of solution of aminazine 2,5 % 2 ml and solution of glucose 5 % 20 ml;
 - 3. 10 ampoules of oily solution of synoestrole 0,1 % 1 ml;
 - 4. 25 coated tablets of tetracycline with nystatine;
- 5. mixture consisting of menthole 2,5; novocaine and anaesthsine equally 1,0; ethyl alcohol 70 % up to 100 ml;

- 6. syrup of aloe 300 ml;
- 7. ointment of hydrocortisone acetate 0,5 % 10,0;
- 8. 20 doses of powder consisting of dibazole 0,005 and sachar 0,3;
- 9. 6 ampoules of solution of aethazole-sodium 10 ml;
- 10. 6 suppositories consisting of extract of belladonna 0,02; xeroform 0,1; zinc sulphate 0,05; glycerine 0,12; cacao butter as much as necessary;
- 11. 10 doses of powder consisting of phenacetine 0,3; acetylsalicylic acid 0,5 and caffeine and sodium benzoate 0,1;
 - 12. 6 vaginal suppositories with natamycine 1,0;
 - 13. 30 tablets of dioxybenzoic acid 0,5;
- 14. mixture consisting of concentrated solution of hydrogen peroxide 5,0 and distilled water 15 ml;
- 15. mixture consisting of morphine hydrochloride 0,015; apomorphine hydrochloride 0,05; dilutedhydrochloric acid 1 ml; distilled water up to 200 ml;
 - 16. ointment consisting of benzoic acid 0,6; salicylic acid 0,3 and Vaseline 10,0;
 - 17. 50 tablets of monomycine 0,25;
 - 18. 6 suppositories "Anusole";
 - 19. 30 ophthalmic films with florenale;
 - 20. 10 capsules of oily solution of nitroglycerine 1 % 0,0005.

2. Translate into Latin:

thiopentale-sodium in ampoules; dibazole with paverine hydrochloride; oily solution of camphor; liquid extract of aloe; oil of peppermint; vaginal suppositories with novocaine; cordiamine for injections; powder of root of rhubarb; solution of iodine for external use; syrup of marshmallow against cough; coated tablets of dimedrole for children; emulsion of castor oil; infusion of leaves of mint; rhizome itree; ethyl alcohol; leaves of nettle; suppositories with cordigite; ointment of yellow mercury oxide; solution of sodium nitrite in ampoules; codeine phosphate in tablets; bismuth subnitrate with extract of belladonna; spirituous solution of brilliant green; powder of ampicilline for suspension; ammonia solution; castor oil in capsules; tablets of furaciline for external use.

SAMPLE OF THE FINAL TEST "Pharmaceutical Terminology and the Prescription"

I. Translate into Latin

1) validol in gelatinous capsules; 2) powder of sodium benzoate; 3) tablets of acetylsalicylic acid for children; 4) rectal suppositories with anaesthesine; 5) tablets of potassium orotate for children; 6) powder of root of rhubarb; 7) decoction of bark of oak; 8) purified water; 9) thick extract of valerian; 10) mixture for cough.

II. Write out the Latin part of a prescription

1) 10 coated tablets of lipoic acid 0,25 (2 variants);

- 2) 10 ampoules of solution of coffeine-sodium benzoate 20 % 1 ml;
- 3) 40 coated tablets "Ferrocal";
- 4) mixture consisting of diluted hydrochloric acid 1 ml; pepsin 2,0; distilled water up to 100 ml;
 - 5) 10 suppositories with glycerin 0,1;
 - 6) paste of neomycin sulfate 25,0;
 - 7) 20 capsules of methacycline hydrochloride 0,25;
 - 8) ointment of heparin 10,0;
 - 9) 10 suppositories "Anusol";
- 10) 10 suppositories consisting of phthivaside 0,5; anaesthesine 0,2; cocoa butter as much as necessary.

III. Write out the Latin part of a prescription with abbreviations

1) 10 ampoules of solution of glucose 5 % 10 ml; 2) tincture of motherwort 50 ml; 3) ointment of heparin.

PROFESSIONAL LATIN MEDICAL PHRASES

1. Ante cibum /a.c./	Before meals /medical instruction/.
2. A posteriōri.	From the latter, based on observation. / used to
_	denote something known from experience/
3. A priōri.	From the former, known or postulated before
	a proof has been carried out. /In everyday
	speech, it denotes something occurring or being
	known before the event./
4. Anamnēsis morbi.	Data about the disease.
5. Anamnēsis vitae.	Data about the life.
6. Bis in die. /b.i.d./	Twice a day.
7. Casus extraordinarius.	Extraordinary /unusual/ case.
8. Casus ordinarius.	Ordinary /usual/ case.
9. Cito!	Quickly!
10. Exĭtus letālis.	Fatal outcome.
11. Facies Hippocratĭca.	Hippocratic face. It is the change in the face by
	impending death or long illness. "If the patient's facial
	appearance may be described this: the nose sharp, the
	eyes sunken, the temples fallen in, the ears cold and
	drawn in and their lobes distorted, the skin of the face
	hard, stretched and dry, and the colour of the face pale or duskyand if there is no improvement within
	a prescribed period of time, it must be realized that
	this sign portends death". The Hippocratic face is so
	called because it was first described by Hippocrates.
12. In vitro.	Taking place outside a living organism (for
	example in a test tube).

13. In vivo.	In a living organism /An experiment or process performed on a living specimen/.
14. Oculus dexter. /O.D./	Right eye. /abbreviations used in
Oculus sinister. /O.S./	Ophthalmology as
	Left eye. /medical attention for eyes/
15. Per os.	Through the mouth.
16. Per rectum.	Through the rectum.
17. Per vagīnam.	Through the vagina.
18. Post cibum /p.c./	After meals /medical instruction/.
19. Post mortem.	Examination of a body after death to learn the
	cause of death /autopsy/.
20. Prognōsis bona / optima.	Good / the best prognosis.
21. Prognōsis dubia.	Doubtful prognosis.
22. Prognōsis mala / pessima.	Bad / the worst prognosis.
23. Rubor, tumor, calor, dolor	Redness, swelling, fever, pain, and loss of
et functio laesa.	function are the classical signs of inflammation.
24. Statim!	Immediately!
25. Ter in die /t.i.d./	Three times a day.

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Учебное издание

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ПРАКТИКУМ ПО ФАРМАЦЕВТИЧЕСКОЙ ТЕРМИНОЛОГИИ И РЕЦЕПТУ

(на английском языке)

Учебно-методическое пособие по латинскому языку для студентов 1 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов

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Подписано в печать 13.03.2017. Формат $60\times84^1/_{16}$. Бумага офсетная 80 г/м². Гарнитура «Таймс». Усл. печ. л. 2,79. Уч.-изд. л. 3,05. Тираж 130 экз. Заказ № 144.

Издатель и полиграфическое исполнение: учреждение образования «Гомельский государственный медицинский университет». Свидетельство о государственной регистрации издателя, изготовителя, распространителя печатных изданий № 1/46 от 03.10.2013. Ул. Ланге, 5, 246000, Гомель.