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Кафедра иностранных языков

**ЛАТИНСКИЙ ЯЗЫК:
ОСНОВЫ ГРАММАТИКИ
И МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ**

**Учебно-методическое пособие
для студентов 1 курса
факультета иностранных студентов
учреждений высшего медицинского образования**

2-е издание, стереотипное

**LATIN LANGUAGE:
BASICS OF GRAMMAR
AND MEDICAL TERMINOLOGY**

**Practical workbook
for the 1st year students
of faculty for foreign students
of medical highest educational institutions**

**Гомель
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Л 27

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Учебно-методическое пособие составлено в соответствии с программой по латинскому языку и основам медицинской терминологии. В пособии излагаются основные положения латинской грамматики, необходимые для правильного запоминания и самостоятельного конструирования анатомо-гистологических, клинических и фармацевтических терминов.

Предназначено для студентов 1 курса факультета иностранных студентов учреждений высшего медицинского образования, обучающихся на английском языке.

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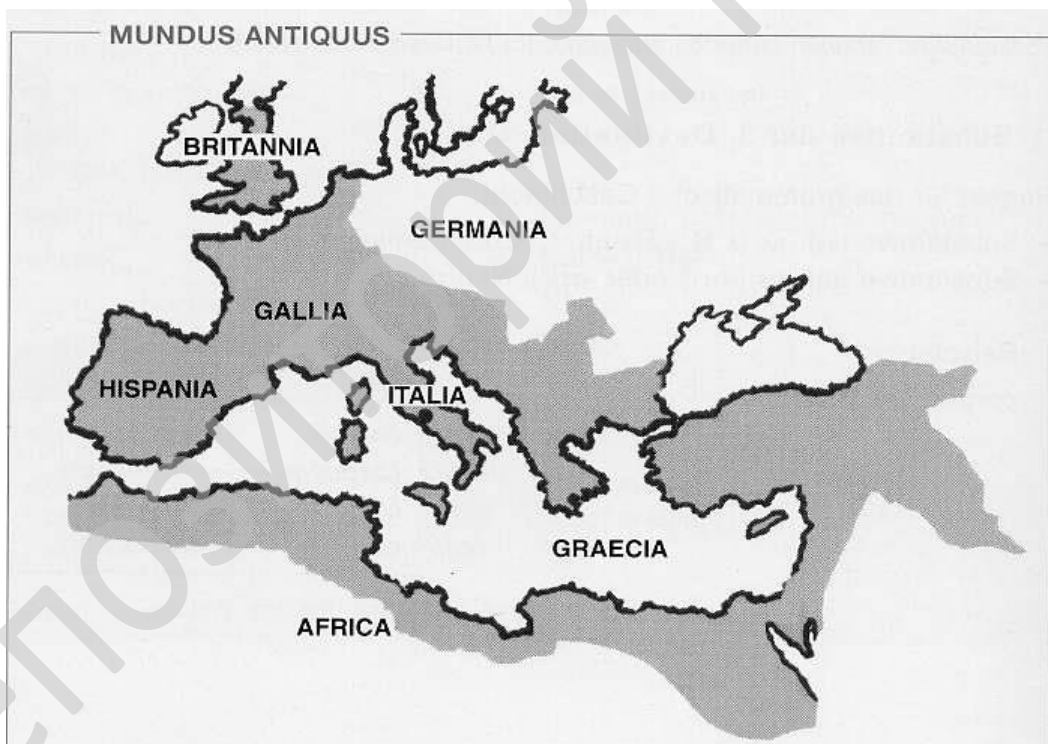
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ANATOMICAL TERMINOLOGY

§1. From the history of medical terminology

Training a doctor is impossible without studying special terminology. Speaking on a professional topic a doctor uses 50-80 per cent of words of Latin and Greek origin. All the spheres of medicine are based on Latin and Ancient Greek languages. There is a saying among doctors and pharmacists: **Invia est in medicīna via sine lingua Latīna** (There is no way in medicine without Latin).

Latin is one of the dead languages. Its history goes back to the beginning of the first millennium B.C. Latin was the language of the tribe in a small region *Latium* situated in the middle part of the Apennine peninsula. The tribe called itself *Latīni* and their language was Latin (*Lingua Latīna*). The Latini fought numerous aggressive wars. So by the beginning of the first century B.C. Latin had become the language of the Roman Empire (from modern Portugal to modern Romania). Since 753 B.C. Rome had been the capital of the Roman Empire.



In 476 A.D. the Roman Empire fell, and since the 6th century A.D. Latin has stopped functioning as a spoken language and now is considered dead. New European countries appeared on the territory of the former Roman Empire and they continued using Latin as a means of international communication, language of science and education. The role of literary Latin was extremely significant in the history of medieval Western Europe. All Western European languages borrowed Latin alphabet and nowadays it is spread all over the world.

Greece, the country with highly developed culture and science, was conquered by the Romans in 146 B.C. In the 5th century B.C., in the so-called classical epoch, Greece was marked by the development of sciences and medicine. In this period there lived a great ancient doctor Hippocrátēs (460–377 B.C.), “the father of scientific European medicine”. The basis of scientific medical terminology was presented in his works. The following Greek terms were found in Hippocrátēs’ works: *bronchus*, *urethra*, *herpes*, *coma*, *nephritis*, *polyp*, *cholera*, *epidemic* and others.

Romans’ medical and biological knowledge was inferior to the achievements of the Greek medicine, therefore scientific knowledge and terminology were mainly borrowed from the Greek. In the period of the Roman Empire military medicine and doctoring were widely developing. Most doctors were Greek and they had to teach medicine in special schools. Initially, teaching was in Greek but meanwhile the role of Latin increased. There appeared the works of Roman scientists and doctors on scientific and medical questions. In the 1st century B.C. **Aulus Cornelius Celsus** created a medical encyclopedia where he presented special medical vocabulary. For example: *abdomen*, *anus*, *articulatio*, *caecum intestinum*, *cartilago*, *cervix*, *cubitus*, *digitus*, *femur*, *humerus*, *index* and others. He used terms mainly taken from the Greek but often used Latin terms as synonyms. Since then ancient doctors had to know two languages: Greek and Latin, and medical terminology started developing on bilingual Greek-Latin basis. This bilingualism became traditional in medical terminology of the subsequent epochs.

In the Middle Ages medicine in Europe had little development. Arabic medicine took the leading position. Many important ancient Greek works were translated into the Arabic language. Within five centuries – from 800 to 1300 — Arabic medical works by more than 70 authors became known. One of the most significant Arabic works is “The Canon of Medicine” written by **Avicenna**. This work was translated into Latin in the 12th century and was dominating in teaching medicine in Europe up to the end of the 16th century.

A fresh upsurge of Latin was in the Renaissance epoch (14th – 16th centuries). Great geographic discoveries, development of cities and trading, falling of church authority created favorable conditions for scientific investigations in medicine. Latin started taking its positions as the international language of science.

A great anatomy reformer **Vesalius** (1514–1564) lived in that epoch and he was the author of the prominent works “Anatomical tables” and “About the structure of human body”. These works were of great importance for anatomy development as well as for improving Latin anatomical terminology. Like Celsus, Vesalius tried to make terminology unified.

The contribution of Renaissance anatomists in developing anatomical terminology was enormous: about 700 names were borrowed from Greek, and by the end of the 18th century there were about 30000 anatomical terms.

The greatest scientists of the Renaissance and New Time used Latin in their works. They are great philosophers and scientists Copernicus, Galileo, Newton, Leibniz. Defending theses, making discussions, writing scientific articles and works, making international correspondence – all this was in Latin.

Even in the 17th century many scientists continued writing in Latin. The great Swedish botanist Carolus Linnseus classified the vegetable kingdom in Latin.

Nowadays, Latin preserves its function of the international means of naming in anatomy, histology, embryology, microbiology, partly in pathological anatomy and clinical disciplines, and in pharmacology and pharmacotherapy.

PHONETICS

LESSON 1

The main objectives of the lesson are:

- 1) to learn the Latin alphabet;
- 2) to be able to pronounce Latin vowels and diphthongs correctly;
- 3) to be able to pronounce Latin consonants and consonant groups correctly;
- 4) to train reading Latin anatomical terms correctly.

§2. Latin alphabet

<i>Letter</i>	<i>Name</i>	<i>Pronunciation</i>	<i>Letter</i>	<i>Name</i>	<i>Pronunciation</i>
Aa	a	[a]	Nn	en	[n]
Bb	be	[b]	Oo	o	[o]
Cc	tse	[ts; k]	Pp	pe	[p]
Dd	de	[d]	Qq	ku	[k]
Ee	e	[e]	Rr	er	[r]
Ff	ef	[f]	Ss	es	[s; z]
Gg	ge	[g]	Tt	te	[t]
Hh	ha	[g/h]	Uu	u	[u; v]
Ii	i	[i]	Vv	ve	[v]
Jj	jota	[j]	Xx	iks	[ks]
Kk	ka	[k]	Yy	iphsilon	[i]
Ll	el	[l]	Zz	zeta	[z]
Mm	em	[m]			

§3. Pronunciation of vowels

A a	[a]	pars [párs] <i>part</i>
O o	[o]	frons [frons] <i>forehead</i>
E e	[e]	pes [pes] <i>foot</i>
<i>All the consonants before "e" are pronounced hard.</i>		
<i>But "l" is pronounced soft: levator [l'evator] <i>elevator muscle</i></i>		

Exercise 1. Read and pay attention to the pronunciation of the vowels: vértebra (vertebra), cérebrum (brain), olécranon (elbow tip), intermédius (inter-medium), stérnum (breast bone), léctor (lecturer), procéssus (process), túber (tuber, large rounded swelling), forámen (opening), levátor (elevator muscle), fémur (thigh bone), médius (middle), intervertebrális (intervertebral), vénter (belly), nóрма (norm), abdómen (abdomen), membrána (membrane), órbita (orbit), área (area), téndo (tendon), réte (network).

I i	1) [i]	<i>in most words</i>	index [índeks] <i>index, forefinger</i>
	2) [j]	- <i>at the beginning of a word before another vowel;</i> - <i>in the middle of a word between vowels.</i> But: <i>in words of Greek origin i - [i]</i>	<u>i</u> ugulāris = <u>j</u> ugulāris [jugulāris] <i>jugular</i> ma <u>i</u> or = ma <u>j</u> or [májor] <i>large</i> <u>I</u> ōdum [iódum] <i>iodine</i>

Exercise 2. Read and pay attention to the pronunciation of the vowel “i”:
iunctúra – junctúra (joining), intérnus (internal), iuguláris – juguláris (jugular), intestínium (intestine), iáter (*Greek*) (doctor), máior – májor (large), infratemporalis (infratemporal), ieiúnum – jejúnum (jejunum), digitális (digital), páries (wall), iuvéntus – juvéntus (youth), mastoídeus (mastoidal), ilíacus (iliac).

U u	[u]	t uber [túber] <i>tuber</i>
ngu	[ngv]	<u>l</u> ingua [línɡva] <i>tongue</i>
qu	[kv] <i>before a vowel</i>	<u>s</u> quama [skváma] <i>squama, scale</i>
su	[sv]	<u>s</u> uavis [svávis] <i>sweet</i>

Exercise 3. Read and pay attention to the pronunciation of the vowel “u”:
sánguis (blood), tubérculum (tubercle), Quércus (oak), sublinguális (sublingual), tríquetrum (three-edged), língua (tongue), áqua (water), quíntus (the fifth), únguis (nail), ángulus (angle), quadrátus (square), squamósus (squamous, scaly), oblíquus (oblique), inguinális (inguinal), quádriceps (four-headed), unguéntum (ointment), língula (small tongue).

Y y	[i]	<i>appears only in Greek words</i>	gyrus [gírus] <i>gyrus, convolution</i>
<i>Remember the most used Greek prefixes and root elements with the vowel “y”:</i> dys- [dis], hypo- [hipo], hyper- [hiper], syn- [sin], sym- [sim], myo- [mio], phys- [fiz]			

Exercise 4. Read and pay attention to the pronunciation of the vowel “y”:
cóndylus (condyle), tympánicus (tympanic), styloídeus (styloid, awl-shaped), hyoídeus (hyoid, sublingual), hypoglóssus (hyppoglossal), cytología (study of cells), cýsta (cyst), dyspépsia (disturbance of digestion), systéma (system), pýramis (pyramid), pylórus (pylorus of the stomach), pterygoídeus (pterygoid, wing-like), syndactýlia (fusion of fingers), stylohyoídeus (stylohyoid), Hydrárgyrum (mercury).

§4. Diphthongs

Diphthong is a combination of two vowels pronounced like one sound or syllable. There are four diphthongs in Latin: **ae, oe, au, eu:**

ae	[e]	vertebrae [vértrebre] <i>ribs</i>
oe	[e]	oesophāgus [ezófagus] <i>esophagus</i>
au	[au]	auris [áuris] <i>ear</i>
eu	[eu]	pleura [pléura] <i>pleura</i>
NB! If there is ē or ĕ in <i>ae</i> (<i>aē/aĕ</i>) or <i>oe</i> (<i>oē/oĕ</i>), each vowel is pronounced separately.		
aĕ / aē	[ae]	aĕr [áer] <i>air</i>
oĕ / oē	[oe]	diploĕ [díplœ] <i>diploe</i>

Exercise 5. Read and pay attention to the pronunciation of the diphthong: *vétebrae* (vertebrae), *cóstae vérae* (true ribs), *áuris* (ear), *néutrum* (neuter gender), *diáeta* (diet), *pléura* (pleura), *aquaedúctus* (water supply), *cáuda* (tail), *roentgénum* (X-ray examination), *neurósis* (disorder of nervous system), *oedéma* (oedema, hydrops), *díploē* (spongy substance), *Alóē* (aloe), *uropoësis* (formation of urine), *leucopoësis* (formation of white blood cells), *haemo-poësis* (formation of blood).

§5. Pronunciation of consonants

C c	1) [ts]	<i>before e, i, y, ae, oe</i>	pro cessus [protséssus] <i>process</i> fac ies [fátsies] <i>face, surface</i> caec um [tsékum] <i>cecum</i>
	2) [k]	<i>in other cases</i>	ca put [káput] <i>head</i> ac cessorius [aktsessórius] <i>accessory</i>

Exercise 6. Read and pay attention to the pronunciation of the consonant “c”: *canális* (canal), *occipitális* (occipital), *tubérculum* (tubercle), *acetábulum* (acetabulum, cup-like cavity), *accessórius* (accessory), *córpus* (body), *cíngulum* (girdle), *crísta* (crest), *procéssus* (process), *cránium* (skull), *fácies* (face, surface), *cáput* (head), *cérebrum* (brain), *cóllum* (neck), *cáecum* (blind intestine), *cadáver* (dead body, corpse), *coerúleus* (blue), *cósta* (rib), *coccygéus* (coccygeal), *fáschia* (fascia, sheath of muscles), *colúmna* (column), *cervicális* (cervical).

G g	[g]	g aster [gáster] <i>stomach</i>
H h	[g/h]	h omo [hómo] <i>man</i>
K k	[k]	skel eton [skéleton] <i>skeleton</i>
L l	[l] (<i>is always pronounced softly</i>)	lam ina [l'ámina] <i>thin plate, lamina</i> cartil āgo [kartil'ágo] <i>cartilage</i>

Exercise 7. Read and pay attention to the pronunciation of the consonant “l”: *cólon* (large intestine), *lúmbus* (loin), *átlas* (atlas, first cervical vertebra), *cartilāgo* (cartilage), *cóllum* (neck), *clavícula* (clavicle), *lábium* (lip), *sélla* (saddle), *hámulus* (hook), *lóbus* (lobe), *glándula* (gland), *lámína* (lamina, thin plate), *ovális* (oval), *laterális* (lateral), *palátum* (palate), *fíbula* (splint-bone), *válvula* (valve, flap), *úlna* (elbow bone), *úlcus* (ulcer), *ála* (wing), *lóngus* (long), *ángūlus* (angle), *pylórus* (pylorus of the stomach), *línea* (line), *plánus* (plain), *frontális* (frontal), *longitudinális* (longitudinal, lengthwise), *púlmo* (lung), *alvéolus* (alveolus), *líber* (free), *látus* (wide), *búlbus* (bulb), *móbilis* (mobile), *pélvis* (pelvis), *medúlla* (medullary substance), *abdominális* (abdominal), *mandíbula* (lower jaw), *flávus* (yellow).

S s	1) [s]	<i>in most words</i>	o <u>s</u> [os] <i>bone</i>
	2) [z]	- <i>between two vowels</i> ; - <i>between a vowel and the consonant "m" or "n"</i> .	ba <u>s</u> is [bázis] <i>base</i> chias <u>m</u> a [hiázma] <i>chiasm</i>
ss	[ss]		o <u>ss</u> a [óssa] <i>bones</i>

Exercise 8. Read and pay attention to the pronunciation of the consonant "s":

os (bone), óssa (bones), incisúra (notch), supérior (superior, upper), procéssus (process), sínus (sinus), spinósus (spinous), sacrális (sacral), fibrósus (fibrous), tuberósitas (tuberosity), bázis (base), petrósus (petrous), impréssio (impression), fissúra (fissure, narrow split), séptum (dividing wall), recéssus (recess), transfúsió (transfusion), násus (nose), ósseus (bony), súlcus (groove), transvérsus (transverse), pars (part), dens (tooth), mucósus (mucous), nasolacrimális (nasolacrimal), stérnum (breast bone), venósus (venous), distális (distal), fáscia (fascia, sheath of muscles), hypoglóssus (hypoglossal), fóssa (shallow depression), tonsílla (tonsil).

T t	[t]	tendo [téndo] <i>tendon</i>
ti + vowel	[tsi]	substant <u>ia</u> [substántsia] <i>substance</i>
sti; tti; xti	[ti]	ost <u>ium</u> [óstium] <i>orifice, ostium</i>

Exercise 9. Read and pay attention to the pronunciation of the combination "ti":

eminéntia (elevation), digéstió (digestion), protuberántia (projection), spátium (interval, space), ópticus (optic), tibia (shin-bone), tértius (the third), perforátio (perforation), substántia (substance), articulátio (joint), óstium (orifice, mouth), distántia (distance), intestínium (intestine), evolútió (evolution), imitátio (imitation), palatínus (palatine), vestibulum (vestibule, threshold), retína (retina).

X x	[ks]		ap <u>x</u> [ápeks] <i>apex, tip</i>
Z z	1) [z]	<i>in words of Greek origin</i>	zygomat <u>ic</u> us [zigomáticus] <i>zygomatic</i>
	2) [ts]	<i>in words of non-Greek origin</i>	influen <u>z</u> a [influéntsá] <i>influenza</i> Z <u>inc</u> um [tsínkum] <i>zinc</i>

Exercise 10. Read correctly:

ápex (tip), áxis (axis, second cervical vertebra), extrémítás (extremity), extérnus (external), zygomáticus (zygomatic), lárýnx (larynx, throat), zóna (zone), Zíncum (zinc), rádix (root), déxter (right), proximális (proximal), pléxus (plexus), appéndix (appendix), influénza (influenza), zygóma (zygoma, cheek-bone), xerostómia (dryness of the mouth).

§6. Digraphs

Digraphs were brought from Greek and are mainly used in Greek words. There are four digraphs in Latin: **ch, ph, rh, th**.

ch	[h]	brachium [bráhium] <i>shoulder</i>
ph	[f]	phalanx [fálanks] <i>phalanx</i>
rh	[r]	rhaphe [ráfe] <i>raphe, suture</i>
th	[t]	thorax [tóraks] <i>chest, thorax</i>
sch	[skh]	ischium [ískhium] <i>ischium</i>

Exercise 11. Read correctly:

thórax (chest), thorácicus (thoracic), cóncha (concha), núcha (nucha), pharyngéus (pharyngeal), scaphoídeum (keel-shaped), sphenoidális (wedge-shaped), ethmoidális (sieve-shaped), labyrínthus (labyrinth), íschium (ischium), ischiádicus (ischiodic), Schizándra (magnolia-vine), rhizóma (rhizome), ráphe/rhaphe (suture), pháryn timer (pharynx), Glycyrrhíza (licorice), Chamomílla (camomile), Altháea (marshmallow), Heliánthus (sunflower), Galánthus (snow-drop), encéphalon (brain), sýmphysis (adhesion), synchondrósis (adhesion of bones), xerophthálmia (dryness of eye), xerochéilia (dryness of lips), achýlia (absence of gastric juice secretion), chylothórax (accumulation of lymph in the pleural cavity), ophthalmorrhágia (bleeding from the eye), ophthalmorrhéxis (rupture of the eye).

Training exercises for home reading

1. Cránium; colúmna vertebrális; clavícula; stérnum; húmerus; os sácrum; os cóxae; fémur; patélla; tibia; fíbula; óssa pédis; óssa digitórum; óssa metatársi; óssa társi; óssa metacárpi; óssa cárpi; rádius; úlna; cóstae; scápula; os ethmoidále; os lóngum; os plánum; óssa brévia; os irreguláre; línea epiphysiális; substántia spongiósa; substántia compácta; cávitas medulláris; periósteum; laméllae circumferentáles intérnae; laméllae circumferentáles extérnae; trabéculae ósseae; canális nutritíus; vása sanguínea; lacúna óssea; cáput húmeri; cóllum anatómicum; cóllum chirúrgicum; tubérculum mínus; tubérculum május; diáfysis húmeri; fóssa olécrani; epicóndylus laterális; tróchlea húmeri; súlcus nérví ulnáris; epicóndylus mediális; skéleton axiále; óssa thorácis; óssa mémbri superióri; óssa mémbri inferióri.

2. Párs cervicális colúmnae vertebrális; párs thorácica colúmnae vertebrális; párs lumbális colúmnae vertebrális; os sácrum; os coccýgis; promontórium; procéssus transvérsus; vértebra thorácica; átlas; áxis; córpus vértebrae; árcus vértebrae; pedúnculi árcus vértebrae; forámen vértebrae; procéssus spinósus; fóvea costális procéssus transvérsi; procéssus transvérsus; procéssus articuláris superi; procéssus articuláris inféri; incisúra vertebrális inféri; vértebra cervicális; forámen procéssus transvérsi; súlcus artériae vertebrális; súl-

cus nérvi spinális; tubérculum antérius; tubérculum postérius; tubérculum caróticum; párs cervicális; párs thorácica; párs lumbális; vértebra próminens; forámina intervertebrália; vértebra lumbális; fóvea costális supérior; incisúra vertebrális supérior; árcus antérius; mássa laterális; fácies articúlaris postérior; fácies articúlaris supérior; procéssus articúlaris inférior; procéssus mamilláris; procéssus accessórius; básiis óssis sáci; ápex óssis sáci; forámina sacrália anterióra; vértebrae sacráles; fácies pelvína; fácies dorsális; forámina pelvína; crísta sacrális mediána; crísta sacrális intermédia; crísta sacrális laterális; canális sacrális; tuberósitas sacrális; fácies auriculáris; hiátus sacrális; ála sacrális; córnú coccygéum; córnú sacrále.

3. Cáput cóstae; sùlcus cóstae; cóllum cóstae; tubérculum cóstae; ángulus cóstae; córnus cóstae; fácies articúlaris tubérculi cóstae; tubérculum músculi scaléni anterióris; sùlcus vénae; artériae subcláviae; tubérculum músculi serráti anterióris; stérnum; manúbrium stérni; córnus stérni; procéssus xiphoídeus; incisúra juguláris; incisúra claviculáris; incisúrae costáles; apertúra thorácis supérior; acrómion; spátia intercostália; cartílagó costális; ángulus infrasternális; cóstae fluctuántes; cóstae spúriae; cóstae vérae; procéssus spinósus vértebrae thorácicae.

LESSON 2

The main objectives of the lesson are:

- 1) to learn the basic rules of stressing Latin anatomical terms;
- 2) to be able to distinguish long and short vowels in Latin anatomical terms;
- 3) to train in reading Latin anatomical terms correctly minding the stress.

§ 7. Accent rules. Word stressing

One of the syllables in a word is always more accentuated than the others. We say that this syllable is stressed.

To determine which syllable is stressed the word should be divided into syllables. Every Latin word has as many syllables as it has vowels or diphthongs: *la-mi-na; fo-ve-a; ar-cus; di-ae-ta; pleu-ra; pneu-ma; oe-so-pha-gus.*

The main rules of stressing a word:

1. The final syllable of a word is never stressed.
2. In disyllabic words (consisting of two syllables) the first syllable is stressed: *ár-cus, búr-sa, fún-dus.*
3. In polysyllabic words (consisting of three and more syllables) the penultimate syllable (next to the last syllable) is stressed if it's long: *in-ci-sī'-vus, coc-cy-gé-us, spi-nā'-lis.*

4. If the penultimate syllable is short the stress is shifted to the third syllable from the end: *mí-nĭ-mus*, *scá-pŭ-la*, *ór-gă-non*.

To stress the word correctly you should:

1) divide the word into syllables;

2) find the penultimate syllable;

3) determine if it is long or short.

4) If it is long, it is stressed. If the penultimate syllable is short the stress is shifted to the third syllable from the end.

Syllables may be long or short by nature and by its position in the word.

Long syllables by nature	Short syllables by nature
if it contains a long vowel (with a long mark above the vowel $\bar{\text{}}$): \bar{a} , \bar{e} , \bar{i} , \bar{o} , \bar{u} : ve- sī -ca(vesíca) <i>bladder</i> fo- rā -men (forámen) <i>opening</i> in-ci- sū -ra (incisúra) <i>notch</i>	if it contains a short vowel (with a short mark above the vowel $\check{\text{}}$): \check{a} , \check{e} , \check{i} , \check{o} , \check{u} : la- mĭ -na (lámína) <i>plate</i> tu-ber- cŭ -lum (tubérculum) <i>tubercle</i>
Long syllables by position	Short syllable by position
1) if the syllable has a diphthong: a- moe -ba (amóeba) <i>amoeba</i> 2) if the vowel of the syllable is followed by two or more consonants or consonant x , z : co- lum -na (colúmna) <i>column</i> ; pro- fun -dus (profúndus) <i>deep</i> ; cir-cum- fle -xus (circumfléxus) <i>circumflex</i> ; re- fle -xus (refléxus) <i>reflex</i> ; Gly-cy- rrhi -za (Glycyrrhíza) <i>licorice</i> .	1) if the vowel of the syllable is followed by the vowel of the next syllable: fa- ci -es (fácies) <i>face</i> ; cra- ni -um (cránium) <i>skull</i> . 2) if the vowel of the syllable is followed by a consonant group b , p , d , t , c , g + r , l or by ch , ph , th , rh : ce- re -brum (cérebrum) <i>brain</i> ; ver- te -bra (vétebra) <i>vertebra</i> ; pal- pe -bra (pálpebra) <i>eyelid</i> ; cho-le- do -chus (cholédochus) <i>bilious</i> ; sto- ma -chus (stómachus) <i>stomach (Greek)</i> .

Remember the following long and short suffixes

Long suffixes	Short suffixes
<i>noun suffixes:</i>	
- ūr - fissúra (<i>fissure</i>); iunctúra (<i>joining</i>); - ĭn - medicína (<i>medicine</i>).	- ŏl - fovéŏla (<i>small pit</i>); - ŭl - glándŭla (<i>gland</i>); tubércŭlum (<i>tubercle</i>).
<i>adjective suffixes:</i>	
- āl - lumbális (<i>lumbar</i>); - ār - articuláris (<i>articular</i>); - āt - digitátus (<i>like fingers</i>); hamátus (<i>like a hook</i>); - ĭn - pelvínus (<i>pelvic</i>); - ŏs - spinósus (<i>spinous</i>); - ē - coccygéus (<i>coccygeal</i>).	- ĭc - gástrĭcus (<i>gastric</i>); thorácĭcus (<i>thoracic</i>); óptĭcus (<i>optic</i>); - āc - cardíacus (<i>cardiac</i>); - ě - óssěus (<i>bony</i>); tendíněus (<i>tendinous</i>).

Training exercises

Ex. 1. Read the following disyllabic words:

ala, anus, arcus, apex, atlas, basis, bursa, biceps, caput, cavum, coccyx, dorsum, ductus, fossa, fornix, gaster, genu, hepar, humor, cornu, homo, incus, index, iris, larynx, latus, lobus, lumbus, manus, margo, mentum, naris, nasus, nucha, nodus, ossa, pelvis, phalanx, pilus, planus, plica, radix, ramus, rectum, rete, sacrum, spina, sternum, sulcus, teres, tegmen, textus, tractus, tuber, ulna, valva, vena, verus.

Ex. 2. Stress the following words minding long and short marks:

abdōmen, acetabūlum, angūlus, biliāris, calcanēus, cavitas, coccygēus, digītus, distālis, duodēnum, oesophāgus, flexūra, gastrīcus, forāmen, glandūla, hiātus, humērus, incisīvus, intercostālis, laryngēus, mediālis, meātus, minīmus, orgānon, ossēs, palātum, petrōsus, proximūsus, radiālis, pyrāmis, retinacūlum, scapūla, spinālis, superficiālis, utērus, urēter, vagīna, vesīca.

Ex. 3. Stress the words correctly minding long or short vowels:

acromion, anterior, arteria, articulatio, brachium, caverna, cerebellum, cilium, columna, compactus, externus, fovea, ganglion, griseus, hypoglossus, impressio, ischium, interosseus, labium, linea, manubrium, maxilla, medulla, metatarsus, nucleus, ostium, periosteum, processus, proprius, recessus, rotundus, spatium, tonsilla, urinarius.

Ex. 4. Accent the following words and give the necessary explanations:

processus, ala, squamōsus, externus, tuberculūm, superior, laterālis, rotundum, carotīcus, crista, posterius, maxillāris, aquaeductus, sutūra, internus, angūlus, fovea, zygomaticūsus, spatium, spina, frontālis, medicīna, labyrinthus, maxilla, ulna, petrōsus, lamīna, linea, pyrāmis, palpēbra, foramīna, protuberantia, columna, canālis, profundus, incisūra, glandūla, palatīnus, medius, humērus, oleum, cerēbrum, pharyngēus, atlas, jugulāris, spinōsus, symphysis, facies, epiphysis, ischium, pelvīnus, forāmen, tuberositas, tympanum, cartilāgo, hamātus.

Control reading and stressing

1. **Cranium:** cranium cerebrāle; neurocranium; sutūra frontālis; os nasāle; arcus superciliāris; forāmen supraorbitāle; os parietāle; facies orbitālis ossis frontālis; sutūra sphenofrontālis; sutūra frontozygomatica; facies orbitālis alae majōris ossis sphenoidālis; sutūra sphenozygomatica; forāmen zygomaticofaciāle; os zygomaticum; sutūra zygomaticomaxillāris; forāmen infraorbitāle; concha nasālis inferior; tuberositas masseterīca; lamīna perpendiculāris ossis ethmoidālis; angūlus mandibūlae; spina nasālis anterior; juga alveolāria; protuberantia mentālis; forāmen mentāle; sutūra intermaxillāris; cavum nasi; fissūra orbitālis inferior; facies orbitālis maxillae; os lacrimāle; lamīna orbitālis ossis ethmoidālis; squama temporālis; processus zygomaticūsus ossis frontālis; tuber

frontāle; septum nasi ossēum; sinus maxillāris; dentes maxillae; mandibūla; sutūra coronālis; sutūra sphenoparietālis; margo parietālis ossis temporālis; sutūra temporozygomatīca; arcus zygomaticus; processus styloidēus; porus acusticus externus; processus mastoidēus; sutūra occipitomastoidēa; sutūra lambdoidēa; linea temporālis inferior; linea temporālis superior; squama temporālis; sutūra squamōsa.

2. **Os frontāle:** squama frontālis; tuber frontāle; glabella; processus zygomaticus; margo parietālis; sulcus sinus sagittālis superiōris; facies cerebrālis; impressiōnes digitātae; forāmen caecum; canālis opticus; incisūra ethmoidālis; sinus sphenoidālis; canālis pterygoidēus; processus pterygoidēus; ala major; fossa glandūlae lacrimālis; lamīna orbitālis labyrinthi ethmoidālis; forāmen ethmoidāle anterius; cellūlae ethmoidāles.

3. **Os sphenoidāle:** apertūra sinus sphenoidālis; dorsum sellae; concha sphenoidālis; fissūra orbitālis superior; ala minor; margo zygomaticus; sulcus pterygopalatīnus; lamīna laterālis processus pterygoidēi; hamūlus pterygoidēus; processus vaginālis; rostrum sphenoidāle; forāmen rotundum; facies orbitālis alae majōris; canālis opticus; processus clinoidēus posterior; fossa scaphoidēa; sulcus hamūli pterygoidēi; sulcus caroticus; tubercūlum sellae; sulcus prechiasmātis; forāmen ovāle; forāmen spinōsum; forāmen magnum; squama occipitālis; clivus; fossa hypophysiālis.

4. **Os occipitāle:** protuberantia occipitālis externa; linea nuchae superior; linea nuchae inferior; linea nuchae suprēma; squama occipitālis; pars basilāris; tubercūlum pharyngēum; eminentia cruciformis; condylus occipitālis; canālis hypoglossus; fossa condylāris; processus jugulāris; processus intrajugulāris; margo lambdoidēus; sulcus sinus sigmoidei; sulcus sinus petrōsi inferiōris; pars laterālis; fossa occipitālis superior.

5. **Os parietāle:** linea temporālis inferior; tuber parietāle; angūlus sphenoidālis; angūlus mastoidēus; sulci arteriōsi; margo sagittālis; angūlus occipitālis; foveolae granulāres.

MORPHOLOGY

LESSON 3

The main objectives of the lesson are:

- 1) to learn the main grammar categories of Latin nouns;
- 2) to be able to determine the declension of Latin nouns;
- 3) to train in making Genitive Singular form of Latin nouns.

§8. Latin noun

Latin anatomical terms involve mainly two parts of speech: a noun and an adjective.

Example: deep muscle of the tongue
adjective noun noun

petrous part of the occipital bone
adjective noun adjective noun

Latin nouns have the following grammar categories:

- 1) gender (*genus*);
- 2) number (*numerus*);
- 3) case (*casus*);
- 4) declension (*declinatio*).

1. Latin nouns may be of **three genders**:

masculinum – masculine – m;

femininum – feminine – f;

neutrum – neuter – n.

Gender of Latin nouns can not change and **must be memorized** together with the noun: *rib* – costa, ae **f**; *nose* – nasus, i **m**; *opening* – forāmen, ĩnis **n**.

The gender of Latin nouns is mostly determined by the primary form of the noun (the ending of Nominative Singular). Thus, most nouns having the following Nominative endings refer to the specific gender:

Nominative ending	gender	example
-a	feminine (f)	<i>lamīna</i> , ae f (plate); <i>vertēbra</i> , ae f (vertebra).
-us	masculine (m)	<i>muscul<u>us</u></i> , i m (muscle); <i>arc<u>us</u></i> , us m (arch).
-um; -en; -on; -u	neuter (n)	<i>ligament<u>um</u></i> , i n (ligament); <i>forāmen<u>en</u></i> , ĩnis n (opening); <i>ganglion<u>en</u></i> , ii n (nerve node); <i>cornu<u>u</u></i> , us n (horn).

But there is a large group of nouns (mostly the third declension nouns) in which the gender can't be exactly guessed by the Nominative Singular ending. Therefore, the gender of these nouns should be learnt together with the noun form.

Example: os, ossis **n** (*bone*);
pars, partis **f** (*part*);
dens, dentis **m** (*tooth*.)

2. Latin nouns can be used in **two numbers**:

singulāris – singular (sing.);

plurālis – plural (plur.).

In English the plural is formed by the ending *-s* or *-es*. In Latin the ending of the plural varies depending on the concrete term and according to the gender and declension:

muscules of the eyes and nose – musculi oculōrum et nasi;
plural plural singular

partes of the body – partes corpōris.
plural singular

3. Grammar category of **case** is defined as the change of the noun form according to its relation to other words in the term. There are six **cases** in Latin (in English there are only common case and possessive case). But only two cases are used in medical anatomical terminology: **Nominatīvus** (Nominative) and **Genetīvus** (Genitive).

Nota bene! To determine the case of the noun in the term you should find there preposition “of”.

Nominative case includes all the words that stand **before** “of” and answer the questions “who, what”.

Genitive case includes all the words that are placed **after** “of” and answer the questions “whose, of what”.

Example: body of the incus;
Nominative Singular Genitive Singular

thoracic nerves of the pterygoid canal.
Nominative Plural Genitive Singular

If the term has no preposition “of” it means there is no Genitive part, so all the words in the term are Nominative Singular or Plural:

deep lymphatic vessels.
Nominative Plural

Nominative case is considered as the primary form of nouns and adjectives. In histological and anatomical Latin terms the first word is always the noun in Nominative case (Singular or Plural).

4. In dictionaries each Latin noun is written in its **lexical form** which consists of three elements (*patella, ae f*).

The **first** element is the primary form of the noun in **Nominative** Singular.
 The **second** element is the **ending** of **Genitive** Singular.
 The **third** element indicates the **gender** of the noun.

	<i>1st element</i>	<i>2nd element</i>	<i>3rd element</i>
	noun in Nominative Singular	ending of Genitive Singular	Gender
<i>rib – costa, ae f</i>	costa	ae (costae)	f (feminine)
<i>eye – oculus, i m</i>	oculus	i (oculi)	m (masculine)
<i>horn – cornu, us n</i>	cornu	us (cornus)	n (neuter)

Nota bene! The full form of Genitive Singular is formed by substituting the ending of Nominative Singular (the 1st element of the lexical form) for the ending of Genitive Singular (the 2nd element of the lexical form). The part of the word without the ending is called the **stem**. Nominative and Genitive stems coincide in nouns of the first, second, fourth and fifth declensions:

vena, ae f: ven-**a** – ven-**ae** (I);
Nom. Sing. Gen. Sing.

septum, i n: sept-**um** – sept-**i** (II);
Nom. Sing. Gen. Sing.

arcus, us m: arc-**us** – arc-**us** (IV);
Nom. Sing. Gen. Sing.

facies, eī f: faci-**es** – faci-**eī** (V).
Nom. Sing. Gen. Sing.

For some nouns (mainly of the 3rd declension) the second element of the lexical form contains not only the ending of Genitive Singular but also a part of their stem. It takes place when there is alteration of vowels or consonants in the stem of a noun:

thorax, ācis m: thor**ax** – thor**āc-is**;
Nom. Sing. Gen. Sing.

margo, ĩnis m: marg**o** – marg**ĭn-is**.
Nom. Sing. Gen. Sing.

If a noun in Nominative Singular has only one syllable, the full form of Genitive Singular is given in its lexical form:

os, ossis n (*bone*); os, oris n (*mouth*); dens, dentis m (*tooth*); pars, partis f (*part*).

Therefore, it's necessary to memorize all the elements of the lexical form of a noun.

5) There are **five declensions** of Latin nouns. Each noun belongs to some declension and can't change it.

The declension of the noun is determined by the ending of Genitive Singular (the second element of its lexical form).				
-ae	-i	-is	-us	-ēi
I	II	III	IV	V
<i>Lexical Form</i>	<i>Nominative Singular</i>	<i>Genitive Singular</i>	<i>Declension</i>	
fovea, ae f	fove- a	fove- ae	I	
nasus, i m	nas- us	nas- i	II	
rectum, i n	rect- um	rect- i	II	
index, ĩcis m	index	indĭc- is	III	
cutis, is f	cut- is	cut- is	III	
meātus, us m	meāt- us	meāt- us	IV	
genu, us n	gen- u	gen- us	IV	
superficies, ēi f	superfici- es	superfici- ēi	V	

Lexical minimum No 1

I declension nouns

- 1) ala, ae f *wing*
- 2) arteria, ae f *artery*
- 3) costa, ae f *rib*
- 4) crista, ae f *crest*
- 5) incisūra, ae f *notch*
- 6) lamīna, ae f *plate*
- 7) scapūla, ae f *shoulder blade*
- 8) vena, ae f *vein*
- 9) vertēbra, ae f *vertebra*

II declension nouns

- 10) collum, i n *neck*
- 11) sulcus, i m *groove*
- 12) tubercūlum, i n *tubercle*

III declension nouns

- 13) atlas, atlantis m *first cervical vertebra, atlas*
- 14) axis, is m *second cervical vertebra, axis*
- 15) caput, ĩtis n *head*
- 16) corpus, ōris n *body*
- 17) forāmen, ĩnis n *opening*
- 18) os, ossis n *bone*

IV declension nouns

- 19) arcus, us m *arch*
- 20) processus, us m *process*

V declension nouns

- 21) facies, ēi f *1) surface;
2) face.*

Training Exercises

Ex. 1. Write the gender of the words:

tegmen - ____; olecranon - ____; scapula - ____; nasus - ____; cornu - ____; aqua - ____; colon - ____; cranium - ____; digitus - ____; fractura - ____; foramen - ____; fascia - ____; intestinum - ____; ganglion - ____; lumbus - ____; orbita - ____; genu - ____; oesophagus - ____.

Ex. 2. Make the full form of Genitive Singular, underline the Genitive ending and determine the declension:

Pattern: costa – costae f – I

a) vertebra, ae f; corpus, ōris n; dorsum, i n; arcus, us m; superficies, ēi f; basis, is f; collum, i n; apex, ĭcis m; cranium, ii n; ductus, us m; caput, ĭtis n; ganglion, ii n; cornu, us n; squama, ae f; zygoma, ātis n; processus, us m; tuberculum, i n; thorax, ācis m; tractus, us m; atlas, antis m; axis, is m; dorsum, i n; genu, us n;

b) fovea, ae f; arcus, us m; duodenum, i n; textus, us m; facies, ēi f; pancreas, ātis n; musculus, i m; recessus, us m; canalis, is m; cornu, us n; tuberositas, ātis f; ala, ae f; plexus, us m; ramus, i m; cerebrum, i n; incisura, ae f; foramen, ĭnis n; sulcus, i m; fossa, ae f; crista, ae f; dens, dentis m; chiasma, ātis n; os, ossis n; cavitas, ātis f; angulus, i m; costa, ae f.

Ex. 3. Add the Genitive singular ending according to the given declension and guess the gender of some nouns:

tuberculum, tubercul... (II) ____; nervus, nerv... (II) ____; caput, capit... (III) n; arcus, arc... (IV) ____; atlas, atlant... (III) m; foramen, foram... (III) ____; costa, cost... (I) ____; crista, crist... (I) ____; collum, coll... (II) ____; arteria, arteri... (I) ____; os, oss... (III) n; vertebra, vertebr... (I) ____; hiatus, hiat... (IV) ____; os, or... (III) n; basis, bas... (III) f; facies, faci... (V) f; margo, marg... (III) m; tympanum, tympan... (II) ____; apex, apic... (III) m; processus, process... (IV) ____; canalis, canā... (III) m; meatus, meāt... (IV) ____; corpus, corpōr... (III) n; pars, part... (III) f.

LESSON 4

The main objectives of the lesson are:

- 1) to learn the structure of Latin anatomical terms;*
- 2) to train in translating anatomical terms “noun + noun” from English into Latin;*
- 3) to train in translating anatomical terms “noun + noun” from Latin into English.*

§9. Structure of anatomical terms

Anatomical terminology is the base medical terminology. It contains the terms naming all parts of the human body.

An anatomical term is a word or several words used to denote some anatomical structure of the human body. Anatomical terms may consist of one word, two words, three words, up to 8.

One-word terms consist of one noun in the Nominative Singular or Plural, e.g., atlas, *atlas*, *first cervical vertebra*; pes, *foot*; vasa, *vessels*; ossa, *bones*.

Two-word terms consist of two words and may be of two kinds:

a) noun + noun in Singular or Plural form:

arcus vertebrae (*arch of the vertebra*);

b) noun + adjective in Singular or Plural form:

incisura frontalis (*frontal notch*).

Multi-word terms start with the noun in Nominative Singular or Plural. Then it is followed the words which characterize this noun. They may be presented by another noun (or nouns) in Genitive Singular or Plural or an adjective (or adjectives). So multi-word terms may be presented by several kinds:

a) noun₁ + noun₂ + noun₃:

facies tuberculi costae (*surface of the tubercle of the rib*);

b) noun₁ + adjective₁ + adjective₂:

processus articularis superior (*upper articular process*);

c) noun₁ + noun₂ + adjective₁:

muscūlus capitis longus (*long muscle of the head*);

d) noun₁ + adjective₁ + noun₂ + adjective₂:

lobus superior pulmonis dextri (*upper lobe of the right lung*).

§10. Anatomical terms “Noun₁ + Noun₂ + (Noun₃)”

While translating this type of terms you should follow the scheme.

Let's translate the term “**arch of the rib**”:

1. Divide the term into Nominative and Genitive parts minding Singular or Plural.

The first noun (before “of”) is always Nominative; the second noun (after “of”) is always Genitive.

arch of the rib.
Nom. Sing. Gen. Sing.

2. Write the lexical form of each word; determine the declension, case and number.

Remember!!! We always start translating from the Nominative noun.

noun 1	arch	arcus, us m	IV; Nominative Singular	arcus
noun 2	rib	costa, ae f	I; Genitive Singular	costae

arch of the rib – arcus costae

If the term contains several Genitive nouns, they are placed according to the English sequence.

Let's translate the term **“surface of the tubercle of the rib”**:

1) identify Nominative and Genitive Nouns Singular or Plural forms and make the correct order:

¹ surface of the ² tubercle of the ³ rib.
 Nom. Sing. Gen. Sing. Gen. Sing.

2) write the lexical form of each word; determine the declension, case and number:

noun 1	surface	facies, ēi f	V; Nominative Singular	facies
noun 2	tubercle	tuberculum, i n	II; Genitive Singular	tuberculi
noun 3	rib	costa, ae f	I; Genitive Singular	costae

surface of the tubercle of the rib – facies tuberculi costae

Lexical minimum № 2

I declension nouns

- | | |
|---------------------|-----------------------|
| 1) columna, ae f | column |
| 2) fissūra, ae f | fissure, narrow split |
| 3) fossa, ae f | shallow depression |
| 4) fovea, ae f | small pit |
| 5) linea, ae f | line |
| 6) orbīta, ae f | eye-pit |
| 7) spina, ae f | spine |
| 8) squama, ae f | squama, scale |
| 9) substantia, ae f | substance |
| 10) sutūra, ae f | suture |

II declension nouns

- | | |
|------------------|-------------|
| 11) angūlus, i m | angle |
| 12) cranium, i n | skull |
| 13) sacrum, i n | sacral bone |
| 14) sternum, i n | breastbone |

III declension nouns

- | | |
|--------------------|----------------|
| 15) apex, ĩcis m | top |
| 16) basis, is f | base |
| 17) canālis, is m | canal |
| 18) coccyx, ýgis m | coccygeal bone |
| 19) thorax, ācis m | chest |
| 20) zygōma, ātis n | cheek bone |

Remember!!! In all Latin terms **adjectives** are placed **after the noun** which they refer to. *Compare:* in English adjectives are placed before the noun.

A Latin adjective has the grammar categories which are dependent on a Latin noun.

- | | | |
|---|--|--|
| <p>1) <i>number:</i> Singular, Plural;
 2) <i>gender:</i> masculine, feminine,; neuter;
 3) <i>case:</i> Nominative, Genitive, etc.</p> | | <p>are related to the noun which the adjective qualifies</p> |
|---|--|--|

For example:

wide ligament of the uterus;
n, Nom. Sing.

wide muscles of the back.
m, Nom.Plur.

Remember!!! There are only **three declensions** of adjectives. *Compare:* nouns belong to five declensions.

Latin adjectives are written in the dictionary in their lexical form. **The lexical form** of the adjective presents the form of Nominative Singular of different genders and includes the following elements:

-the full form of the adjective in Nominative Singular with the masculine ending;

-ending of Nominative Singular of feminine gender;

-ending of Nominative Singular of neuter gender.

<i>Lexical form</i>	<i>masculine</i>	<i>feminine</i>	<i>neuter</i>	
latus, a, um (<i>wide</i>)	lat-us	lat-a	lat-um	<i>1st group</i>
dexter, tra, trum (<i>right</i>)	dext-er	dextr-a	dextr-um	
articulāris, e (<i>articular</i>)	articulār-is	articulār-is	articulār-e	<i>2nd group</i>
costālis, e (<i>costal</i>)	costāl-is	costāl-is	costāl-e	

According to the lexical form Latin adjectives are divided into **two groups**.

The 1st group adjectives have different forms for each gender. Therefore they have three endings in their lexical form (Nominative Singular endings): endings **-us / -er** are for **masculine** gender; ending **-a** is for **feminine** gender; ending **-um** is for **neuter** gender:

<i>English</i>	<i>Lexical form</i>	m	f	n
		-us / -er	-a	-um
<i>long</i>	longus, a, um	long- us	long- a	long- um
<i>left</i>	sinister, tra, trum	sinist- er	sinistr- a	sinistr- um

The choice of the adjective ending depends on the gender of the concrete noun which the adjective qualifies:

long muscle: muscūlus, i **m** + longus, a, um = muscūlus longus;

long head: caput, ĩtis **n** + longus, a, um = caput longum;

long artery: arteria, ae **f** + longus, a, um = arteria longa.

The **declension** of the **first group adjectives** is determined by the **gender** of the noun which it refers to: **feminine** (-a) – **I**
masculine (-us / -er) – **II**
neuter (-um) – **II**.

Example:

petrous part: pars, partis **f** + petrōsus, **a**, um = pars^{III} petrōsa^I (f);
deep vessel: vas, vasis **n** + profundus, a, **um** = vas^{III} profundum^{II} (n);
thoracic duct: ductus, us **m** + thoracī**us**, a, um = ductus^{IV} thoracīcus^{II} (m).

The **2nd group adjectives** have two endings in their lexical form (Nominative Singular endings): ending **-is** – for **masculine** and **feminine** genders; ending **-e** – for **neuter** gender:

English	Lexical form	m	f	n
		- is	- is	- e
<i>lateral</i>	laterālis, e	laterāl- is	laterāl- is	laterāl- e
<i>renal</i>	renālis, e	renāl- is	renāl- is	renāl- e

The choice of the adjective ending depends on the gender of the concrete noun which the adjective qualifies:

frontal suture: sutūra, ae **f** + frontāl**is**, e = sutūra frontāl**is**;
frontal angle: angūlus, i **m** + frontāl**is**, e = angūlus frontāl**is**;
vertebral tuber: tuber, ěris **n** + vertebrāl**is**, e = tuber vertebrā**e**.

The second group adjectives also include several adjectives frequently used in anatomical terms. These adjectives resemble the comparative degree of adjectives but are translated as positive adjectives:

anterior, ius *front, anterior*; inferior, ius *lower*;
posterior, ius *back, posterior*; major, jus *large*;
superior, ius *upper, superior*; minor, us *small*.

These adjectives have the common ending for **masculine** and **feminine** gender **-ior (jor)**; and another ending for **neuter** gender **-ius (jus)**:

English	Lexical form	m	f	n
		- ior (-jor)	- ior (-jor)	- ius (jus)
<i>front</i>	anterior, ius	anter- ior	anter- ior	anter- ius
<i>large</i>	major, jus	ma- jor	ma- jor	ma- jus
<i>small</i>	minor, us	min- or	min- or	min- us

Example:

large wing: ala, ae **f** + maj**or**, jus = ala maj**or**;
lower process: processus, us **m** + infer**ior**, ius = processus infer**ior**;
upper ligament: ligamentum, i **n** + super**ior**, **ius** = ligamentum super**ius**.

The **declension** of the **second group adjectives** is always the **III-rd**.

Example:

frontal suture: sutūra, ae **f** + frontā**lis**, e = sutūra^I frontā**lis** ^{III};

upper arch: arcus, us **m** + super**ior**, ius = arcus^{IV} super**ior** ^{III};

vertebral tuber: tuber, ěris **n** + vertebrā**lis**, e = tuber^{III} vertebrā**le** ^{III}.

gender	1 st group			2 nd group			Comparative degree		
	m	f	n	m	f	n	m	f	n
Nom.sing. endings	-us, -er	-a	-um	-is	-is	-e	-ior	-ior	-ius
Declension	II	I	II	III			III		

Remember!!! Adjectives agree with the noun they qualify in gender, number and case.

Lexical minimum № 3

1st group adjectives

- | | |
|------------------------|-------------------|
| 1) coccygēus, a, um | <i>coccygeal</i> |
| 2) dexter, tra, trum | <i>right</i> |
| 3) externus, a, um | <i>external</i> |
| 4) internus, a, um | <i>internal</i> |
| 5) medius, a, um | <i>middle</i> |
| 6) palatīnus, a, um | <i>palatine</i> |
| 7) petrōsus, a, um | <i>stony</i> |
| 8) sinister, tra, trum | <i>left</i> |
| 9) thoracīcus, a, um | <i>thoracic</i> |
| 10) transversus, a, um | <i>transverse</i> |

2nd group adjectives

- | | |
|---------------------|---|
| 11) articulāris, e | <i>articular, related to joints</i> |
| 12) costālis, e | <i>costal, related to ribs</i> |
| 13) dorsālis, e | <i>dorsal</i> |
| 14) frontālis, e | <i>frontal, related to the forehead</i> |
| 15) horizontālis, e | <i>horizontal</i> |
| 16) laterālis, e | <i>lateral</i> |
| 17) mediālis, e | <i>medial</i> |
| 18) occipitālis, e | <i>occipital</i> |
| 19) spinālis, e | <i>spinal</i> |
| 20) temporālis, e | <i>temporal</i> |
| 21) vertebrālis, e | <i>vertebral</i> |

Comparative adjectives

- | | |
|--------------------|------------------------|
| 22) anterior, ius | <i>front, anterior</i> |
| 23) inferior, ius | <i>lower</i> |
| 24) major, jus | <i>large</i> |
| 25) minor, minus | <i>small</i> |
| 26) posterior, ius | <i>back, posterior</i> |
| 27) superior, ius | <i>upper</i> |

Training Exercises

In-class training

Ex. 1. Complete the lexical form of the following adjectives and identify the group:

coccygēus, ____; dorsālis, ____; major, ____; profundus, ____; laterālis, ____; dexter, ____; vertebrālis, ____; minor, ____; sinister, ____; mediānus, ____; costālis, ____; externus, ____; superior, ____; lumbālis, ____; internus, ____.

Ex. 2. Make the form of neuter gender of the following adjectives:

occipitālis, externus, spinōsus, inferior, profundus, dorsālis, posterior, laterālis, distālis, minor, sinister.

Ex. 3. Make the form of feminine gender of the following adjectives:

internus, minor, thoracicus, articulāris, major, coccygēus, dexter, superior, claviculāris, cribrōsus, costālis, transversus.

Ex. 4a. Agree adjectives with the nouns in gender:

Model: ala, ae f (minor, us) – ala minor (f).

incisūra, ae f (frontālis, e); os, ossis n (frontālis, e); arcus, us m (anterior, ius); tuberculum, i n (anterior, ius); canālis, is m (vertebrālis, e); forāmen, ĩnis n (vertebrālis, e); columna, ae f (vertebrālis, e); processus, us m (transversus, a, um); sinus, us m (transversus, a, um); linea, ae f (transversus, a, um); facies, eī f (articulāris, e); ramus, i m (laterālis, e); nervus, i m (sensorius, a, um); arteria, ae f (anterior, ius); corpus, ōris n (ciliāris, e).

Ex. 4b. Identify the declension of each word in the word combinations from Ex. 4a.

Home training

Ex. 5. Make the terms (noun+adjective) and identify the declension of each word:

Model: facies, ei f (articulāris, e) – facies^V articulāris^{III}.

ala, ae f (major, jus); os, ossis n (occipitālis, e); sinus, us m (occipitālis, e); protuberantia, ae f (internus, a, um); cornu, us n (coccygēus, a, um); pars, partis f (petrōsus, a, um); cornu, us n (inferior, ius); costa, ae f (primus, a, um); forāmen, ĩnis n (posterior, ius); forāmen, ĩnis n (magnus, a, um); vertebra, ae f (thoracicus, a, um); fovea, ae f (costālis, e); nervus, i m (spinālis, e); margo, ĩnis m (squamōsus, a, um); concha, ae f (superior, ius); cornu, us n (laterālis, e).

LESSON 6

The main objectives of the lesson are:

- 1) to learn the structure of Latin anatomical terms “noun + adjective”;
- 2) to learn the position and agreement of adjectives in Latin anatomical terms;
- 3) to train in translating anatomical terms from English into Latin;
- 4) to train in translating anatomical terms from Latin into English;
- 5) to learn the suffixes used to make Latin adjectives;
- 6) to be able to understand the Latin adjectives basing on the meaning of the prefixes.

§12. Structure of anatomical terms “noun + adjective”

As you remember multi-word terms may occur in several variants:

- a) noun+noun;
- b) noun+adjective;
- c) noun+noun+adjective.

Now let’s see the anatomical terms of the types “noun+adjective” and “noun+noun+adjective”.

Noun + adjective. In the term consisting of a noun and an adjective, the **adjective** takes the **second** position.

Let’s translate the anatomical term “*palatine opening*”:

1) make the correct order of the words (first goes the noun, the second goes the adjective):

2 palatine adj. Nom. Sing	1 opening; noun Nom. Sing.
---------------------------------	----------------------------------

2) write the lexical form of each word and their grammar categories:

English	Lexical forms	Grammar categories	Translation
opening	forāmen, ĩnis n	noun, III, Nom. Sing.	forāmen
palatine	palatīnus, a, um	adj., n, II, Nom. Sing.	palatīnum

palatine opening – forāmen palatīnum

In the term consisting of a noun and several adjectives, the noun occupies the first position. Then goes the adjective referring to an organ or part of the body (*articular, pulmonary, cerebral, ect.*). Then goes the adjective determining the size (*large, small*), form (*round, sphenoid, ect.*) and position (*upper, anterior, lower, etc.*):

3	2	1
right	temporal	bone
adj. N.S.	adj. N.S.	noun, N.S.

bone	os, ossis n	noun, III, Nom. Sing.	os
temporal	temporālis, e	adj., n, III, Nom. Sing.	temporāle
right	dexter, tra, trum	adj., n, II, Nom. Sing.	dextrum

right temporal bone – os temporāle dextrum

Noun + noun + adjective. If the term contains two nouns and the adjective, first goes Nominative noun, the second place is taken by Genitive noun or the adjective:

³ transverse ¹ nerve ² of the neck
 Nom. Sing. adj. Nom.Sing. noun Gen. Sing. noun

nerve	nervus, i m	noun, II, Nom. Sing.	nervus
neck	collum, i n	noun, II, Gen. Sing.	colli
transverse	transversus, a, um	adj., m, II, Nom. Sing.	transversus

transverse nerve of the neck – nervus colli transversus

§13. Derivative adjectives

Most adjectives in anatomical terminology are derivatives, i.e. they are formed from the noun by means of some suffixes.

First class adjectives are formed by the following suffixes:

Suffix	Meaning	Example
-īc-, -īn-, -ē-	relation to some anatomical structure	gastr- īc- us, a, um <i>gastric, related to the stomach</i> ; pancreat- īc- us, a, um <i>pancreatic, related to the pancreas</i> ; pelv- īn- us, a, um <i>pelvic, related to the pelvis</i> ; oss- ē- us, a, um <i>bony</i> .
-ōs-	plenty of some feature	squam- ōs- us, a, um <i>scaly, having plenty of scale</i> ; fibr- ōs- us, a, um <i>fibrous, having plenty of fiber</i> ; muc- ōs- us, a, um <i>mucous, having plenty of mucus</i> .
-idē-	likeness with something	pterygo- idē- us, a, um <i>pterygoid, like the wing</i> ; lambdo- idē- us, a, um <i>lambdoid, like the Greek letter Λλ</i> ; sigmo- idē- us, a, um <i>sigmoid, having the form of the Greek letter Σζ</i> .
-āt-	supplied with something	ham- āt- us, a, um <i>supplied with hooks</i> .

Most **second group adjectives** are formed from appropriate nouns according to the following model:

[noun's stem + suffix **-āl / -ār**]:

frons, ntis f (*forehead*) – front-**āl-**is, e (*frontal*);

clavicūla, ae f (*clavicle*) – clavicul-**ār-**is, e (*clavicular*).

§14. Compound adjectives

Compound adjectives are the adjectives consisting of two stems and used for denoting ligaments, vessels, nerves, canals etc. Such adjectives are formed by joining the root element of the first adjective to the stem of the second adjective with the help of the connective vowel **-o-**. The ending of the compound adjective is the same as the ending of the second adjective. In other words, we take the root element of the first adjective and add it to the full form of the second adjective: sphenoidālis (*sphenoid*) + frontālis (*frontal*) = sphen-o-frontālis, e *sphenofrontal*; sphenoidālis (*sphenoid*) + zygomaticus, a, um (*zygomatic*) = sphen-o-zygomaticus, a, um *sphenozygomatic*.

§15. Primary data about prefixes

Prefixes are used to denote the exact position of the anatomical structure. In anatomical terms prefixes of Latin origin are the most widely used.

Remember the meaning of the most widely used prefixes:

infra-, sub-	under, beneath	<u>infra</u> clavicularis – infraclavicular (<i>situated under clavicle</i>);
inter-	between	<u>inter</u> vertebrālis – intervertebral (<i>situated between vertebrae</i>);
intra-	inside	<u>intra</u> venōsus – intravenous (<i>lying inside the vein</i>);
pre- (prae-)	in front of	<u>pre</u> sacrālis – presacral (<i>situated in front of sacrum</i>);
semi-	half	<u>semi</u> lunāris – semilunar (<i>looking like half of the moon</i>);
supra-	above	<u>supra</u> scapulāris – suprascapular (<i>situated above shoulder-blade</i>).

Lexical minimum № 4

	Prefixes
1) infra-, sub-	<i>under, beneath</i>
2) inter-	<i>between</i>
3) intra-	<i>inside</i>
4) pre- (prae-)	<i>in front of</i>
5) semi-	<i>half</i>
6) supra-	<i>above</i>

	Adjectives
7) carotīcus, a, um	carotic
8) cribrōsus, a, um	cribrate, sieve-shaped
9) ethmoidālis, e	ethmoid, sieve-shaped
10) hyoideus, a, um	hyoid (bone)
11) hypoglossus, a, um	hypoglossal (nerve)
12) ischiadīcus, a, um	ischial
13) jugulāris, e	jugular
14) mastoideus, a, um	mastoidal, mammiform
15) orbitālis, e	orbital
16) ossēus, a, um	bony
17) parietālis, e	parietal
18) pterygoideus, a, um	pterygoid, wing-shaped
19) sacrālis, e	sacral
20) sphenoidālis, e	sphenoidal, wedge-shaped
21) spinōsus, a, um	spinous
22) squamōsus, a, um	squamous, scaly
23) sternalis, e	sternal, related to the breast bone
24) styloideus, a, um	styloid, awl-shaped
25) sublinguālis, e	sublingual
26) tympanīcus, a, um	tympanic
27) zygomaticus, a, um	zygomatic

Training Exercises

In-class training

Ex. 1. Translate the following adjectives into English. Find the suffixes and nouns from which the adjectives are formed:

venōsus, nervōsus, arteriōsus, spinōsus, cribrōsus, squamōsus, cartilaginēus, gastrīcus, hepaticus, pancreaticus, tympanīcus, thoracīcus, palatīnus, coccygēus, zygomaticus, pelvīnus, arcuātus.

(*Nouns: arteria, ae f artery; vena, ae f vein; nervus, i m nerve; spina, ae f spine; cribrum, i n sieve; squama, ae f scale; cartilāgo, ĩnis f cartilage; gaster, tris f stomach; hepar, ātis n liver; pancreas, ātis n pancreas; tympanum, i n tympanum; thorax, ācis m chest; palātum, i n palate; coccyx, ygis m coccyx; zygōma, ātis n cheek-bone; pelvis, is f pelvis; arcus, us m arch.*)

Ex. 2. Translate the following adjectives; explain the meaning of the prefixes:

intercostālis, e; intervertebrālis, e; interarticulāris, e; infratemporalis, e; infraorbitālis, e; infrascapulāris, e; subarcuātus, a, um; subscapulāris, e; intraarticulāris, e; semicirculāris, e; supraorbitālis, e.

Ex. 3. Translate the following anatomical terms into Latin

a) noun+adjective:

thoracic artery; vertebral opening; lower costal pit; large palatine canal; transverse fissure; internal tubercle; lateral head.

b) noun+noun+adjective:

back arch of the atlas; costal depression of the process; external base of the skull; lateral head of the rib; horizontal plate of the bone; upper tubercle of the vertebra; lower angle of the shoulder-blade.

Home training

Ex. 4. Translate the following anatomical terms into Latin:

pterygoid process; jugular notch of the breast bone; back sieve-shaped opening; orbital surface of the wing; right cribrate plate; ethmoid groove of the bone; large palatine artery; middle depression of the skull; right frontal bone; back tubercle of the atlas; lower vertebral notch; upper orbital fissure; articular surface of the tubercle of the rib.

Ex. 5. Translate the following anatomical terms into English:

processus pterygoideus ossis; sutūra orbitālis inferior; fovea processus costālis; os ethmoidāle; forāmen palatīnum minus; facies alae frontālis; linea temporālis superior; lamina processus laterālis; crista occipitālis externa; facies articulāris capītis costae; sulcus palatīnus; processus spinōsus vertebrae; caput sterni; incisūra frontālis; facies articulāris superior.

LESSON 7

The main objectives of the lesson are:

1) to learn the grammar categories of nouns and adjectives referring to the first declension;

2) to learn the case endings of the first declension;

3) to be able to decline the word combination belonging to the first declension;

4) to train in translating Latin anatomical terms having the first declension nouns and adjectives from English into Latin and vice versa.

§16. First declension nouns and adjectives

First declension nouns are mostly of the **feminine** gender. They have the ending **-a** in Nominative Singular (the 1st element of the lexical form) and the ending **-ae** in Genitive Singular (the 2nd element of the lexical form).

Example: vertēbra, ae f vertebra;

scapūla, ae f shoulder blade;

squama, ae f squama, scale.

<i>lexical form</i>	<i>Nom. Sing.</i>	<i>Gen. Sing.</i>	<i>gender</i>
	-a	-ae	f
costa, ae f (<i>rib</i>)	cost-a	cost-ae	f
vena, ae f (<i>vein</i>)	ven-a	ven-ae	f

Exception: nouns of Greek origin ending in **-ma** are of the **neuter** gender and refer to the **III**-rd declension:

zygōma, ātis n *zygoma, cheek bone*;

glaucōma, ātis n *increase of intraocular pressure*.

First declension adjectives are the adjectives of the **first group** (-us/-er; -a; -um) if they agree with a noun of the **feminine** gender and get the ending **-a** in Nominative Singular:

<i>lexical form</i>	<i>gender</i>	
verus, a, um	f	ver-a
sinister, tra, trum	f	sinistr-a

First declension nouns and adjective have the same case endings. While declining nouns or adjectives we change case endings:

	<i>true rib</i>	<i>costa</i>	<i>vera</i>
<i>Nom. Sing.</i>	-a	cost- a	ver- a
<i>Gen. Sing.</i>	-ae	cost- ae	ver- ae
<i>Nom. Plur.</i>	-ae	cost- ae	ver- ae
<i>Gen. Plur.</i>	-ārum	cost- ārum	ver- ārum

Decline the word combination (*noun+adjective*) means to change the endings of both words in Nom. Sing. – Gen. Sing. – Nom. Plur. – Gen. Plur. according to the identified declension.

Example: vena, ae **f** (palatinus, **a**, um)

vena^I palatina^I

Nom. Sing. – vena palatina

Gen Sing. – venae palatinae

Nom. Plur. – venae palatinae

Gen. Plur. – venārum palatinārum

First declension nouns of Greek origin

The first Greek declension includes nouns of the feminine gender having the ending **-e** and nouns of the masculine gender having the ending **-es** in Nominative Singular.

For example: chole, es f *bile*; systōle, es f *systole, rhythmical contraction of heart ventricles*; raphe, es f *suture, seam*; diabētes, ae m *diabetes*; ascītes, ae m *dropsy of abdominal cavity*.

	Sing.		Plur.	
Nom.	systōl-e	ascīt-es	systōl-ae	ascīt-ae
Gen.	systōl-es	ascīt-ae	systol-ārum	ascīt-ārum

Translating the anatomical term into Latin you should follow this scheme:

1. Divide the term into Nominative part (before “of”) and Genitive part (after “of”); define number (Singular or Plural);
2. Make the order:
 - 1 – Nominative noun;
 - 2 – Genitive noun;
 - 3 – adjective / adjectives;
3. Write the lexical forms of each word;
4. Write the grammar characteristics of each word:
 - noun*: declension;
Nominative or Genitive;
Singular or Plural.
 - adjective*: gender (=gender of the noun);
declension;
Nominative or Genitive;
Singular or Plural.

joining of the eyelids - commissūra palpebrārum

joining of the eyelids
Nom. Sing. Gen. Plur

¹ joining of ² the eyelids

joining:

comissūra, ae f – noun; I; Nom. Sing.:

comissūra

eyelid:

palpebra, ae f – noun; I; Gen. Plur.: pal-

pebrārum

palatine folds

Nom. Plur.

² palatine folds ¹

1) the term has preposition “of”, so *joining* is Nominative Singular and *eyelids* is Genitive Plural.

2) making the order:

1 – Nominative noun (*joining*);

2 – Genitive noun (*eyelids*).

3) write the lexical forms of each noun;

noun: declension;

Nominative or Genitive;

Singular or Plural.

palatine folds – plicae palatīnae

1) the term has no preposition “of”, so there is only Nominative part (Nom. Plur.).

2) make the order:

1 – Nominative noun (*folds*);

2 – adjective (*palatine*).

fold:

plica, ae f – noun; I; Nom. Plur.:

plicae

3) write the lexical forms of each word:

noun: declension;

Nominative or Genitive;

Singular or Plural.

palatine:

palatīnus, a, um – adj.; f; I; Nom. Plur.:

palatīnae

adjective: gender (=gender of the noun);

declension;

Nominative or Genitive;

Singular or Plural.

Lexical minimum №5

- | | |
|-------------------------|---|
| 1) apertūra, ae f | <i>aperture</i> |
| 2) bursa, ae f | <i>bag</i> |
| 3) cavus, a, um | <i>hollow</i> |
| 4) clavicūla, ae f | <i>clavicle</i> |
| 5) claviculāris, e | <i>clavicular</i> |
| 6) commissūra, ae f | <i>joining, commissure</i> |
| 7) columna, ae f | <i>column</i> |
| 8) concha, ae f | <i>concha</i> |
| 9) fascia, ae f | <i>fascia</i> |
| 10) fibūla, ae f | <i>splint-bone</i> |
| 11) lingua, ae f | <i>tongue</i> |
| 12) mandibūla, ae f | <i>lower jaw</i> |
| 13) mandibulāris, e | <i>mandibular, related to the lower jaw</i> |
| 14) maxilla, ae f | <i>upper jaw</i> |
| 15) maxillāris, e | <i>maxillary, related to the upper jaw</i> |
| 16) mucōsa, ae f | <i>mucous membrane</i> |
| 17) mucōsus, a, um | <i>mucous</i> |
| 18) patella, ae f | <i>knee-pan</i> |
| 19) plica, ae f | <i>fold</i> |
| 20) palpēbra, ae f | <i>eyelid</i> |
| 21) profundus, a, um | <i>deep</i> |
| 22) raphe, es f | <i>raphe</i> |
| 23) tibia, ae f | <i>shin-bone</i> |
| 24) tonsilla, ae f | <i>tonsil</i> |
| 25) trachea, ae f | <i>trachea</i> |
| 26) tunīca, ae f | <i>covering, membrane</i> |
| 27) ulna, ae f | <i>elbow bone</i> |
| 28) verus, a, um | <i>true</i> |
| 29) vesīca fellea, ae f | <i>gall bladder</i> |

Training Exercises

In-class training

Ex. 1. Make up the word combinations. Underline the words of the 1st declension:

linea, ae f (posterior, ius); pars, partis f (petrōsus, a, um); vena, ae f (linguālis, e); facies, ēi f (externus, a, um); vertēbra, ae f (cervicālis, e); manus, us f (dexter, tra, trum); auris, is f (internus, a, um); tunīca, ae f (musculāris, e); articulatio, ōnis f (planus, a, um); arteria, ae f (inferior, ius); regio, ōnis f (zygomāticus, a, um)

Ex. 2. Make up the word combinations and decline them:

arteria, ae f (dexter, tra, trum); crista, ae f (palatīnus, a, um); incisūra, ae f (profundus, a, um); linea, ae f (transversus, a, um)

Ex. 3. Translate the terms into English:

vertēbra thoracīca; corpus vertebrae thoracīcae; incisura scapūlae profunda; lineae transversae; linea costarum inferior; clavicūla dextra; processus styloideus ulnae; apertūra thorācis superior; fissūra palpebrarum.

Ex. 4. Translate the terms into Latin writing the lexical form of each word:

internal thoracic veins; fold of left hollow vein; neck of the gall-bladder; deep vein of the tongue; spinous process of the thoracic vertebra; head of the upper jaw; mucous membrane of the tongue.

Home training

Ex. 5. Make up the word combinations and decline them:

lamīna, ae f (cribrōsus, a, um); tunīca, ae f (mucōsus, a, um); fossa, ae f (sinister, tra, trum); fissūra, ae f (transversus, a, um)

Ex. 6. Translate the terms into English:

vena cava superior; corpus fibulae; lamīna mucosae; costae verae; comisūra palpebrarum; sulcus mediānus linguae; concha sphenoidālis; sinus venarum cavarum; lamīna cribrōsa dextra; bursa mucosa ischiadīca; arteria claviculāris; vertebrae coccygāe.

Ex. 7. Translate the terms into Latin writing the lexical form of each word:

folds of the mucous membrane of the gall bladder; body of the upper jaw; folds of eyelids; articular surface of the head of the splint-bone; shallow depression of the gall-bladder; spinous process of the thocacic vertebra; fold of the left hollow vein; column of the vertebrae (plur.).

LESSON 8

The main objectives of the lesson are:

- 1) to learn the grammar categories of nouns and adjectives referring to the second declension;
- 2) to learn the case endings of the second declension;
- 3) to be able to decline the word combination belonging to the second declension;
- 4) to train in translating Latin anatomical terms having the second declension nouns and adjectives from English into Latin and vice versa.

§17. Second declension nouns and adjectives

Second declension nouns are the nouns of the **masculine** and **neuter** gender. They have endings **-us** for masculine gender and **-um / -on** for neuter gender in Nominative Singular and ending **-i** in Genitive Singular:

<i>Lexical form</i>	<i>Nom. Sing.</i>	<i>Gen. Sing.</i>	<i>gender</i>
	- us	- i	<i>m</i>
	- um / -on		<i>n</i>
nervus, i m (<i>nerve</i>)	nerv-us	nerv-i	m
collum, i n (<i>neck</i>)	coll-um	coll-i	n
ganglion, ii n (<i>nerve node</i>)	gangli-on	gangli-i	n

Second declension adjectives are the adjectives of the **first group** (-us/-er; -a; -um) if they agree with nouns of the **masculine** gender getting endings **-us** or **-er** or nouns of the **neuter** gender getting the ending **-um** in Nominative Singular:

<i>lexical form</i>	<i>Gender</i>	<i>Nom. Sing.</i>
longus, a, um	m n	long-us long-um
dexter, tra, trum	m n	dext-er dextr-um

Example:

processus, us **m** (mastoideus, a, um) – processus (IV) mastoideus (II);
 pulmo, ōnis **m** (dexter, tra, trum) – pulmo (III) dexter (II);
 cornu, us **n** (coccygeus, a, um) – cornu (IV) coccygeum (II).

Second declension nouns and adjective have the following case endings:

	<i>m</i>	<i>n</i>
<i>Nom. Sing.</i>	-us; -er	-um; -on
<i>Gen. Sing.</i>	-i	-i
<i>Nom. Plur.</i>	-i	-a
<i>Gen. Plur.</i>	-ōrum	-ōrum

	<i>right eye: oculus, i m (dexter, tra, trum)</i>	<i>wide septum: septum, i n (latus, a, um)</i>
<i>Nom. Sing.</i>	<i>ocul-us dextr-er</i>	<i>sept-um lat-um</i>
<i>Gen. Sing.</i>	<i>ocul-i dextr-i</i>	<i>sept-i lat-i</i>
<i>Nom. Plur.</i>	<i>ocul-i dextr-i</i>	<i>sept-a lat-a</i>
<i>Gen. Plur.</i>	<i>ocul-ōrum dextr-ōrum</i>	<i>sept-ōrum lat-ōrum</i>

Nota bene! Neuter nouns and adjectives in **Nom. Plur.** have the ending **-a**.

Exception:

In medical terminology the word *virus, i n microbial poison* refers to neuter gender.

Nouns ending in **-us** denoting names of **trees** are always of the feminine gender: *Pinus, i f pine; Eucalyptus, i f eucalyptus*.

Lexical minimum №6

1) acromion, i n	<i>acromion, lateral end of the shoulder blade crest</i>
2) atrium, i n	<i>atrium (heart chamber)</i>
3) brachium, i n	<i>shoulder</i>
4) cavum, i n	<i>cavity</i>
5) cerebrum, i n	<i>brain</i>
6) digitus, i m	<i>finger</i>
7) encephalon, i n	<i>large brain</i>
8) humerus, i m	<i>upper arm</i>
9) latus, a, um	<i>wide, broad</i>
10) ligamentum, i n	<i>ligament</i>
11) lobus, i m	<i>lobe</i>
12) longus, a, um	<i>long</i>
13) musculus, i m	<i>muscle</i>
14) nervus, i m	<i>nerve</i>
15) nodus, i m	<i>node</i>
16) oculus, i m	<i>eye</i>
17) ramus, i m	<i>branch</i>
18) rectus, a, um	<i>straight</i>
19) septum, i n	<i>dividing wall, septum</i>
20) ventriculus, i m	<i>ventricle (heart chamber)</i>

Training Exercises

In-class training

Ex. 1. Choose the correct Nominative ending for the adjective and underline the words of the IInd declension:

processus palatin(-us, -a, -um); tuberculum poster(-ior, -ius); ligamentum venos(-us, -a, -um); sulcus temporāl(-is, -e) super(-ior, -ius); ramus transvers(-

us, -a, -um); foramen magn(-us, -a, -um); nervus ophthalmic(-us, -a, -um) profund(-us, -a, -um); facies intern(-us, -a, -um).

Ex. 2. Translate into Latin minding the agreement of nouns and adjectives:

transverse (groove, ligament, artery); wide (fascia, ligament, muscle); left (eye, atrium, small pit); external (membrane, groove); deep (vein, small pit, nerve); long (muscle, artery, neck); right (shoulder, ventricle, shoulder blade); carotic (tubercle, groove, artery); bony (substance, dividing wall).

Ex. 3. Translate the following terms into Latin. Define the declension of each word and decline the word combination:

transverse groove; deep artery; wide ligament; left lobe; thoracic vertebra; long neck.

Ex. 4. Translate the terms into Latin:

transverse nerve; articular surface of the acromion; angle of the left eye; transverse ligament of the first cervical vertebra; grooves of nerves; muscles of the tongue; posterior branch; small tubercle of the upper arm.

Ex. 5. Translate the terms into English:

atrium dextrum; crista tuberculi; ligamenta digitorum; angulus sterni; sulcus nervi; angulus scapulae lateralis; lobus dexter et sinister; septum atriorum; caput humeri; nervi transversi.

Home training

Ex. 6. Combine the noun with the adjective and decline the word combination:

atrium, i n (sinister, tra, trum); tunica, ae f (mucosus, a, um); musculus, i m (longus, a, um); ligamentum, i n (latus, a, um).

Ex. 7. Translate the terms into Latin:

lower angle of the shoulder blade; deep branch of the transverse artery of the neck; ligaments of the skull; grooves of the large brain; dividing wall of the ventricles; branches of the internal thoracic artery; grooves of nerves; body of the breastbone; wide ligaments; posterior branch of the left ventricle; palatine process of the upper jaw; transverse muscle of the tongue; branch of the thoracic nerve.

Ex. 8. Translate the terms into English:

fovea costalis processus transversi; musculi dorsi recti; ligamenta cranii; ventriculus dexter; musculi thoracis; ligamentum sternoclaviculare posterius; musculi colli; ligamentum capitis fibulae posterius; musculus longus capitis; rami zygomatici; ramus lobi medii.

LESSON 9

The main objectives of the lesson are:

- 1) to revise the first and the second declension of nouns and adjectives;
- 2) to train in translating anatomical terms from Latin into English, and vice versa.

§18. I–II declension of nouns and adjectives: Revision

Nouns:

<i>Lexical form</i>	-a, ae f	-us, i m	-um /-on, i n
<i>Declension</i>	<i>Ist decl.</i>	<i>IInd decl.</i>	<i>IInd decl.</i>
Nom. Sing.	-a	-us	-um/-on
Gen. Sing.	-ae	-i	-i
Nom. Plur.	-ae	-i	-a
Gen. Plur.	-ārum	-ōrum	-ōrum

Adjectives:

<i>Lexical form</i>	-us, -a, -um / -er, -tra, -trum		
<i>Nom. Sing.</i>	m -us / -er	f -a / -tra	n -um / -trum
<i>Declension</i>	<i>IInd decl.</i>	<i>Ist decl.</i>	<i>IInd decl.</i>
Nom. Sing.	-us / -er	-a / -tra	-um/-trum
Gen. Sing.	-i / -tri	-ae / -trae	-i / -tri
Nom. Plur.	-i / -tri	-ae / -trae	-a / -tra
Gen. Plur.	-ōrum / -trōrum	-ārum / -trārum	-ōrum / -trōrum

Lexical minimum №7

- | | |
|------------------------------|-----------------------------|
| 1) acetabŭlum, i n | cotyloid cavity, acetabulum |
| 2) antebrachium, i n | forearm |
| 3) bronchus, i m | bronchus |
| 4) bulbus, i m | bulb |
| 5) bulbus ocŭli, bulbi ocŭli | eyeball (bulb of the eye) |
| 6) carpus, i m | wrist |
| 7) coronarius, a, um | coronary |
| 8) dorsum, i n | back |
| 9) labium, ii n | lip |
| 10) membrum, i n | limb, extremity |
| 11) nasus, i m | nose |
| 12) nasālis, e | nasal, related to the nose |
| 13) nucleus, i m | nucleus |

14) oesophagus, i m	<i>gullet, esophagus</i>
15) ophthalmicus, a, um	<i>ophthalmic, related to the eye</i>
16) opticus, a, um	<i>optic, visual</i>
17) palatum, i n	<i>palate</i>
18) radius, i m	<i>forearm bone, radius</i>
19) radiālis, e	<i>radial, related to the forearm bone</i>
20) uterū, i m	<i>womb, uterus</i>

Training Exercises

In-class training

Ex. 1. Make the combinations and decline only the words you're aware of:

Pattern: pars, partis f (squamōsus, a, um)

	pars ^{III}	squamōsa ^I
N.S.	pars	squamōsa
G.S.	partis	squamōsae
N.P.	???	squamōsae
G.P.	???	squamosarū

1) membrum, i n (inferior, ius); 2) facies, ēi f (internus, a, um); 3) arteria, ae f (coronarius, a, um); 4) margo, īnis m (dexter, tra, trum); 5) fossa, ae f (nasālis, e); 6) nervus, i m (opticus, a, um).

Ex. 2. Translate into English:

- | | |
|---|---|
| 1) musculus bulbi oculi; | 6) sulcus nervi petrōsi; |
| 2) septum ventriculōrum; | 7) angūlus scapūlae inferior; |
| 3) tuberculum humēri minus; | 8) ramus posterior sulci laterālis; |
| 4) ligamenta pterygoidea; | 9) fovea costālis processus transversi; |
| 5) facies articulāris tubercūli costae; | 10) ligamentum atlantis latum. |

Ex. 3. Translate into Latin writing the lexical form of each word:

- | | |
|------------------------------------|---|
| 1) bony dividing wall of the nose; | 6) inferior muscle of the tongue; |
| 2) wide ligaments; | 7) straight muscles of the back; |
| 3) bags of the muscles; | 8) nerves of the eyes and the nose; |
| 4) deep veins of the shoulder; | 9) palatine process of the upper jaw; |
| 5) lobes of the large brain; | 10) deep branch of the transverse artery of the neck. |

Home training

Ex. 4. Make the word combinations and decline them:

membrum, i n (sinister, tra, trum); bronchus, i m (dexter, tra, trum); concha, ae f (medius, a, um); septum, i n (ossēus, a, um); nervus, i m (opticus, a, um); bursa, ae f (mucōsus, a, um).

Ex. 5. Translate into Latin writing the lexical form of each word:

transverse ligament of the wrist; angle of the lips; bony dividing wall of the nose; wide ligaments of the womb; deep muscles of the fingers; left bronchus; back of the tongue; upper nasal concha; shallow depression of the acetabulum; neck of the forearm bone; muscles of the eye ball; lateral branch of the forearm; ophthalmic nerves; coronary arteries.

Ex. 6. Translate into English:

nervus ophthalmicus profundus; septum nasi; muscūli dorsi recti; nervi optīci; muscūli membri; septum nasāle; membrum superius; muscūli thorācis; ramus nervi externus; muscūli labiōrum; caput longum muscūli brachii; tunīca oesophāgi; crista nasālis anterior; muscūlus dorsi lateralis.

LESSON 10

The main objectives of the lesson are:

- 1) to learn the grammar categories of the third declension nouns;
- 2) to be able to determine the practical stem and the type of declension;
- 3) to learn the case endings of the third declension;
- 4) to train in translating Latin anatomical terms having the third declension from English into Latin and vice versa.

§19. Third declension nouns

Third declension nouns have some specific features effecting their declining:

1. The third declension includes nouns of all **three genders**: masculine (m), feminine (f) and neuter (n). There are many different endings in Nominative Singular (more than 30). But all of them have the **common Genitive Singular ending -is**:

margo, īnis m (*border*); pars, partis f (*part*); tuber, ēris n (*tuber*).

<i>Gender</i>	<i>Nominative Singular</i>	<i>Genitive Singular</i>
m, f, n	various endings	-is

2. Third-declension nouns may have **three variants of their lexical form** according to the Genitive Singular form:

1. The second element of the lexical form (the ending of Genitive Singular) contains only the ending -is. These nouns have the same Nominative and Genitive stem. They have equal number of syllables in Nominative Singular and Genitive Singular. So they are known as equal nouns:

cutis, is f (*cu-tis – cu-tis*); canalis, is m (*ca-na-lis – ca-na-lis*).

2. The second element of the lexical form contains extra letters of the Genitive form and the ending –is. These nouns have one more syllable in Genitive Singular than in Nominative Singular and are known as unequal nouns:

radix, īcis f (ra-dix – ra-dī-cis); forāmen, ĩnis n (fo-rā-men – fo-ra-mĭ-nis).

3. The second element of the lexical form of monosyllabic nouns (nouns having one syllable) is presented by the full form of Genitive Singular. These nouns refer to unequal nouns as well:

os, ossis n; pars, partis f.

3. Third declension nouns having extra letters or the full form of Genitive Singular in their lexical form are marked by the changing of the Genitive stem which doesn't coincide with the Nominative stem. The Genitive stem is called the *practical stem*. It is used for making other case forms (for example plural forms):

margo, ĩnis m: margo – margĭnis.
Nom. stem Gen. stem

	<i>pulmo, ōnis m</i>	<i>radix, īcis f</i>	<i>forāmen, ĩnis n</i>
<i>Nom. Sing.</i>	pulmo	radix	foramen
<i>Gen. Sing.</i>	pulmōn-is	radīc-is	foramĭn-is
<i>Nom. Plur.</i>	pulmōn-es	radīc-es	foramĭn-a
<i>Gen. Plur.</i>	pulmōn-um	radīc-um	foramĭn-um

4. The third-declension nouns are divided into three types according to their practical stem: *consonant, vowel and mixed*. Each noun belongs to some type and is declined according to the corresponding pattern.

1) the **consonant type** includes unequal nouns of the masculine, feminine and neuter gender and their practical stem ends in one consonant:

corpus, corpōr-is n body; forāmen, foramĭn-is n opening; crus, crur-is n leg; homo, homĭn-is m man; pes, ped-is m foot; regio, regiōn-is f region.

2) the **vowel type** includes nouns mainly of the neuter gender having endings **-e, -al, -ar** in Nominative Singular:

rete, is n net; animal, ālis n animal; calcar, āris n calcar, spur.

3) the **mixed type** includes:

a) equal nouns having endings **-is, -es** in Nominative Singular: *auris, is f ear; tabes, is f tabes;*

b) unequal nouns with the practical stem ending in two or more consonants: *dens, dent-is m tooth; pars, part-is f part; cor, cord-is n heart.*

How to determine the type of the third-declension nouns:

1. First see the Nominative form:

-If it ends in **-e; -al; -ar**, the noun is of the vowel type (*rete, is n*);

-If it ends in **-is / -es** and the number of syllables in Nom. Sing. and Gen. Sing. is equal, the noun is of the mixed type (*cutis, is f*).

	<i>consonant type</i>	<i>vowel type</i>	<i>mixed type</i>
<i>gender</i>	m, f, n	n	m, f, n
<i>ending of Nom. Sing.</i>		-e, -al, -ar	-es, -is (for nouns with equal number of syllables in Nom. Sing. and Gen. Sing.)
<i>examples</i>		rete, is n calcar, is n animal, is n	canālis, canālis m compāges, is f

2. If the noun doesn't fit any of these types, make Genitive form and find the Genitive stem (practical stem):

-If the stem ends in one consonant, the noun is of the consonant type (corpus - corpōris n);

-If the stem ends in two consonants, the noun is of the mixed type (os, ossis n).

	<i>consonant type</i>	<i>vowel type</i>	<i>mixed type</i>
<i>gender</i>	m, f, n	n	m, f, n
<i>stem of Gen. Sing.</i>	ends in one consonant		ends in two consonants
<i>examples</i>	pulmo, pulmōn-is m radix, radīc-is f pectus, pectōr-is n		dens, dent-is m os, oss-is n pars, part-is f

According to three types of declension there are three patterns of declining:

Consonant type

		<i>regio, ōnis f</i>	<i>forāmen, ĩnis n</i>
<i>Nom. Sing.</i>	different	<i>regio</i>	<i>foramen</i>
<i>Gen. Sing.</i>	-is	<i>regiōn-is</i>	<i>foramĭn-is</i>
<i>Nom. Plur.</i>	-es ^{m f} -a ⁿ	<i>regiōn-es</i>	<i>foramĭn-a</i>
<i>Gen. Plur.</i>	-um	<i>regiōn-um</i>	<i>foramĭn-um</i>

Vowel Type

		<i>rete, is n</i>
<i>Nom. Sing.</i>	-e; -al; -ar	<i>ret-e</i>
<i>Gen. Sing.</i>	-is	<i>ret-is</i>
<i>Nom. Plur.</i>	-ia	<i>ret-ia</i>
<i>Gen. Plur.</i>	-ium	<i>ret-ium</i>

Mixed Type

		<i>pars, partis f</i>	<i>os, ossis n</i>
<i>Nom. Sing.</i>	different	<i>pars</i>	<i>os</i>
<i>Gen. Sing.</i>	-is	<i>part-is</i>	<i>oss-is</i>
<i>Nom. Plur.</i>	-es ^{m f} -a ⁿ	<i>part-es</i>	<i>oss-a</i>
<i>Gen. Plur.</i>	-ium	<i>part-ium</i>	<i>oss-ium</i>

Nota Bene! In the plural the noun *vas, vasis n (vessel)* is declined according to the second declension:

	<i>vas, vasis n</i>		
<i>Nom. Sing.</i>	<i>vas</i>	<i>Nom. Plur.</i>	<i>vas-a</i>
<i>Gen. Sing.</i>	<i>vas-is</i>	<i>Gen. Plur.</i>	<i>vas-ōrum</i>

Lexical minimum №8

Lexical form	Nom.sing.	Gen.sing.	Translation
1) <i>abdōmen, ĩnis n</i>	<i>abdōmen</i>	<i>abdomĭnis</i>	<i>abdomen</i>
2) <i>accessorius, a, um</i>			<i>accessory</i>
3) <i>apex, ĩcis m</i>	<i>apex</i>	<i>apĭcis</i>	<i>top</i>
4) <i>articulatio, ōnis f</i>	<i>articulatio</i>	<i>articulatiōnis</i>	<i>joint</i>
5) <i>auris, is f</i>	<i>auris</i>	<i>auris</i>	<i>ear</i>
6) <i>coccyx, ýgis m</i>	<i>coccyx</i>	<i>coccygis</i>	<i>coccygeal bone</i>
7) <i>dens, dentis m</i>	<i>dens</i>	<i>dentis</i>	<i>tooth</i>
8) <i>fibrosus, a, um</i>			<i>fibrous</i>
9) <i>hallux, ūcis m</i>	<i>hallux</i>	<i>hallūcis</i>	<i>great toe</i>
10) <i>index, ĩcis m</i>	<i>index</i>	<i>indĭcis</i>	<i>forefinger, index</i>
11) <i>lymphaticus, a, um</i>			<i>lymphatic</i>
12) <i>margo, ĩnis m</i>	<i>margo</i>	<i>margĭnis</i>	<i>border</i>
13) <i>nutricius, a, um</i>			<i>nutricious</i>
14) <i>os, oris n</i>	<i>os</i>	<i>oris</i>	<i>mouth</i>
15) <i>pars, partis f</i>	<i>pars</i>	<i>partis</i>	<i>part</i>
16) <i>pes, pedis m</i>	<i>pes</i>	<i>pedis</i>	<i>foot</i>
17) <i>phalanx, ngis f</i>	<i>phalanx</i>	<i>phalangis</i>	<i>phalanx</i>
18) <i>planus, a, um</i>			<i>flat</i>
19) <i>pollex, ĩcis m</i>	<i>pollex</i>	<i>pollĭcis</i>	<i>thumb</i>
20) <i>pulmo, ōnis m</i>	<i>pulmo</i>	<i>pulmōnis</i>	<i>lung</i>
21) <i>pyrāmis, ĩdis f</i>	<i>pyrāmis</i>	<i>pyramĭdis</i>	<i>pyramid</i>
22) <i>regio, ōnis f</i>	<i>regio</i>	<i>regiōnis</i>	<i>region</i>
23) <i>tendo, ĩnis m</i>	<i>tendo</i>	<i>tendĭnis</i>	<i>tendon</i>
24) <i>tuber, ěris n</i>	<i>tuber</i>	<i>tubĕris</i>	<i>tuber</i>
25) <i>tuberositas, ātis f</i>	<i>tuberositas</i>	<i>tuberositātis</i>	<i>tuberosity</i>
26) <i>vagīna, ae f</i>	<i>vagīna</i>	<i>vagīnae</i>	<i>vagina</i>
27) <i>vas, vasis n</i>	<i>vas</i>	<i>vasis</i>	<i>vessel</i>

Training Exercises

In-class training

Ex. 1. Write the full form of Genitive Singular; determine the practical stem and type of declension of the following nouns:

abdōmen, ĩnis n; atlas, ntis m; auris, is f; caput, ĩtis n; cervix, ĩcis f; rete, is n; cartilāgo, ĩnis f; dens, dentis m; crus, cruris n; canālis, is m; extremĭtas, ātis f; gaster, tris f; hallux, ūcis m; iris, irĭdis f; calcar, āris n.

Ex. 2. Decline the following nouns:

caput, ĩtis n; dens, dentis m; pulmo, ōnis m; canālis, is m; os, ossis n.

Ex. 3. Agree the adjective with the noun, determine the declension of each word and decline the word combination:

articulatio, ōnis f (planus, a, um); margo, ĩnis m (mastoideus, a, um); forāmen, ĩnis n (nutricius, a, um); regio, ōnis f (zygomatĭcus, a, um); pulmo, ōnis m (dexter, tra, trum); auris, is f (medius a, um); pars, partis f (petrōsus, a, um).

Ex. 4. Translate the following terms into English:

apex partis petrōsae; articulatiōnes cranii; caput phalangis; foramĭna nutricia; ligamentum transversum atlantis; nervi vasōrum; os coccýgis; vasa lymphatĭca; vasa nervōrum; tuber ischiadĭcum; phalanges digitōrum.

Ex. 5. Translate the terms into Latin giving lexical forms of all the words:

regions of the body; tuber of the upper jaw; nerve of the pterygoid canal; joint of the head of the rib; sutures of the bones; body of the tongue; vessels of the internal ear; tuberosity of the distal phalanx; flat bone.

Home training

Ex. 6. Write the full form of Genitive Singular; determine the practical stem and type of declension of the following nouns:

diaphragma, ātis n; cutis, is f; forāmen, ĩnis n; fornix, ĩcis m; os, ossis n; hepar, ātis n; humor, ōris m; index, ĩcis m; lens, lentis f; larynx, ngis m; occĭput, ĩtis n; pelvis, is f; pancreas, ātis n; pes, pedis m; pars, partis f.

Ex. 7. Decline the following nouns:

articulatio, ōnis f; pars, partis f; tuber, ěris n; forāmen, ĩnis n; tendo, ĩnis m; vas, vasis n.

Ex. 8. Agree the adjectives with the nouns, determine the declension of each word and decline the word combinations:

os, ossis n (planus, a, um); auris, is f (medius, a, um); canālis, is m (optĭcus, a, um); vas, vasis n (lymphatĭcus, a, um); pars, partis f (petrōsus, a, um); dens, dentis m (incisĭvus, a, um); os, ossis n (zygomatĭcus, a, um).

Ex. 9. Translate the following terms into English:

regiōnes et partes corpōris; vasa vasōrum; phalanx distālis (proximālis) indĭcis; processus styloideus ulnae; corpus phalangis; caput phalangis; basis cranii externa; os zygomatĭcum; angŭlus oris; apex pulmōnis; articulatio capĭtis costae; muscŭlus longus capĭtis.

Ex. 10. Translate the terms into Latin giving lexical forms of all the words:

base of the lung; left lung; regions of the abdomen; vessels of vessels; bones of the skull; apex of the head of the fibula; bones of the skull; phalanges of the fingers of the foot; ligament of the top of the tooth; straight muscle of the head; fibrous vagina of tendons; transverse muscles of the chest and abdomen; right border of the womb; upper lobe of the left lung.

LESSON 11

The main objectives of the lesson are:

- 1) to learn the Nominative Singular endings of the third declension nouns;
- 2) to be able to decline the word combinations having the first, second and third declension nouns;
- 3) to train in translating Latin anatomical terms from English into Latin and vice versa.

§20. Nominative Singular endings of the third declension nouns

Third declension nouns of the masculine gender

<i>Nom. Sing.</i>	<i>Gen. Sing.</i>	<i>Examples</i>	<i>Exceptions</i>
-os	-ōris	flos, flōris m <i>flower</i>	os, ossis n <i>bone</i> ; os, oris n <i>mouth</i>
-or	-ōris	tumor, tumōris m <i>tumor</i>	cor, cordis n <i>heart</i> ; arbor, ōris f <i>tree</i>
-o	-ōnis	pulmo, ōnis m <i>lung</i>	nouns ending in -go, -do, -io are of the feminine gender
	-īnis	homo, īnis m <i>man</i>	
-er	-ēris	urēter, ēris m <i>ureter</i>	gaster, tris f <i>stomach</i> ; mater, tris f <i>membrane of the brain or spinal cord</i> ; tuber, ěris n <i>tuber</i>
	-ris	venter, ventris m <i>belly</i>	
-ex	-īcis	apex, apīcis m <i>apex, top</i>	-
-es	-ēdis	pes, pedis m <i>foot</i>	equal nouns ending in -es are of the feminine gender
	-ētis	paries, ětis m <i>wall</i>	

The following nouns are also of the masculine gender: canālis, is m *canal*; dens, dentis m *tooth*; fornix, ĩcis m *vault*; hallux, ūcis m *great toe*; larynx, ngis m *larynx*; margo, ĩnis m *border*; tendo, ĩnis m *tendon*; pharynx, ngis m *pharynx*; unguis, is m *nail*.

Third declension nouns of the feminine gender

<i>Nom. Sing.</i>	<i>Gen. Sing.</i>	<i>Examples</i>	<i>Exceptions</i>
-as	-ātis	cavitas, ātis f <i>cavity</i>	vas, vasis n <i>vessel</i> ; pancreas, ātis n <i>pancreas</i>
-us	-ūtis	salus, ūtis f <i>health</i>	-
	-ūdis	incus, ūdis f <i>incus, anvil</i>	
-es (equal)	-is	tabes, is f <i>tabes (tuberculosis)</i>	
-is (equal)	-is	auris, is f <i>ear</i>	axis, is m <i>axis, 2nd cervical vertebra</i> ; canālis, is m <i>canal</i> ; unguis, is m <i>nail</i>
-is (unequal)	-īdis	iris, īdis f <i>iris of the eye</i>	
-ns	-ntis	lens, lentis f <i>crystalline lens</i>	dens, dentis m <i>tooth</i>
-rs	-rtis	pars, partis f <i>part</i>	-
-ax	-ācis	pax, pacis f <i>peace</i>	thorax, ācis m <i>chest</i>
-ux	-ūcis	nux, nucis f <i>nut</i>	hallux, ūcis m <i>great toe</i>
-ix	-īcis	radix, īcis f <i>root</i>	fornix, īcis m <i>vault, fornix</i>
-nx	-ngis	phalanx, ngis f <i>phalanx</i>	larynx, ngis m <i>larynx</i> ; pharynx, ngis m <i>pharynx</i>
-lx	-lcis	calx, calcis f <i>heel</i>	-
-do	-dīnis	hirūdo, īnis f <i>leech</i>	tendo, īnis m <i>tendon</i>
-go	-gīnis	cartilāgo, īnis f <i>cartilage</i>	margo, īnis m <i>border</i>
-io	-iōnis	articulatio, ōnis f <i>joint</i>	-

The following nouns are also of the feminine gender: arbor, ōris f *tree*; gaster, tris f *stomach*; mater, tris f *membrane of the brain or spinal cord*.

Third declension nouns of the neuter gender

<i>Nom. Sing.</i>	<i>Gen. Sing.</i>	<i>Examples</i>	<i>Exceptions</i>
-en	-īnis	tegmen, īnis n <i>roof</i>	ren, renis m <i>kidney</i> ; lien, ēnis m (or Greek splen, splēnis m) <i>spleen</i> ; lichen, ēnis m <i>lichen, herpes</i>
-us	-ōris	corpus, ōris n <i>body</i>	-
	-ēris	glomus, ēris n <i>glome</i>	
	-ūris	crus, cruris n <i>leg</i>	
-ur	-ōris	femur, ōris n <i>femur, thigh bone</i>	-
	-ūris	guttur, ūris n <i>throat</i>	
-ut	-ītis	caput, ītis n <i>head</i>	-
-ma	-ātis	chiasma, ātis n <i>chiasm</i>	-
-e	-is	rete, is n <i>net, network</i>	-
-ar	-āris	calcar, āris n <i>calcar, spur</i>	hepar, ātis n <i>liver (r→t)</i>
-(a)l	-(a)lis	animal, alis n <i>animal</i>	-
		fel, felis n <i>bile</i>	-

The following nouns are also of the neuter gender: cor, cordis n *heart*; os, oris n *mouth*; os, ossis n *bone*; pancreas, ātis n *pancreas*; tuber, ěris n *tuber*; vas, vasis n *vessel*.

Lexical minimum №9

Lexical form	Nom.sing.	Gen.sing.	Translation
1) cartilāgo, ĩnis f	<i>cartilāgo</i>	<i>cartilagĭnis</i>	cartilage
2) cervix, ĩcis f	<i>cervix</i>	<i>cervĭcis</i>	neck
3) cor, cordis n	<i>cor</i>	<i>cordis</i>	heart
4) crus, cruris n	<i>crus</i>	<i>cruris</i>	leg, shin
5) cutis, is f	<i>cutis</i>	<i>cutis</i>	skin
6) femur, ōris n	<i>femur</i>	<i>femŏris</i>	thigh bone
7) frons, frontis f	<i>frons</i>	<i>frontis</i>	forehead
8) gaster, tris f	<i>gaster</i>	<i>gastris</i>	stomach
9) gastrĭcus, a, um			gastric, related to the stomach
10) hepar, ātis n	<i>hepar</i>	<i>hepātis</i>	liver
11) hepaticus, a, um			hepatic, related to the liver
12) impressio, ōnis f	<i>impressio</i>	<i>impressiŏnis</i>	impression
13) larynx, ngis m	<i>larynx</i>	<i>laryngis</i>	larynx
14) laryngĕus, a, um			laryngeal, related to the larynx
15) lien, liĕnis m	<i>lien</i>	<i>liĕnis</i>	spleen
16) occĭput, ĩtis n	<i>occĭput</i>	<i>occipĭtis</i>	occiput, back of the head
17) pancreas, ātis n	<i>pancreas</i>	<i>pancreātis</i>	pancreas
18) paries, ětis m	<i>paries</i>	<i>parĕtis</i>	wall
19) pharynx, ngis m	<i>pharynx</i>	<i>pharyngis</i>	pharynx
20) pharyngĕus, a, um			pharyngeal, related to the pharynx
21) ren, renis m	<i>ren</i>	<i>renis</i>	kidney
22) renālis, e			renal, related to the kidney
23) rete, is n	<i>rete</i>	<i>retis</i>	network
24) sanguis, ĩnis m	<i>sanguis</i>	<i>sanguĭnis</i>	blood
25) sanguineus, a, um			bloody, sanguineous
26) splen, splenis m	<i>splen</i>	<i>splenis</i>	spleen (Greek)
27) vomer, ěris m	<i>vomer</i>	<i>vomĕris</i>	vomer

Training Exercises

In-class training

Ex. 1. Agree the following adjectives with the nouns and translate the terms into English:

pulmo (dexter, tra, trum); canālis (optĭcus, a, um); tuber (ischiadĭcus, a, um); crus (longus, a, um); forāmen (occipitālis, e); impressio (hepaticus, a, um); rete (sanguineus, a, um); os (ethmoidālis, e); caput (mediālis, e); vas (venŏsus, a, um); pancreas (accessorius, a, um); paries (externus, a, um); pars (petrŏsus, a, um); mater (durus, a, um).

Ex. 2. Translate the terms and decline them:

right leg; lymphatic vessel; external wall; squamous part; left ventricle; deep artery.

Ex. 3. Translate the following terms into English:

crus longum; tuberositas pterygoidea; impressio hepatica pulmōnis; collum ossis femōris; canālis cervicis utēri; arteria femōris profunda; cervix dentis; incisūra apicis cordis; crura ossēa; margo linguae; pars laryngēa pharyngis.

Ex. 4. Translate the following terms into Latin:

cartilage of the ear; deep lymphatic vessels; fossa of the head of the thigh bone; top of the heart; wing of the vomer; impression of the left lung; tuberosity of the shin-bone; deep artery of the thigh bone; ligaments of the liver; bony legs.

Home training

Ex. 5. Make up the word combinations and decline them:

vas (sanguineus, a, um); impressio (hepaticus, a, um); ren (dexter, trum); regio (zygomatīcus, a, um); crus (ossēus, a, um).

Ex. 6. Translate the terms into Latin writing the lexical form of each word:

renal impression of the liver; head of the pancreas; mucous covering of the mouth; neck of the left thigh; zygomatic regions; cartilage of the dividing wall of the nose; crests of the skin; left lymphatic gastric nodes; bloody vessels; right ventricle of the heart; bloody network;

Ex. 7. Translate the terms into English:

cartilāgo septi nasi; margīnes interni; ligamenta hepātis; paries gastris posterior; lobi pulmōnum; cartilagīnes accessoriae; muscūlus rectus femōris; venae cordis; nervi vasōrum lymphaticōrum; tuberositas ulnae; impressio gastrica; ligamentum hepatogastricum; lobus hepātis dexter; margo utēri dexter; muscūli laryngis; nervus canalis pterygoidei.

LESSON 12

The main objectives of the lesson are:

1) to learn the grammar categories of the adjectives referring to the third declension;

2) to learn the case endings of the third declension adjectives;

3) to be able to decline the word combination having the third declension adjectives;

4) to train in translating Latin anatomical terms having the third declension adjectives from English into Latin and vice versa.

§21. Third declension adjectives

Third declension adjectives are divided into three groups according to their endings in Nominative Singular (the primary form):

(1) Adjectives of **three endings** have individual endings for each gender:

(m) –er; (f) –is; (n) –e (*celer, ěris, ěre* swift).

There are no such adjectives in anatomical terminology.

(2) Adjectives of **two endings** (the most numerous group) have the same ending –is for **masculine** and **feminine** genders and the ending –e for **neuter** gender:

(m / f) –is; (n) –e (*frontālis, e frontāl*).

(3) Adjectives of one ending have **common form for all three genders**. Their lexical form represents the ending of Nominative Singular and the ending of Genitive Singular (in the same way as nouns but without the gender):

teres, ětis: *teres* (Nom. Sing. m; f; n) – *terětis* (Gen. Sing.)

	m	f	n	lexical form	
Adjectives of two endings	-is		-e	brevis, e <i>short</i> costālis, e <i>costal</i>	
Adjectives of one ending	-x, -s, -r			Nom. Sing.	Gen. Sing.
				simplex, teres, biceps, ascendens,	īcis (simplicis) <i>simple</i> ětis (terětis) <i>round</i> cipītis (bicipītis) <i>two-headed</i> ntis (ascendentis) <i>ascending</i>

Third declension adjectives of two endings

	<i>m f</i>		<i>n</i>	<i>frontalis, e</i>	
	<i>m f</i>		<i>n</i>	<i>m f</i>	<i>n</i>
Nom. Sing.	-is		-e	<i>costāl-is</i>	<i>costāl-e</i>
Gen. Sing.	-is			<i>costāl-is</i>	
Nom. Plur.	-es		-ia	<i>costāl-es</i>	<i>costāl-ia</i>
Gen. Plur.	-ium			<i>costāl-ium</i>	

Third-declension adjectives of one ending

	<i>m f</i>		<i>n</i>	<i>teres, ětis</i>	
	<i>m f</i>		<i>n</i>	<i>m f</i>	<i>n</i>
Nom. Sing.	-s; -x, -r			<i>teres</i>	<i>teres</i>
Gen. Sing.	-is			<i>terět-is</i>	
Nom. Plur.	-es		-ia	<i>terět-es</i>	<i>terět-ia</i>
Gen. Plur.	-ium			<i>terět-ium</i>	

Lexical minimum №10

1) abdominālis, e	abdominal
2) ascendens, ntis	ascending, going upward
3) auriculāris, e	auricular, related to the ear
4) biceps, cipītis	two-headed
5) brevis, e	short
6) cardiācus, a, um	heartly, cardiac
7) cerebrālis, e	cerebral, related to the brain
8) cervicālis, e	cervical, related to the neck
9) communicans, ntis	communicative
10) commūnis, e	common
11) craniālis, e	cranial, related to the skull
12) descendens, ntis	descending, going downward
13) faciālis, e	facial, related to the face
14) linguālis, e	lingual, related to the tongue
15) lumbālis, e	lumbar, related to the loin
16) mentālis, e	mental, related to the chin
17) musculāris, e	muscular
18) nasālis, e	nasal, related to the nose
19) pulmonālis, e	pulmonary, related to the lung
20) quadriceps, cipītis	four-headed
21) radiālis, e	radial, related to the forearm bone
22) simplex, ģis	simple
23) superficiālis, e	superficial
24) teres, ģtis	round
25) triceps, cipītis	three-headed

Training Exercises

In-class training

Ex. 1. Make the adjectives of two endings from the following nouns (using the Genitive stem and the suffixes -ālis-, -ār-). Translate them into English:

dens, dentis m (*tooth*); frons, frontis f (*forehead*); latus, ģris n (*side*); dorsum, i n (*back*); muscūlus, i m (*muscle*), orbīta, ae f (*eye-socket*); clavicūla, ae f (*clavicle*); costa, ae f (*rib*); vertēbra, ae f (*vertebra*); fibūla, ae f (*splint-bone*); facies, ģi f (*face*); occiput, ģtis n (*occiput, back of the head*); ulna, ae f (*elbow bone*); mandibūla, ae f (*lower jaw*); maxilla, ae f (*upper jaw*); cranium, i n (*skull*).

Ex. 2. Decline the following word combinations:

forāmen teres; muscūlus biceps; vertēbra cervicālis; vas capillāre.

Ex. 3. Translate the terms into English:

incisūra claviculāris sterni; ossa cranii cerebrālis; tuber frontāle; os parietāle; bursa muscūli terētis; ligamentum teres acetabūli; articulatio simplex;

musculus biceps femoris; nervi cardiaci thoracici; caput laterale musculi tricipitis.

Ex. 4. Translate the following terms into Latin:

frontal region; large occipital opening; part of the occipital bone; round ligament of the uterus; four-headed muscle of the thigh bone; simple joint; simple bony legs; subtemporal crest.

Home training

Ex. 5. Agree adjectives with the nouns. Determine the declension of each word in the word combination. Make the word combinations Nom. Plur.:

fovea, ae f (costalis, e); ramus, i m (medialis, e); arteria, ae f (communicans, ntis); tuberculum, i n (medialis, e); foramen, ĩnis n (ethmoidalis, e); articulatio, ōnis f (simplex, ĩcis).

Ex. 6. Agree the adjectives with the nouns and decline the word combinations:

margo, ĩnis m (frontalis, e); os, ossis n (temporalis, e); nervus, i m (facialis, e); incisura, ae f (radialis, e); caput, ĩtis n (lateralis, e); ligamentum, i n (teres, ĩtis); musculus, i m (biceps, cipitis).

Ex. 7. Agree the adjective with each noun. Translate the word combinations into Latin:

vertebral (canal; notch; opening); frontal (suture; tuber); two-headed (muscle; tuber); lumbar (fascia; region; vertebra); occipital (opening; artery; nerve).

Ex. 8. Translate the terms into English

musculus semispinalis thoracis; sutura intermaxillaris; crista infratemporalis; os hyoideum; fossa subscapularis; fovea sublingualis; angulus oculi lateralis; caput longum musculi bicipitis brachii; musculi faciales; canales laterales; venae pulmonales dextrae; spina nasalis ossis frontalis; vagina musculorum communis; arteriae communicantes; nervi faciales; tunica muscularis pharyngis.

Ex. 9. Translate the terms into Latin writing the lexical form of each word:

vessels of the internal ear; lateral sacral arteries; superficial lymphatic vessels; clavicular notch; openings of the pulmonary veins; lateral parts of the occipital bone; tendon of the four-headed muscle of the thigh; three-headed muscle of the shoulder; cranial nerves; sieve-shaped openings; round ligament of the uterus; pulmonary surface of the heart; deep cervical lymphatic nodes; thoracic hearty nerves.

LESSON 13

The main objectives of the lesson are:

- 1) to learn the grammar categories of nouns referring to the fourth declension;
- 2) to learn the grammar categories of nouns referring to the fifth declension;
- 3) to learn the case endings of the fourth and fifth declensions;
- 4) to be able to understand the basic abbreviations used in anatomy;
- 5) to train in translating Latin anatomical terms from English into Latin and vice versa.

§22. Fourth-declension nouns

Fourth-declension nouns are the nouns of the masculine and neuter genders which have endings **-us** for **masculine** and **-u** for **neuter** gender in Nominative Singular. In **Genitive Singular** they all have ending **-us** that is the indicator of the fourth declension:

arcus, us m (*arch*); ductus, us m (*duct*);
cornu, us n (*horn*); genuu, us n (*knee*).

Remember!!! Some nouns of the **feminine** gender ending in **-us** refer to the fourth declension; but only **manus, us f** (*hand*) is used in the anatomical terminology.

gender	Nominative Singular	Genitive Singular	example
m	- us	- us	sinus, us m (<i>sinus</i>)
f			manus, us f (<i>hand</i>)
n	- u		cornu, us n (<i>horn</i>)

Nouns of the fourth declension are declined as follows:

	<i>m f</i>	<i>n</i>	<i>m</i>	<i>f</i>	<i>n</i>
<i>Nom. Sing.</i>	- us	- u	<i>sin-us</i>	<i>man-us</i>	<i>corn-u</i>
<i>Gen. Sing.</i>	- us		<i>sin-us</i>	<i>man-us</i>	<i>corn-us</i>
<i>Nom. Plur.</i>	- us	- ua	<i>sin-us</i>	<i>man-us</i>	<i>corn-ua</i>
<i>Gen. Plur.</i>	- uum		<i>sin-uum</i>	<i>man-uum</i>	<i>corn-uum</i>

§23. Fifth-declension nouns

Fifth-declension nouns are mostly nouns of the **feminine** gender. They have the ending **-es** in Nominative Singular and the ending **-ēi** in **Genitive Singular**:
facies, ēi f (face, surface); superficies, ēi f (surface).

<i>gender</i>	<i>Nominative Singular</i>	<i>Genitive Singular</i>	<i>example</i>
f	-es	-ēi	facies, ēi f (<i>face</i>)

Nouns of the fifth declension are declined as follows:

	<i>f</i>	<i>facies, ēi f</i>
<i>Nom. Sing.</i>	- es	<i>faci-es</i>
<i>Gen. Sing.</i>	- ēi	<i>faci-ēi</i>
<i>Nom. Plur.</i>	- es	<i>faci-es</i>
<i>Gen. Plur.</i>	- ērum	<i>faci-ērum</i>

§24. Anatomical abbreviations

Sing.	Plur.
a. – arteria <i>artery</i>	aa. – arteriae <i>arteries</i>
b. – bursa <i>bag</i>	bb. – bursae <i>bags</i>
gl. – glandūla <i>gland</i>	gll. – glandūlae <i>glands</i>
for. – forāmen <i>opening</i>	forr. – foramīna <i>openings</i>
lig. – ligamentum <i>ligament</i>	ligg. – ligamenta <i>ligaments</i>
m. – muscūlus <i>muscle</i>	mm. – muscūli <i>muscles</i>
n. – nervus <i>nerve</i>	nn. – nervi <i>nerves</i>
r. – ramus <i>branch</i>	rr. – rami <i>branches</i>
sul. – sulcus <i>groove</i>	sull. – sulci <i>grooves</i>
v. – vena <i>vein</i>	vv. – venae <i>veins</i>
vag. – vagīna <i>vagina, sheath</i>	vagg. – vagīnae <i>vaginae, sheaths</i>

Lexical minimum №11

- | | |
|---|-----------------------------|
| 1) bilis, is f | <i>bile</i> |
| 2) bilifer, era, erum | <i>related to bile</i> |
| 3) cornu, us n | <i>horn</i> |
| 4) ductus, us m | <i>duct</i> |
| 5) ductus biliferi, ductuum biliferōrum | <i>bile ducts (Plur.)</i> |
| 6) dura mater, durae matris (G.S.) | <i>hard brain membrane</i> |
| 7) flavus, a, um | <i>yellow</i> |
| 8) genu, us n | <i>knee</i> |
| 9) hiatus, us m | <i>crack, split, hiatus</i> |
| 10) intercostālis, e | <i>intercostal</i> |
| 11) manus, us f | <i>hand</i> |

12) mater, tris f	brain membrane
13) meātus, us m	passage
14) medulla, ae f	medullary substance, marrow
15) medulla ossium, medullae ossium (G.S.)	bone marrow
16) medulla spinālis, medullae spinālis (G.S.)	spinal marrow (cord)
17) obliquus, a, um	oblique
18) pia mater, piae matris (G.S.)	soft brain membrane
19) plexus, us m	network, plexus
20) recessus, us m	recess
21) ruber, bra, brum	red
22) sinus, us m	sinus
23) sublinguālis, e	sublingual
24) tractus, us m	tract

Training Exercises

In-class training

Ex. 1. Agree each adjective with the noun. Determine the declension of each word in the word combination. Translate the word combinations into English:

cornu, us n (*coccygēus; anterior; laterālis*); ductus, us m (*sinister; nasolacrimālis; posterior*); processus, us m (*palatīnus; maxillāris; posterior*); facies, ēi f (*temporālis; inferior; internus*).

Ex. 2. Make the following word combinations Nom. Plur.:

plexus venōsus; plexus commūnis; processus palatīnus; processus mastoideus; sinus sphenoidālis; sinus frontālis; sinus petrōsus; cornu occipitāle; cornu dextrum; ductus sublinguālis.

Ex. 3. Translate the terms into English:

ductus sublinguāles; sinus coronarius cordis; processus pterygoidei; musculi faciāles; plexus faciālis; plexus cardiāci; arcus ductus thoracīci; processus styloideus radii; cornu medullae spinālis; sinus liēnis.

Ex. 4. Translate the terms into Latin:

groove of the wedge-shaped sinus; sublingual ducts; lateral surface; frontal sinus; bulb of the occipital horn; medial plate of the pterygoid process; superficial temporal artery; right hepatic duct; medial upper artery of the knee; wedge-shaped sinus; dorsal surface of the hand.

Home training

Ex. 5. Agree the adjective with each noun and decline the word combinations:

common (leg, plexus, duct); palatine (groove, opening, process).

Ex. 6. Translate the terms into English:

sinus durae matris; medulla ossium rubra; medulla ossium flava; medulla renālis; apertūra sinus sphenoidālis; ossa digitōrum manus; ligamenta flava; regiōnes faciēi; ductus hepaticus commūnis; processus styloideus ulnae; arteria mediālis genus; sinus maxillāris; tractus optīci; rami tractus optīci; articulatīōnes interphalangeae manus; arcus palatopharyngēus; cornu sacrāle.

Ex. 7. Translate the terms into Latin writing the lexical form of each word:

facial nerve; lateral column of the spinal cord; short ligaments of the fingers of the hand; medial and lateral plates of the pterygoid processes; medial surface; common carotic plexus; process of the nasal concha; dividing wall of the frontal sinuses; sinuses of the hard brain membrane; lateral artery of the knee; articular muscle of the knee; middle nasal passage.

Ex. 8. Write the following terms without abbreviations; translate them into English:

gl. thyroidea; v. iugulāris interna; a. vertebrālis; m. longus capītis; rr. cardiāci inferiōres; rr. musculāres n. ischiadīci; a. et v. thoracīca interna; aa. et vv. intercostāles; nn. articulāres.

LESSON 14

The main objectives of the lesson are:

- 1) *to learn the ways of making comparative and superlative degrees of Latin adjectives;*
- 2) *to learn the case endings of the comparative adjectives;*
- 3) *to train in translating Latin anatomical terms having the first declension nouns and adjectives from English into Latin and vice versa;*
- 4) *to learn how names of muscle according to their function are formed.*

§25. Comparison of adjectives

There is a number of adjectives used in anatomical terminology and referring neither to the first group adjectives (-us; -a; -um) nor to the second group adjectives (-is; e). They are:

a) the forms of comparative degree of adjectives:

anterior, ius	<i>front, anterior;</i>	interior, ius	<i>inner;</i>
superior, ius	<i>upper; superior</i>	major, jus	<i>large;</i>
inferior, ius	<i>lower; inferior</i>	minor, us	<i>small</i>
posterior, ius	<i>back, posterior;</i>		

b) the forms of superlative degree of adjectives:

minīmus, a, um *the smallest*; suprēmus, a, um *the highest*.

The lexical form of the comparative degree of adjectives includes the common form for **masculine** and **feminine** genders with the suffix **-ior** and the suffix **-ius** for the **neuter** gender:

<i>Lexical form</i>	<i>m; f</i>	<i>n</i>
anterior, ius (<i>front</i>)	anter-ior	anter-ius

Comparative forms are declined according to the consonant type of the third declension nouns:

	<i>m f</i>	<i>n</i>	<i>anterior (m; f)</i>	<i>anterius (n)</i>
<i>Nom. Sing.</i>	-ior	-ius	<i>anter-ior</i>	<i>anter-ius</i>
<i>Gen. Sing.</i>	-iōris		<i>anter-iōris</i>	<i>anter-iōris</i>
<i>Nom. Plur.</i>	-iōres	-iōra	<i>anter-iōres</i>	<i>anter-iōra</i>
<i>Gen. Plur.</i>	-iōrum		<i>anter-iōrum</i>	<i>anter-iōrum</i>

Comparative forms agree with the nouns they modify like positive forms in number, gender, and case:

	<i>m</i>	<i>m</i>
<i>back arch</i>	arcus	posterior;
	<i>f</i>	<i>f</i>
<i>back spine</i>	spina	posterior;
	<i>n</i>	<i>n</i>
<i>back tubercle</i>	tuberculum	posterior.

The superlative form of adjectives is formed by the suffix **-issim-** and the endings **-us**, **-a**, **-um**. These adjectives have the same lexical form and the same pattern of declension as the first group adjectives:

longus, a, um – long-issim-us, a, um – *the longest*;

latus, a, um – lat-issim-us, a, um – *the widest*.

In anatomical terminology the form **magnus, a, um** is usually used for single structures having no pair and is translated as **“large, great”**:

forāmen occipitāle magnum *large occipital opening*.

The form **major, jus** is usually used for paired structures to compare their size and may be translated as **“larger, greater”**:

ala major et ala minor *larger and smaller wing*;

musculus pectorālis major et minor *larger and smaller pectoral muscle*.

The deviation from this rule is noted in the terms:

vena saphēna magna *large subcutaneous vein*;

vena saphēna parva *small subcutaneous vein*,

as they belong to different regions of the lower extremity.

§26. Names of muscles

Names of muscles are presented by two words: the noun *musculus*, i m + the name of the muscle by its function having the ending –or / -er:

<i>musculus</i> , i m	the name of the muscle –or, oris m –er, eris m
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musculus abductor, ōris m (*abductor muscle*).

Mind that the first word (*musculus*, i m) is the second-declension noun and the second word (*abductor*, ōris m) is the third-declension noun. After the name of the muscle there goes the noun in Genitive Singular or Plural:

musculus levator scapulae – *elevator muscle of the shoulder blade*;

musculus flexor digitorum manus – *flexor muscle of the fingers of the hand*.

Lexical minimum №12

1) <i>caecum</i> , i n	<i>blind intestine</i>
2) <i>colon</i> , i n	<i>colon</i>
3) <i>duodenum</i> , i n	<i>duodenum</i>
4) <i>ileum</i> , i n	<i>ileum</i>
5) <i>intestinālis</i> , e	<i>intestinal</i>
6) <i>intestīnum</i> , i n	<i>intestine</i>
7) <i>intestīnum crassum</i>	<i>large intestine</i>
8) <i>intestīnum tenue</i> , <i>intestini tenuis</i> (G.S.)	<i>small intestine</i>
9) <i>jejūnum</i> , i n	<i>jejunum</i>
10) <i>latissimus</i> , a, um	<i>the widest</i>
11) <i>longissimus</i> , a, um	<i>the longest</i>
12) <i>magnus</i> , a, um	<i>large, great</i>
13) <i>maximus</i> , a, um	<i>the largest</i>
14) <i>minimus</i> , a, um	<i>the smallest</i>
15) <i>m. abductor</i> , ōris m	<i>abductor muscle</i>
16) <i>m. adductor</i> , ōris m	<i>adductor muscle</i>
17) <i>m. buccinator</i> , ōris m	<i>cheek muscle</i>
18) <i>m. constrictor</i> , ōris m	<i>constrictor muscle</i>
19) <i>m. corrugator</i> , ōris m	<i>corrugator muscle</i>
20) <i>m. depressor</i> , ōris m	<i>depressor muscle</i>
21) <i>m. dilatator</i> , ōris m	<i>dilatator muscle</i>
22) <i>m. extensor</i> , ōris m	<i>extensor (muscle)</i>
23) <i>m. flexor</i> , ōris m	<i>flexor (muscle)</i>
24) <i>m. levator</i> , ōris m	<i>levator, elevator muscle</i>
25) <i>m. masseter</i> , ēris m	<i>chewer muscle</i>
26) <i>m. rotator</i> , ōris m	<i>rotator muscle</i>
27) <i>m. sphincter</i> , ēris m	<i>sphincter (muscle)</i>
28) <i>m. tensor</i> , ōris m	<i>tensor muscle</i>
29) <i>rectum</i> , i n	<i>rectum</i>
30) <i>supremus</i> , a, um	<i>the highest</i>

Training Exercises

In-class training

Ex. 1. Decline the following adjectives:

anterior, ius; inferior, ius; interior, ius; major, jus; minor, minus; posterior, ius; superior, ius.

Ex. 2. Decline the following word combinations:

facies articulāris superior; forāmen posterius; muscūlus latissīmus.

Ex. 3. Translate the terms into English:

arcus dentālis inferior (superior); arteria intercostālis suprēma; arteriae palatīnae minōres; cornu medullae spinālis posterius; crista nasālis anterior; facies articulāris superior; forāmen sacrāle anterius; foramīna palatīna minōra; tubercūlum posterius atlantis.

Ex. 4. Translate the terms into Latin:

lower angle of the shoulder blade; front gastric network; back process of the wedge-shaped bone; upper ligament of the shoulder blade; lower coronary sinus; front ligament of the atlas; crest of the smaller tubercle; front border of the lung; groove of the larger petrous nerve.

Home training

Ex. 5. Agree the adjectives with each noun and translate the word combinations:

front (muscle, surface, ligament, opening, lobe, tubercle, depression, crest); lower (muscle, vein, concha, lip, process, arch, spine); larger [major, jus] (horn, wing, canal, groove, head); smaller [minor, us] (horn, muscle, opening, notch, wing, tubercle, depression); back (arch, surface, ligament, tubercle, opening, spine).

Ex. 6. Translate the terms into English:

arteriae ethmoidāles posteriōres; cornua coccygēa majōra et minōra; foramīna venārum minimārum; ligamentum tibioulnāre anterius; muscūli intercostāles minimi; muscūlus longissīmus thorācis; muscūlus teres minor; muscūli oblīqui superiōres et inferiōres; muscūlus latissīmus dorsi; spina inferior; nodi lymphaticī gastrīci sinistri; ossa membri inferiōris; processus articulāres superiōres; vena ophthalmīca inferior.

Ex. 7. Translate the terms into Latin writing the lexical form of each word:

large and small straight muscles of the head; lower occipital crest; large occipital opening; opening of the lower hollow vein; back tuber of the atlas; tem-

poral surface of the large wing; oblique ligaments of the fingers of the hand; deep lymphatic node; left gastric lymphatic nodes; back plate of the vagina of the straight muscle of the abdomen; back sinuses; front wall of the stomach; upper ophthalmic vein.

Ex. 8. Translate into Latin:

bulb of the duodenum; abductor muscle of the great toe; extensor muscle of the fingers; radial flexor muscle of the wrist; depressor muscle of the dividing wall; horizontal part of the duodenum; long extensor muscle of the thumb; depressor muscle of the lower lip; elevator muscle of the upper lip; superior oblique muscle of the head; transverse folds of the rectum.

LESSON 15

The main objectives of the lesson are:

- 1) to revise the declensions of Latin nouns and adjectives;
- 2) to practice in declining the word combinations;
- 3) to train in translating Latin anatomical terms from English into Latin and vice versa.

§ 27. Revision

Lexical minimum №13

1) cavitas, ātis f	cavity
2) cellūla, ae f	cell
3) chiasma, ātis n	chiasm
4) cingulum, i n	girdle
5) extremitas, ātis f	extremity
6) fascia, ae f	fascia, muscle coat
7) flexūra, ae f	flexure, curve, twist
8) ganglion, ii n	ganglion, nerve node
9) glandūla, ae f	gland
10) lacrimālis, e	lacrimal, related to tears
11) longitudinālis, e	longitudinal, lengthwise
12) oesophagēus, a, um	esophageal, related to the oesophagus
13) pelvinus, a, um	pelvic
14) pelvis, is f	pelvis
15) pelvis renalis, pelvis renalis	renal pelvis
16) radix, icis f	root
17) retina, ae f	retina
18) sympathicus, a, um	sympathetic
19) thyroideus, a, um	thyroid
20) viscerālis, e	visceral, related to inner organs

Training Exercises

Ex. 1. Translate the words in Nom. Plur. into English:

venae; foramīna; muscūli; sinus; arteriae; sulci; crura; rami; canāles; nervi; cartilagīnes; cornua; ligamenta; processus; lobi; ganglia; dentes; septa; vasa; regiōnes.

Ex. 2. Group the terms into two columns – terms in Nom. Sing. and terms in Nom. Plur. Translate them into English:

pyramīdes renāles; muscūli transversi; sinus frontālis; ductus lymphatīci; ductus sublinguāles; sulcus inferior; sinus ethmoidāles; articulatiōnes costo-chondrāles (*Greek chondros cartilage*); ductus laterālis; arteria major; atrium dextrum; articulatiōnes sternocostāles; arteriae inferiōres; sulcus inferior; processus temporāles; tunīca musculāris.

Ex. 3. Choose the correct ending. Give the lexical form of each word and translate the terms into English:

sutūrae oss (-ium; -um); vagīna tendīn (-ium; -um); septum sinuum frontal(-ium; -um); ligamenta dent(-ium; -um); plexus nervōrum spināl(-ium; -um); chiasma tendīn(-ium; -um); tubercūlum anterius et posterius vertebrārum cervical (-ium; -um); nuclei nervōrum cranial (-ium; -um).

Ex. 4. Choose the correct ending. Give the lexical form of each word and translate the terms into English:

ligament (-a; -ia; -ua) hepātis; crur (-a; -ia; -ua) osse (-a; -ia; -ua); dur (-a; -ia; -ua) mater; crist (-a; -ia; -ua) anterior; ven (-a; -ia; -ua) cav (-a; -ia; -ua); foramīn (-a; -ia; -ua) palatīn (-a; -ia; -ua) minōr (-a; -ia; -ua); ligament (-a; -ia; -ua) transvers (-a; -ia; -ua); lamīn (-a; -ia; -ua) arcus vertēbrae; oss (-a; -ia; -ua) cranii; valv (-a; -ia; -ua) lymphatīc (-a; -ia; -ua); foramīn (-a; -ia; -ua) sacrāl (-a; -ia; -ua) minor (-a; -ia; -ua); foramīn (-a; -ia; -ua) ethmoidal (-a; -ia; -ua); ligament (-a; -ia; -ua) intercarpal (-a; -ia; -ua) interossē (-a; -ia; -ua); cornu (-a; -ia; -ua) majōr (-a; -ia; -ua) et minōr (-a; -ia; -ua); ven (-a; -ia; -ua) accessori (-a; -ia; -ua).

Ex. 5. Explain the use of the underlined endings, translate the terms into English:

vagīna tendīnum musculōrum extensōrum radiālium carpi; sulcus temporālis inferior; caput laterāle muscūli tricipītis; muscūlus flexor hallūcis longus; flexūra coli sinistra; muscūlus longus colli; plica longitudinālis duodēni; ligamentum transversum scapūlae superius; articulatiōnes cranii; ligamenta interossēa; plicae palatīnae transversae; lobus superior pulmōnis sinistri; plicae tunīcae mucōsae; apex partis petrōsae; vasa auris internae; septum sinuum sphenoidalium; ganglia plexuum sympathicōrum; sulcus sinus sphenoidālis; sulci nervi petrōsi majoris; plicae recti; muscūli dorsi recti; lingūla pulmōnis sinistri.

Ex. 6. Translate into English:

angūlus oculi laterālis; bursa muscūli terētis; caput laterāle muscūli tricipītis; caput longum muscūli bicipītis brachii; crista nasālis anterior; forāmen

ovāle; forāmīna sacralia pelvīna; margo mastoideus ossis occipitālis; muscūli faciāles; muscūli oblīqui superior et inferior; muscūlus biceps femōris; muscūlus teres minor; os parietāle; tuber frontāle; processus lacrimālis conchae nasālis inferioris; muscūli intercostāles; medulla ossium flava; medulla ossium rubra; medulla renālis; ossa membri inferioris; cornu superius cartilaginis thyroideae; arteria hepatica; canālis radīcis dentis; ductus hepaticus commūnis; facies viscerālis; forāmīna sacralia pelvīna; ligamenta anteriōra durae matris; ligamentum teres hepātis; margo linguae; ossa membri inferioris; tunīca mucōsa oris; vasa sanguinea retīnae; pia mater spinālis; vagīnae fibrōsae tendīnum digitōrum pedis; ligamentum hepatoduodenāle; articulatīōnes sternocostāles; muscūlus bronchooesophagēus; muscūlus rectus abdominis; pars abdominālis (thoracīca, cervicālis) oesophāgi; recessus duodenāles superior et inferior; recessus ileocaecālis inferior; tunīca musculāris oesophāgi; muscūli oblīqui superior et inferior; cornu inferius cartilaginis thyroideae; processus articulāres superiōres; arteria superior mediālis genus; pelvis major et minor; r. externus n. laryngei superioris; rr. cardiāci inferioris; vv. cordis anterioris; forr. palatīna minōra; cornu medullae spinālis posterius; muscūlus latissīmus dorsi; spina inferior.

Ex. 7. Translate into Latin:

wing of the vomer; straight muscle of the head; smaller sublingual ducts; smaller sacral openings; posterior margin of the petrous part; lower vertebral notches; bloody vessels of the retina; orbital part of the frontal bone; rotator muscles of the eyeball; nuclei (plur.) of the cranial nerves; openings of the smallest veins; dividing wall of the frontal sinuses; long elevator muscles; red and yellow bone marrow; body of the hyoid bone; accessory ligaments of the ribs; ligaments of the head of the splint-bone; tip of the posterior horn; large horn of the hyoid bone; upper horn of the thyroid cartilage.

§ 28. Sample of final test in Anatomical terminology

1. Combine the nouns with the adjectives and decline the combinations

(Nom. Sing.; Gen. Sing.; Nom. Plur.; Gen. Plur.):

caput, ūtis n (major, jus); os, ossis n (planus, a, um); arteria, ae f (occipitālis, e)

2. Translate the terms into Latin; write the lexical forms of all the words:

- 1) muscular tunica of the stomach;
- 2) surface of the tubercle of the rib;
- 3) lymphatic nodes of the neck;
- 4) palatal process of the upper jaw;
- 5) gastric folds;
- 6) inferior deep vein;
- 7) levator muscle of the nose;
- 8) muscles of the rectum.

3. Translate the terms into English:

- 1) caput ossis femōris;
- 2) cornu uteri dextrum;
- 3) facies pulmonālis cordis;
- 4) muscūlus longus;
- 5) muscūlus flexor digiti;
- 6) arteria superior laterālis genus;
- 7) basis cordis;
- 8) forāmen sacrāle anterius.

LATIN – ENGLISH ANATOMICAL GLOSSARY

LATIN	ENGLISH
	A
a (ab) (<i>w. abl.</i>)	from
abdōmen, ĩnis n	abdomen
abdominālis, e	abdominal
accessorius, a, um	accessory
acetabŭlum, i n	cotyloid cavity, acetabulum
acromion, i n	acromion, lateral end of the shoulder blade crest
acustĭcus, a, um	acoustic
ad (<i>acc.</i>)	to
affērens, ntis	afferent
ala, ae f	wing
alāris, e	alar
albus, a, um	white
alveōlus, i m	alveolus
angŭlus, i m	angle
ante (<i>w. acc.</i>)	before
antebrachium, i n	forearm
anterior, ius	front, anterior
anus, i m	anus
aorta, ae f	aorta
apertŭra, ae f	aperture
apex, ĩcis m	apex, top
apicālis, e	apical, related to the top
appendix, ĩcis f	appendage
arcus, us m	arch
areōla, ae f	areola
arteria, ae f	artery
arteriālis, e	arterial
arteriōsus, a, um	arterial
articulāris, e	articular
articulatio, ōnis f	joint
ascendens, ntis	ascending
asper, ěra, ěrum	rough
atlas, antis m	1 st cervical vertebra, atlas
atrium, i n	atrium (heart chamber)
auricŭla, ae f	auricle, auricula
auriculāris, e	auricular
auris, is f	ear
axis, is m	2 nd cervical vertebra, axis

basis, is f
biceps, cipītis
biliāris, e
bilis, is f
brachium, i n
brevis, e
bronchus, i m
bulbus, i m
bulbus oculus
bursa, ae f

caecum, n
calcanēus, a, um
calcar, āris n
canālis, is m
capillāris, e
capsula, ae f
caput, itis n
cardiācus, a, um
carotīcus, a, um
carōtis, idis
carpus, i m
cartilaginēus, a, um
cartilāgo, inis f
caverna, ae f
cavernōsus, a, um
cavitas, ātis f
cavum, i n
cavus, a, um
cellūla, ae f
cellulāris, e
cerebellāris, e
cerebellum, i n
cerebrālis, e
cerēbrum, i n
cervicālis, e
cervix, icis f
chiasma, ātis n
cilium, i n
cingulum, i n
circumflexus, a, um
clavicūla, ae f
claviculāris, e
coccygēus, a, um
coccyx, ygis m
cochlea, ae f

B

base
two-headed, bicipital
biliary
bile
shoulder
short
bronchus
bulb
eyeball
bursa, bag

C

caecum, blind intestine
calcanel
calcar, spur
canal
capillary
capsule
head
cardiac
carotic
carotid
wrist
cartilaginous
cartilage
cavern
cavernous
cavity
cavity
hollow
cell
cellular
cerebellar
cerebellum
cerebral, related to the brain
cerebrum, brain
cervical, related to the neck
neck, cervix
chiasm
cilium, eyelash
girdle
circumflex
clavicle
clavicular
coccygeal
coccyx, coccygeal bone
cochlea

cochleāris, e
collum, i n
colon, i n
columna, ae f
commissūra, ae f
commūnis, e
compactus, a, um
compositus, a, um
concha, ae f
contra (*w. acc.*)
cor, cordis n
cornu, us n
coronarius, a, um
corpus, ōris n
cortex, ĩcis m
corticālis, e
costa, ae f
costālis, e
craniālis, e
cranium, i n
cribrōsus, a, um
crista, ae f
crus, cruris n
cum (*w. abl.*)
curvatūra, ae f
cutis, is f

cochlear
neck
colon
column
joining, commissure
common
dense
compounded
concha
against
heart
horn
coronary
body
cortex
cortical
rib
costal
cranial
skull
cribrate, sieve-shaped
crest
leg
with
curvature
skin

D

de (*w. abl.*)
deltoideus, a, um
dens, dentis m
dentālis, e
descendens, ntis
dexter, tra, trum
diaphragma, ātis n
digītus, i m
diploë, ës f
distālis, e
dorsālis, e
dorsum, i n
ductus, us m
duodenālis, e
duodēnum, i n
dura mater
durus, a, um

from, about
deltoid
tooth
dental, related to the tooth
descending
right
diaphragm
finger
diploe
distal
dorsal
back
duct
duodenal
duodenum
hard brain membrane
hard

E

e (ex) (*w. abl.*)
effērens, ntis

out of, of, from
efferent

encephālon, i n
esophagēus, a, um
esophāgus, i m (oesophāgus)
et
ethmoidālis, e
externus, a um
extremītas, ātis f

encephalon, brain
esophageal
esophagus
and
ethmoid, sieve-shaped
external
extremity, limb

faciālis, e
facies, ēi f
fascia, ae f
femur, ōris n
fibra, ae f
fibrōsus, a, um
fibūla, ae f
fibulāris, e
fissūra, ae f
flavus, a, um
flexūra, ae f
forāmen, īnis n
fornix, īcis m
fossa, ae f
fovea, ae f
frons, ntis f
frontālis, e
fundus, i m

F
facial
face, surface
fascia
femur, thigh bone, thigh
fibra, fiber
fibrous
fibula, splint-bone
fibular, related to the splint-bone
fissure, narrow slit
yellow
flexure, curve, twist
foramen, opening
vault, fornix
fossa, shallow depression
fovea, small pit
forehead
frontal
fundus, bottom

ganglion, i n
gaster, tris f
gastrīcus, a, um
generālis, e
genu, us n
gingīva, ae f
glandūla, ae f
glandūla thyr(e)oidea
globus, i m
glomus, i m
griseus, a, um
gyrus, i m

G
ganglion, nerve node
stomach
gastric
general
knee
gingiva, gum
gland
thyroid gland
globe
glome
gray
gyrus, convolution

hallux, ūcis m
hamūlus, i m
hepar, ātis n
hepatīcus, a, um

H
great toe
hamulus, hook
liver
hepatic, related to the liver

hiātus, us m
homo, ĩnis m
horizontālis, e
humērus, i m
humor, ōris m
hyoideus, a, um
hypogastrĭcus, a, um
hypoglossus, a, um

ileocecālis, e
ileum, i n
iliācus, a, um
impressio, ōnis f
incisĭvus, a, um
incisūra, ae f
incus, ūdis f
index, ĩcis m
inferior, ius
infra
in (*w. acc., abl.*)
inter (*w. acc.*)
intercostālis, e
interior, ius
internus, a, um
interosseus, a, um
intestinālis, e
intestĭnum, i n
intestĭnum crassum
intestĭnum (i) tenue (is)
intravenŏsus, a, um
iris, irĭdis f
ischiadĭcus, a, um ischiorec-
tālis, e
ischium, i n

jejūnum, i n
jugulāris, e

labium, i n
lacrimālis, e
lamĭna, ae f
laryngēus, a, um
larynx, yngis m
laterālis, e
latissĭmus, a, um
latus, a, um

hiatus, crack, split
man
horizontal
humerus, upper arm
humor
hyoid (bone)
hypogastric
hypoglossal (nerve)

I

ileocecal
ileum
iliac
impression
incisive (tooth)
notch
incus, anvil
index, forefinger
lower, inferior
under, beneath
into, in
between
intercostal
inner
internal
interosseal
intestinal
intestine
large intestine
small intestine
intravenous
iris of the eye
ischiodic
ischio-rectal
ischium

J

jejunum
jugular

L

lip
lacrimal, related to tears
plate, lamina
laryngeal, related to the larynx
larynx
lateral
the widest
broad, wide

latus, ěris n
lens, lentis f
liber, ěra, ěrum
lien, liěnis m
ligamentum, i n
linea, ae f
lingua, ae f
linguālis, e
lobus, i m
longissĭmus, a, um
longus, a, um
lumbālis, e
lumbus, i m
lymphaticus, a, um

side, flank
crystalline lens
free
spleen
ligament
line
tongue
lingual, related to the tongue
lobe
the longest
long
lumbar, related to the loin
loin
lymphatic

M

magnus, a, um
major, jus
mandibŭla, ae f
mandibulāris, e
manubrium, i n
manus, us f
margo, ĩnis m
mastoideus, a, um
mater, tris f
maxilla, ae f
maxillāris, e
maxĭmus, a, um
meātus, us m
mediālis, e
mediānus, a, um
medius, a, um
medulla, ae f
medulla ossium
medulla spinālis
membrāna, ae f
membrum, i n
meninx, ngis f
mentālis, e
mentum, i n
metacarpus, i m
metatarsus, i m
minĭmus, a, um
minor, minus
mucōsa, ae f
mucōsus, a, um
musculāris, e
muscŭlus, i m
m. abductor, ōris m

large, great
larger, greater
lower jaw, mandible
mandibular, related to the lower jaw
manubrium
hand
margin, border
mastoidal, mammiform
membrane of the brain or spinal cord
upper jaw, maxilla
maxillary, related to the upper jaw
the largest, the greatest
passage
medial
middle, median
middle
marrow, medullary substance
bone marrow
spinal cord, spinal marrow
membrane, covering
extremity, limb
meninx
mental, related to the chin
chin
metacarpus
metatarsus
the smallest
smaller
mucous membrane
mucous
muscular
muscle
abductor muscle

m. adductor, ōris m
m. buccinātor, ōris m
m. constrictor, ōris m
m. corrugātor, ōris m
m. depressor, ōris m
m. dilatātor, ōris m
m. extensor, ōris m
m. flexor, ōris m
m. levātor, ōris m
m. massēter, ēris m
m. rotātor, ōris m
m. sphincter, ēris m
m. tensor, ōris m

adductor muscle
cheek muscle, buccinator
constrictor
corrugator, muscle that wrinkles
depressor muscle
dilator muscle
extensor (muscle)
flexor (muscle)
levator, elevator muscle
chewer muscle
rotator muscle
sphincter (muscle)
tensor muscle

naris, is f
nasālis, e
nasolacrimālis, e
nasus, i m
nervōsus, a, um
nervus, i m
niger, gra, grum
nodus, i m
nucha, ae f
nucleus, i m
nutricius, a, um

N
nostril
nasal, related to the nose
nasolacrimonal
nose
nervous
nerve
black
node
nucha, nape of neck
nucleus, centre
nutricious

obliquus, a, um
oblongātus, a, um
occipitālis, e
occīput, ītis n
ocūlus, i m
oesophāgus, i m (esophāgus)
olecrānon, i n
ophthalmīcus, a, um
optīcus, a, um
orbīta, ae f
orbitālis, e
orgānon, i n
os, oris n
os, ossis n
os hyoideum
ossēus, a, um
ostium, i n
ovālis, e

O
oblique
oblong
occipital
back of the head, occiput
eye
esophagus, gullet
tip of the elbow
ophthalmic, related to the eye
optic, visual
orbit, eye-socket
orbital, related to the eye-socket
organ
mouth
bone
hyoid bone
osseous, bony
opening, ostium
oval

palatīnus, a, um
palatoglossus, a, um
palātum, i n
palpēbra, ae f
pancreas, ātis n
pancreatīcus, a, um
papilla, ae f
paries, ētis m
parietālis, e
pars, partis f
patella, ae f
pelvīnus, a, um
pelvis, is f
pelvis renālis
per (*w. acc.*)
perin(a)eum, i n
periosteum, i n
periton(a)eum, i n
pes, pedis m
petrōsus, a, um
phalanx, ngis f
pharyngēus, a, um
pharynx, ngis m
pia mater
pilus, i m
planus, a, um
pleura, ae f
plexus, us m
plica, ae f
pollex, ĩcis m
post (*w. acc.*)
posterior, ius
praemolāris, e
primus, a, um
pro (*w. abl.*)
processus, us m
profundus, a, um
proprius, a, um
protuberantia, ae f
proximālis, e
proxīmus, a, um
pterygoideus, a, um
pulmo, ōnis m
pulmonālis, e
pylōrus, i m
pyrāmis, ĩdis f

P

palatal, palatine
palatoglossal
palate
eyelid
pancreas
pancreatic, related to the pancreas
papilla, nipple
wall
parietal
part
kneepan
pelvic
pelvis
renal pelvis
for, by
perineum
periosteum
peritoneum
foot
petrous, stony
phalanx
pharyngeal, related to the pharynx
pharynx
soft brain membrane
hair
plain
pleura
plexus
fold
thumb
after
posterior, back
premolar (tooth)
first
for
process
deep
proper
projection
proximal
nearest
pterygoid, wing-shaped
lung
pulmonary, related to the lung
pylorus
pyramid

quadriceps, cipītis

radiālis, e
radius, i m
radix, īcis f
ramus, i m
raphe (rhaphe), es f
recessus, us m
rectālis, e
rectum, i n
rectus, a, um
regio, ōnis f
ren, renis m
renālis, e
rete, is n
retīna, ae f
retinacūlum, i n
rotundus, a, um
ruber, bra, brum

sacrālis, e
sacrum, i n
sanguineus, a, um
sanguis, īnis m
scapūla, ae f
secundus, a, um
semi-
septum, i n
serōsus, a, um
seu
simplex, īcis
sine (*w. abl.*)
sinister, tra, trum
sinus, us m
skelēton, i n
spatium, i n
sphenoidālis, e
spina, ae f
spinālis, e
spinōsus, a, um
spleen, splenis m
spongiōsus, a, um
squama, ae f

Q

four-headed, quadriceps

R

radial, related to the forearm bone
radius, forearm bone
root
branch
raphe
recess
rectal
rectum
straight
region
kidney
renal, related to the kidney
net, network
retina
retinaculum
round
red

S

sacral
sacrum
bloody
blood
scapula, shoulder blade
second
half
septum, dividing wall
serous
or
simple
without
left
sinus
skeleton
space
sphenoidal, wedge-shaped
spine
spinal
spinous
spleen (Greek)
spongy
squama, scale

squamōsus, a, um
 stapes, ědis m
 sternālis, e
 sternocostālis e
 sternum, i n
 stratum, i n
 stroma, ātis n
 structurā, ae f
 styloideus, a, um
 sub (*w. acc., abl.*)
 sublinguālis, e
 substantia, ae f
 sulcus, i m
 supercilium, i n
 superficiālis, e
 superficies, ěi f
 superior, ius
 supra-
 suprarenālis, e
 suprēmus, a, um
 sutūra, ae f
 sympathīcus, a, um
 symphysis, is f
 synchondrōsis, is f
 systēma, ātis n

scaly, squamous
 stapes
 sternal, related to the breast bone
 sternocostal
 sternum, breast bone
 layer
 stroma, framework
 structure
 styloid, awl-shaped
 under
 sublingual
 substance
 groove
 eyebrow
 superficial
 surface
 upper, superior
 above
 suprarenal
 the highest
 seam, suture
 sympathetic, sympathic
 symphysis
 synchondrosis
 system

T

tegmen, ĩnis n
 temporālis, e
 tempus, ōris n
 tendo, ĩnis m
 teres, ětis
 textus, us m
 thalāmus, i m
 thoracīcus, a, um
 thorax, ācis m
 thymus, i m
 thyr(e)oideus, a, um
 tibia, ae f
 tonsilla, ae f
 tonsillāris, e
 trachĕa, ae f
 tractus, us m
 transversālis, e
 transversus, a, um
 trapezoideus, a, um

tegmen, roof
 temporal
 temple
 tendon
 round
 tissue
 thalamus
 thoracic
 chest, thorax
 thymus gland
 thyroid
 tibia, shinbone
 tonsil
 tonsillar, tonsillary
 trachea, windpipe
 tract
 transverse
 transverse
 trapezoid

triceps, cipītis
trigemīnus, a, um
truncus, i m
tuba, ae f
tuber, ěris n
tubercŭlum, i n
tuberositas, ātis f
tunīca, ae f
tympanīcus, a, um

ulna, ae f
urēter, ěris m
urethra, ae f
urinarius, a, um
utērus, i m

vagīna, ae f
vaginālis, e
valva, ae f
valvŭla, ae f
vas, vasis n
vena, ae f
vena portae
venōsus, a, um
venter, ntris m
ventrālis, e
ventricŭlus, i m
vertēbra, ae f
vertebrālis, e
vertex, ĩcis m
verus, a, um
vesīca, ae f
vesīca fellea
vesīca urinaria
vestibŭlum, i n
viscēra, um n (*pl.*)
viscerālis, e
vitreus, a, um
vomer, ěris m

zygōma, ātis n
zygomatīcus, a, um

three-headed, tricripital
trigeminal
trunk
tube
tuber
tubercle
tuberosity
covering, membrane
tympanic

U

ulna, elbow bone
ureter
urethra
urinary
uterus, womb

V

vagina, sheath
vaginal
valve
valve, valvule
vessel
vein
portal vein
venous
belly
ventral
ventricle (heart chamber)
vertebra
vertebral
vertex
true
bladder
gallbladder
urinary bladder
vestibule
viscera
visceral, related to inner organs
vitreous
vomer

Z

zygoma, cheek-bone
zygomatic

ENGLISH – LATIN ANATOMICAL GLOSSARY

ENGLISH	LATIN
	A
abdomen	abdōmen, ĩnis n
abdominal	abdominālis, e
abductor muscle	m. abductor, ōris m
adductor muscle	m. adductor, ōris m
above	supra-
accessory	accessorius, a, um
acetabulum, cotyloid cavity	acetabŭlum, i n
acoustic	acustĭcus, a, um
acromion, acromial process	acromion, i n
afferent	affĕrens, ntis
after	post (w. acc.)
against	contra (w. acc.)
alar	alāris, e
alveolus	alveŏlus, i m
and	et
angle	angŭlus, i m
anterior, front	anterior, ius
anus	anus, i m
anvil, incus	incus, ūdis f
aorta	aorta, ae f
aperture	apertŭra, ae f
apex, top	apex, ĩcis m
apical	apicālis, e
appendage	appendix, ĩcis f
arch	arcus, us m
areola	areŏla, ae f
arterial	arteriŏsus, a, um; arteriālis, e
artery	arteria, ae f
articular	articulāris, e
ascending	ascendens, ntis
atlas, 1 st cervical vertebra	atlas, antis m
atrium (heart chamber)	atrium, i n
auricle, auricula	auricŭla, ae f
auricular	auriculāris, e
awl-shaped, styloid	styloideus, a, um
axis, 2 nd cervical vertebra	axis, is m

back
back, posterior
back of the head, occiput
bag, bursa
base
before
belly
beneath, under
between
bicipital
bile
biliary, bilious
black
bladder
blind intestine, caecum
blood
bloody
body
bone
bone marrow
bony, osseous
border, margin
bottom, fundus
brain
branch
breast bone, sternum
broad, wide
bronchus
buccinator, cheek muscle
bulb
bursa, bag

calcaneal
calcar, spur
fibula, splint-bone
canal
capillary
capsule
cardiac
carotic
carotid
cartilage
cartilaginous
cavern
cavernous

B

dorsum, i n
posterior, ius
occiput, itis n
bursa, ae f
basis, is f
ante-
venter, ntris m
infra-
inter-
biceps, cipitis
bilis, is f
biliaris, e
niger, gra, grum
vesica, ae f
caecum, i n
sanguis, inis m
sanguineus, a, um
corpus, oris n
os, ossis n
medulla ossium
osseus, a, um
margo, inis m
fundus, i m
encephalon, i n; cerebrum, i n
ramus, i m
sternum, i n
latus, a, um
bronchus, i m
m. buccinator, oris m
bulbus, i m
bursa, ae f

C

calcaneus, a, um
calcar, aris n
fibula, ae f
canalis, is m
capillaris, e
capsula, ae f
cardiacus, a, um
caroticus, a, um
carotis, idis
cartilago, inis f
cartilagineus, a, um
caverna, ae f
cavernosus, a, um

cavity	cavum, i n, cavitas, ātis f
caecum, blind intestine	caecum, i n
cell	cellūla, ae f
cellular	cellulāris, e
cerebellar	cerebellāris, e
cerebellum	cerebellum, i n
cerebral, related to the brain	cerebrālis, e
cerebrum, brain	cerēbrum, i n
cervical, related to the neck	cervicālis, e
cervix, neck	cervix, īcis f
cheek muscle, buccinator	m. buccinātor, ōris m
chest, thorax	thorax, ācis m
chewer	m. massēter, ēris m
chiasm	chiasma, ātis n
chin	mentum, i n
cilium, eyelash	cilium, i n
circumflex	circumflexus, a, um
clavicle	clavicūla, ae f
clavicular	claviculāris, e
fiisure, narooow slit	fissūra, ae f
covering, membrane	tunīca, ae f
coccygeal	coccygēus, a, um
coccygeal bone, coccyx	coccyx, ygis m
cochlea	cochlea, ae f
cochlear	cochleāris, e
colon	colon, i n
column	columna, ae f
commissure, joining	commissūra, ae f
common	commūnis, e
compounded	compositus, a, um
concha	concha, ae f
constrictor muscle	m. constrictor, ōris m
convolution, gyrus	gyrus, i m
coronary	coronarius, a, um
corrugator muscle, that wrinkles	m. corrugātor, ōris m
cortex	cortex, īcis m
cortical	corticālis, e
costal	costālis, e
cotyloid cavity	acetabūlum, i n
crack, split, hiatus	hiātus, us m
cranial	craniālis, e
cranium, skull	cranium, i n
crest	crista, ae f
cribrate, sieve-shaped	cribrōsus, a, um
curvature	curvatūra, ae f
curve, twist, flexure	flexūra, ae f

deep
deltoid
dense
dental, related to the tooth
depressor muscle
descending
diaphragm
dilator muscle
diploe
distal
dividing wall, septum
dorsal
duct
duodenal
duodenum

ear
efferent
elbow bone, ulna
elevator muscle
encephalon, brain
esophageal
esophagus, gullet
ethmoid, sieve-shaped
extensor (muscle)
external
extremity, limb
eye
eyeball
eyebrow
eyelash, cilium
eyelid
eye-socket, orbit

face, surface
facial
fascia
femur, thigh bone
fiber, fibra
fibrous
fibula, splint-bone
fibular, related to the splint-bone
finger

D

profundus, a, um
deltoideus, a, um
compactus, a, um
dentālis, e
m. depressor, ōris m
descendens, ntis
diaphragma, ātis n
m. dilatātor, ōris m
diploë, ës f
distālis, e
septum, i n
dorsālis, e
ductus, us m
duodenālis, e
duodēnum, i n

E

auris, is f
effērens, ntis
ulna, ae f
m. levātor, ōris m
encephālon, i n
esophagēus, a, um
oe(e)sophāgus, i m
ethmoidālis, e
m. extensor, ōris m
externus, a um
membrum, i n; extremītas, ātis f
ocūlus, i m
bulbus ocūli
supercilium, i n
cilium, i n
palpēbra, ae f
orbīta, ae f

F

facies, ēi f
faciālis, e
fascia, ae f
femur, ōris n
fibra, ae f
fibrōsus, a, um
fibūla, ae f
fibulāris, e
digītus, i m

first
fissure, narrow slit
flank, side
flexor (muscle)
flexure, curve, twist
fold
foot
foramen, opening
forearm
forearm bone, radius
forefinger, index
forehead
fornix, vault
fossa, shallow depression
four-headed, quadriceps
fovea, small pit
framework
free
front, anterior
frontal
fundus, bottom

gallbladder
ganglion, nerve node
gastric
general
gingiva, gum
girdle
gland
globe
glome
gray
great, large
greater, larger
great toe
the greatest, the largest
groove
gullet, esophagus
gum, gingiva
gyrus, convolution

hair
half
hamulus, hook

primus, a, um
fissūra, ae f
latus, ěris n
m. flexor, ōris m
flexūra, ae f
plica, ae f
pes, pedis m
forāmen, ĩnis n
antebrachium, i n
radius, i m
index, ĩcis m
frons, ntis f
fornix, ĩcis m
fossa, ae f
quadriceps, cipĭtis
fovea, ae f
stroma, ātis n
liber, ěra, ěrum
anterior, ius
frontālis, e
fundus, i m

G

vesĭca fellea
ganglion, i n
gastrĭcus, a, um
generālis, e
gingĭva, ae f
cingŭlum, i n
glandŭla, ae f
globus, i m
glomus, i m
griseus, a, um
magnus, a, um
major, jus
hallux, ūcis m
maxĭmus, a, um
sulcus, i m
oe(e)sophāgus, i m
gingĭva, ae f
gyrus, i m

H

pilus, i m
semi-
hamŭlus, i m

hand
hard
hard brain membrane
head
heart
hepatic, related to the liver
hiatus, crack, split
the highest
hollow
horizontal
horn
humerus, upper arm
humor
hyoid (bone)
hyoid bone
hypogastric
hypoglossal (nerve)

ileocecal
ileum
iliac
impression
incisive (tooth)
index, forefinger
inferior, lower
inner
intercostal
internal
interosseal
intestinal
intestine
intravenous
iris of the eye
ischadic
ischiorectal
ischium

jejunum
joining, commissure
joint
jugular

kidney
knee
kneepan

manus, us f
durus, a, um
dura mater
caput, ĩtis n
cor, cordis n
hepatĭcus, a, um
hiĀtus, us m
suprĕmus, a, um
cavus, a, um
horisontĀlis, e
cornu, us n
humĕrus, i m
humor, ōris m
hyoideus, a, um
os hyoideum
hypogastrĭcus, a, um
hypoglossus, a, um

I

ileocaecĀlis, e
ileum, i n
iliĀcus, a, um
impressio, ōnis f
incisĭvus, a, um
index, ĩcis m
inferior, ius
internus, a, um
intercostĀlis, e
internus, a, um
interosseus, a, um
intestinĀlis, e
intestĭnum, i n
intravenŏsus, a, um
iris, irĭdis f
ischiadĭcus, a, um
ischioirectĀlis, e
ischium, i n

J

jejūnum, i n
commissūra, ae f
articulatio, ōnis f
jugulĀris, e

K

ren, renis m
genu, us n
patella, ae f

lacrimal, related to tears
 lamina, plate
 large, great
 larger, greater
 large intestine
 the largest, the greatest
 laryngeal, related to the larynx
 larynx
 lateral
 layer
 left
 leg, shin
 lens
 levator muscle
 ligament
 limb, extremity
 line
 lingual, related to the tongue
 lip
 liver
 lobe
 loin
 long
 the longest
 lower, inferior
 lower jaw, mandible
 lumbar, related to the loin
 lung
 lymphatic

 man
 mandible, lower jaw
 mandibular, related to the lower jaw
 manubrium
 margin, border
 marrow, medullary substance
 mastoidal, mammiform
 maxilla, upper jaw
 maxillary, related to the upper jaw
 meatus, passage
 medial
 median, middle
 membrane, covering
 membrane of the brain or spinal cord

L

lacrimālis, e
 lamīna, ae f
 magnus, a, um
 major, jus
 intestīnum crassum
 maxīmus, a, um
 laryngēus, a, um
 larynx, yngis m
 laterālis, e
 stratum, i n
 sinister, tra, trum
 crus, cruris n
 lens, lentis f
 m. levātor, ōris m
 ligamentum, i n
 membrum, i n; extremītas, ātis f
 linea, ae f
 linguālis, e
 labium, i n
 hepar, ātis n
 lobus, i m
 lumbus, i m
 longus, a, um
 longissīmus, a, um
 inferior, ius
 mandibūla, ae f
 lumbālis, e
 pulmo, ōnis m
 lymphaticus, a, um

M

homo, ĩnis m
 mandibūla, ae f
 mandibulāris, e
 manubrium, i n
 margo, ĩnis m
 medulla, ae f
 mastoideus, a, um
 maxilla, ae f
 maxillāris, e
 meātus, us m
 mediālis, e
 mediānus, a, um
 membrāna, ae f
 mater, tris f

meninx
mental, related to the chin
metacarpus
metatarsus
middle
mouth
mucous
mucous membrane
muscle
muscular

nape of neck, nucha
narrow slit, fissure
nasal, related to the nose
nasolacrimal
the nearest
neck
nerve
nerve node
nervous
net, network
nipple, papilla
node
nose
nostril
notch
nucha, nape of neck
nucleus, centre
nutricious

oblique
oblong
occiput, back of the head
occipital
opening, foramen
ophthalmic, related to the eye
optic, visual
or
orbit, eye-socket
orbital, related to the eye-socket
organ
osseous, bony
ostium, opening
oval

meninx, ngis f
mentālis, e
metacarpus, i m
metatarsus, i m
medius, a, um; mediānus, a, um
os, oris n
mucōsus, a, um
mucōsa, ae f
muscūlus, i m
musculāris, e

N

nucha, ae f
fissūra, ae f
nasālis, e
nasolacrimālis, e
proxīmus, a, um
collum, i n; cervix, īcis f
nervus, i m
ganglion, ii n
nervōsus, a, um
rete, is n
papilla, ae f
nodus, i m
nasus, i m
naris, is f
incisūra, ae f
nucha, ae f
nucleus, i m
nutricius, a, um

O

obliquus, a, um
oblongātus, a, um
occīput, ītis n
occipitālis, e
forāmen, īnis n
ophthalmīcus, a, um
optīcus, a, um
seu
orbīta, ae f
orbitālis, e
orgānon, i n
ossēus, a, um
ostium, i n
ovālis, e

palatal, palatine
palate
palatoglossal
pancreas
pancreatic, related to the pancreas
papilla, nipple
parietal
part
passage, meatus
pelvic
pelvis
perineum
periosteum
peritoneum
petrous, stony
phalanx
pharyngeal, related to the pharynx
pharynx
plain
plate, lamina
pleura
plexus
portal vein
posterior, back
premolar (tooth)
process
projection
proper
proximal
pterygoid, wing-shaped
pulmonary, related to the lung
pylorus
pyramid

quadriceps, four-headed

radial, related to the forearm bone
radius, forearm bone
raphe
recess
rectal
rectum
red

P

palatīnus, a, um
palātum, i n
palatoglossus, a, um
pancreas, ātis n
pancreatīcus, a, um
papilla, ae f
parietālis, e
pars, partis f
meātus, us m
pelvīnus, a, um
pelvis, is f
perin(a)eum, i n
periosteum, i n
periton(a)eum, i n
petrōsus, a, um
phalanx, ngis f
pharyngēus, a, um
pharynx, ngis m
planus, a, um
lamīna, ae f
pleura, ae f
plexus, us m
vena portae
posterior, ius
praemolāris, e
processus, us m
protuberantia, ae f
proprius, a, um
proximālis, e
pterygoideus, a, um
pulmonālis, e
pylōrus, i m
pyrāmis, ĩdis f

Q

quadriceps, cipītis

R

radiālis, e
radius, i m
raphe (rhaphe), es f
recessus, us m
rectālis, e
rectum, i n
ruber, bra, brum

region
renal, related to the kidney
renal pelvis
retina
retinaculum
rib
right
root
rotator muscle
rough
round

sacral
sacrum
scapula, shoulder blade
second
septum, dividing wall
serous
shallow depression, fossa
sheath, vagina
shin, leg
shinbone, tibia
short
shoulder
shoulder blade, scapula
side, flank
sieve-shaped, cribrate
sieve-shaped, ethmoid
simple
sinus
skeleton
skin
skull, cranium
small intestine
smaller
the smallest
small pit, fovea
soft brain membrain
space
sphenoidal, wedge-shaped
sphincter (muscle)
spinal
spinal cord, spinal marrow
spine
spinous
spleen
splint-bone, fibula

regio, ōnis f
renālis, e
pelvis renālis
retīna, ae f
retinacŭlum, i n
costa, ae f
dexter, tra, trum
radix, ĩcis f
m. rotātor, ōris m
asper, ěra, ěrum
rotundus, a, um; teres, ětis

S

sacrālis, e
sacrum, i n
scapŭla, ae f
secundus, a, um
septum, i n
serŏsus, a, um
fossa, ae f
vagīna, ae f
crus, cruris n
tibia, ae f
brevis, e
brachium, i n
scapŭla, ae f
latus, ěris n
cribrŏsus, a, um
ethmoidālis, e
simplex, ĩcis
sinus, us m
skelĕton, i n
cutis, is f
cranium, i n
intestĭnum (i) tenue (is)
minor, minus
minĭmus, a, um
fovea, ae f
pia mater
spatium, i n
sphenoidālis, e
m. sphincter, ěris m
spinālis, e
medulla spinālis
spina, ae f
spinŏsus, a, um
lien, liĕnis m; splen, splenis m
fibŭla, ae f

split, crack, hiatus
spongy
spur, calcar
squama, scale
squamous, scaly
stapes
sternal, related to the breast bone
sternocostal
sternum, breast bone
stomach
stony, petrous
straight
stroma, framework
structure
sublingual
substance
superficial
surface
superior, upper
suprarenal
surface, face
suture, seam
sympathetic, sympathetic
symphysis
synchondrosis
system

hiātus, us m
spongiōsus, a, um
calcar, āris n
squama, ae f
squamōsus, a, um
stapes, ēdis m
sternālis, e
sternocostālis e
sternum, i n
gaster, tris f
petrōsus, a, um
rectus, a, um
stroma, ātis n
structūra, ae f
sublingualis, e
substantia, ae f
superficiālis, e
superficies, ēi f
superior, ius
suprarenālis, e
facies, ēi f
sutūra, ae f
sympathicus, a, um
symphysis, is f
synchondrōsis, is f
systēma, ātis n

tegmen, roof
temple
temporal
tendon
tensor muscle
thalamus
thigh, thigh bone, femur
thoracic
thorax, chest
three-headed, tricipital
thumb
thymus gland
thyroid
thyroid gland
tibia, shin bone
top, apex
tip of the elbow
tissue
tongue
tonsil

T

tegmen, ĩnis n
tempus, ōris n
temporālis, e
tendo, ĩnis m
m. tensor, ōris m
thalāmus, i m
femur, ōris n
thoracicus, a, um
thorax, ācis m
triceps, cipĭtis
pollex, ĩcis m
thymus, i m
thyr(e)oideus, a, um
glandŭla thyr(e)oidea
tibia, ae f
apex, ĩcis m
olecrānon, i n
textus, us m
lingua, ae f
tonsilla, ae f

tonsillar, tonsillary
tooth
top, apex
trachea, windpipe
tract
transverse
trapezoid
tricipital, three-headed
trigeminal
true
trunk
tube
tuber
tubercle
tuberosity
two-headed, bicipital
tympanic

ulna, elbow bone
under, beneath
upper, superior
upper arm
upper jaw, maxilla
ureter
urethra
urinary
urinary bladder
uterus, womb

vagina, sheath
vaginal
valve
vault, fornix
vein
venous
ventral
ventricle (heart chamber)
vertebra
vertebral
vertex
vessel
vestibule
viscera
viscerālis, e

tonsillāris, e
dens, dentis m
apex, ĭcis m
trachēa, ae f
tractus, us m
transversālis, e; transversus, a, um
trapezoideus, a, um
triceps, cipĭtis
trigemĭnus, a, um
verus, a, um
truncus, i m
tuba, ae f
tuber, ěris n
tubercŭlum, i n
tuberosĭtas, ātis f
biceps, cipĭtis
tympanĭcus, a, um

U

ulna, ae f
infra-; sub-
superior, ius
humĕrus, i m
maxilla, ae f
urĕter, ěris m
urethra, ae f
urinarius, a, um
vesĭca urinaria
utĕrus, i m

V

vagĭna, ae f
vaginālis, e
valva, ae f; valvŭla, ae f
fornix, ĭcis m
vena, ae f
venōsus, a, um
ventrālis, e
venrtricŭlus, i m
vertĕbra, ae f
vertebrālis, e
vertex, ĭcis m
vas, vasis n
vestibŭlum, i n
viscĕra, um n (pl.)
visceral, related to the inner organs

visual
vitreous
vomer

opticus, a, um
vitreus, a, um
vomer, ěris m

wall
wedge-shaped, sphenoidal
white
wide, broad
the widest
windpipe, trachea
wing
wing-shaped, pterigoid
womb, uterus
wrist

W

paries, ětis m
sphenoidālis, e
albus, a, um
latus, a, um
latissĭmus, a, um
trachĕa, ae f
ala, ae f
pterygoideus, a, um
utĕrus, i m
carpus, i m

yellow

Y

flavus, a, um

zygoma
zygomatic

Z

zygōma, ātis n
zygomatĭcus, a, um

CLINICAL TERMINOLOGY

LESSON 1

INTRODUCTION TO THE CLINICAL TERMINOLOGY

The main objectives of the lesson are:

- 1) to learn the basic theoretical information about clinical terminology;*
- 2) to learn the specifics of stressing some clinical terms;*
- 3) to train in forming compound Latin clinical terms;*
- 4) to train in translating clinical terms from Latin into English, and vice versa.*

The material of “Clinical terminology” division prepares students to study professionally oriented disciplines at a medical university and introduces special word-terms to be used actively. Taking care of bedridden patients, treatment, is ‘*klinike techne*’ in Greek. Therefore, terminology of this field of medicine is called clinical.

Clinical terminology deals with various subjects, processes, phenomena associated with prophylaxis, diseases diagnostics, means of examination and treatment of patients. Clinical terminology also includes names of operations, methods of examination and treatment, medical devices, instruments, equipment and so on.

§1. Basic languages of clinical terminology

Medicine as a science was formed in ancient Greece in V century B. C. Hippocrates was an outstanding representative of this classical period field of science. It is considered that he was the first to generalize his great medical experience in the form of medical works: he described manifestations of pleuritis, intestinal bleeding, intestinal obstruction, mumps, tetanus, kidney lesions; he worked out a theory about treatment of fractures, dislocations and injuries of various kinds. His works have first information about anatomy of female genital system, data about abnormal fetal positions which required surgical intervention, and also ideas about women’s diseases and their treatment. Hippocrates paid great attention to matters of diagnostics of various diseases and described their general manifestations and localization.

Works of Hippocrates and his followers were later joined into the so-called “Hippocrates’ collection» – «Corpus Hippocraticum». In this collection, the au-

thors rather logically employ for special use a definite group of words singled out from the living spoken language and this group includes questions of **physiology, pathology, symptomatology and nosology**¹. Thus, we can speak about the beginning of scientific medical terminology formation. Up to our days doctors use as special terms many names first given in «Hippocrates' collection»: *bronchus, urethra, herpes, carcinoma, kyphosis, coma, nephritis, paresis, polyp, symphysis, typhus, cholera, epidemic* and many others.

Alexandrian scientists developing lexicon of medical science began to introduce neologisms into it — artificially formed words which had not existed in the language before to denote special concepts. They are *prostate, diastole, systole, parenchyma* and others. For the first time the term *pathology* was used regarding various kinds of diseases. They also edited scientific works of predecessors and sorted out the existing professional vocabulary. Since then medical terminology began to form as a definite system.

Rome contributed little into the development of medicine, it was the center where mostly Greek doctors worked. However, it is necessary to mention the role of Cornelius Celsus in working out Latin scientific medical terminology. The special vocabulary used by the ancient Roman author almost completely got into the vocabulary of scientific medicine. For example, *abdomen, anus, articūlus, caecum intestīnum, cartilāgo, cervix, cubitus, digitus, femur, humērus, index* and so on. Celsus widely used authoritative and precise Greek names, giving them as equivalents of Latin words. This parallelism, doublet denotation of the same medical concepts by Greek and Latin words or their stems became a characteristic feature of medical terminology. In further term formation process Greek words were preferably used in the field of pathology (*pathos disease + logos science*). Words of Latin origin prevailed in descriptive anatomy.

Thus, beginning from antiquity medical terminology began to form on bilingual Greek-Latin basis. Latin and Greek words and term-elements are basic for terminology of all sciences, and first of all medicine, they are used in everlasting process of neologisms formation.

Content and laconicism of the Latin and Greek languages make it possible to combine in one word information which has to be translated into English by some words, for example *stomatitis, itidis f* — inflammation of mucous lining of the oral cavity, *cholecystoscopia, ae f* — examination of the gall-bladder inner walls.

Learning the term-elements given in this manual will expand vocabulary of students and will give them possibility to understand many medical terms easily. Thus, about 50 terms are formed from the term-element *arteri-*, more than 150 terms are formed from the term-elements *haem-* and *-aemia*. The term-element *oste-* is a part of 100 terms (Шпак А. М. Методика изучения медицинской терминологии. — Винница, 1961). Along with words of Greek origin clinical terminology has terms of Latin origin, for example, *resectio, ōnis f* —

¹Greek. *nosos disease+ logia study, science – different particular diseases with their own names*

removal of a part of an organ, *ulcus*, *ĕris* n — *ulcer*, *tuberculōsis*, *is* f — *tuberculosis*, *cancer*, *cri* m — *cancer* and others. Besides, there are term-hybrids those are words which consist of Latin and Greek term-elements, for example *dysfunctio*, *ōnis* f — *impairment of a function*, *tonsillĭtis*, *itĭdis* f — *inflammation of palatine tonsils*.

The purpose of the new division is to study not individual meaning of each word but common, recurrent constituents which are in the structure and meaning of a wide range of similarly formed words.

§2. Structure of clinical terms

Clinical terms vary in their structure. They are divided into one-word and multiword terms. In its turn, one-word terms may be simple, compound and derivative.

Simple clinical terms are words of Latin or Greek origin which cannot be divided morphologically within the limits of modern terminology: *stupor* – *numbness*; *trauma* – *damage in tissue integrity under the influence of external factors*; *infarction* – *limited area of necrotizing tissue mortified as a result of blood supply stop*; *contusion* – *general affection of the organism as a result of instantaneous mechanical lesion* and others. More often they are not translated, but transliterated by means of national languages and are international:

Latin	Russian	Belorussian	English	French	German
infarctus	инфаркт	інфаркт	infarction	Infarctus	Infarct
contusion	контузия	кантузія	contusion	Contusion	Kontusion
pneumonia	пневмония	пнеўманія	pneumonia	Pneumonie	Pneumonie
stupor	ступор	ступар	stupor	Stupeur	Stupor
trauma	травма	траўма	trauma	Traumatisme	Trauma

Compound clinical terms are formed by combining two or some roots. Greek roots are usually combined with the vowel **-o-** in compound words. For example: *gastr-o-scopia*, *cyst-o-plegia*, *vas-o-gramma*. The interfix **-i-** is used in words of Latin origin: *viv-i-ficatio* (*revivification*). But in artificial neologisms this linguistic regularity has not been followed any more, and the combining vowel **-o-** is preferably used to form new words: *cardi-o-lysis*, *nas-o-lacrimalis* and so on. Stems of compound words may be also combined without the combining vowel, if the first component finishes with a vowel or the second one begins with a vowel: *brady-cardia*, *hemi-plegia*, *neur-algia*, *hyster-ectomy* and so on.

Derivative terms consist of:

- a root and a prefix: *dia+agnōsis* – *diagnosis*, *recognition*;
- a prefix, a root and a suffix: *para-+nephro-+itis* – *paranephritis*, *inflammation of paranephric cellular tissue*, *peri-+nephro-+itis* – *perinephritis*, *inflammation of kidney fibrous capsule*;

-a root and a suffix: *nephr--itis* – *nephritis*, *kidney inflammation*, *nephr--osis* – *nephrosis*, *general name of kidney diseases with the lesion of renal tubules*.

Multiword clinical terms are formed according to principles of Latin grammar and are word combinations with agreed or non-agreed attributes. For example, *mastopathia fibrosa* – *fibrous mastopathy*; *gastrorrhagia profusa* – *profuse gastric bleeding*; *vitium cordis* – *heart disease*; *tuberculosis pulmōnum* – *tuberculosis of the lungs*; *cancer cervicis utēri* – *cancer of the neck of the womb*. As you see from examples the models of the multiword clinical terms are the same that the anatomical ones:

noun in the Nom. sing. (or plur.) + noun in the Gen. sing. (or plur.):

cysta pancreatis – *cyst of the pancreas*;

noun in the Nom. sing. (or plur.) + adjective:

morbus ulcerosus acutus – *acute ulcerative disease*;

noun in the Nom. sing. (or plur.) + noun in the Gen. sing. (or plur.) + adjective:

fractura pedis transversa – *transverse fracture of the foot*.

§3. Concept «term-element». Independent words as TEs

Ancient Greek and Latin words make up the basis of international clinical terms. In many cases words of Greek origin are used only as a constituent part of compound words expressing widespread medical definitions and concepts. For example, the term *pathologia* – a field of medicine studying morbid processes in the organism – dates back to the Greek words *pathos* – ‘suffering, disease’ and *logos* – ‘study’ (Eng. – pathology; Fr. – pathologie; Germ. – Pathologie; Russ. – патология). The first part of the word *path-* is also present in the words *pathogenus*, *pathogenesis*, *pathophysiology* and some others. The second part *-logia* is found much more often and not only in medical terms: *biologia*, *histologia*, *gynaecologia*, *morphologia*, *antropologia* and so on. But in every case we can state that these parts preserve the original meaning of the language-basis.

Thus, there exists practice to learn clinical terms not as a separate word, compared to anatomical vocabulary according to their constituent parts grouping new words on the basis of identical structural elements which will be further called term-elements (TEs).

Term-element is any word part (a prefix, a root, a suffix) which has one and the same meaning in different words.

According to the place in a word TEs may be first and final. First TEs are given in tables with a little line after the last letter: *bio-*; *ophthalm-*; *ot-* and so on. Final TEs begin with such a line: *-logia*; *-scopia*; *-iatria* and so on. Final term-elements have grammatical ending by which we can determine gender and declension of a term. Although most TEs are of Greek origin, their endings are Latinized and coincide with the declension of Latin nouns according to gram-

matical signs: *pathologia, aef; leucocytus, i m* and so on. In some cases TEs have two variants of use: as the first one with the little line at the end and as the final one beginning with the line and having the ending of masculine or feminine gender: *path-; -pathia*. The place of a term-element in a term does not change its meaning.

Some words having independent meaning may be used as final term-elements:

carcinōma, ātis n – <i>malignant tumor developing from scaly or glandular epithelium</i>	adenocarcinōma, ātis n – <i>malignant tumor from glandular epithelium</i>
diagnostica, ae f 1. <i>science about diseases recognition; 2. process of a patient examination</i>	iridodiagnostica, ae f <i>diagnostics of diseases by the eye iris</i>
therapia, ae f – <i>science of internal diseases treatment</i>	hydrotherapia, ae f – <i>treatment with water</i>

Meaning of compound terms is determined by the meanings of their component TEs. Sometimes general meaning of a term is formed from separate TEs meanings, but in most words a TE is the only semantic help necessary for term understanding. Usually general meaning is wider or narrower than the word components meanings. For example, let's determine meaning of the terms *biologia, ophthalmologia* and learn the meaning of the term-elements composing these words: *bio-* -- life; *ophthalm-* – eye; *-logia* – science, field of science, field of medicine.

The last term element has several variants of meaning that is why it is necessary to think over which of them is more appropriate for each word. First variant 'science' is more appropriate for the word *biologia* as we know that biology is a theoretical non-medical discipline. Ophthalmology is a medical speciality. Therefore, it is correct to say that it is a field of medicine. We also know that eye structure is studied by anatomy, so such definitions – as ophthalmology is a field of medicine dealing with eye diseases treatment, and biology is a science about life, living organisms – are correct.

Characteristic feature of Greek-Latin origin clinical terms is to give complex meanings in a short way. It explains why they are so actively used in modern medicine.

Methods of clinical terminology study presuppose learning the meaning of separate TEs and ways of forming derivative and multiword terms.

§4. Doublets — characteristic feature of medical terminology

Term-elements of Latin origin may be used along with Greek term-elements in clinical terminology. As a result of this the so-called doublet pairs have been formed. For example:

Greek term-element	Latin word	Translation
cyst-	vesīca urinaria	urinary bladder
proct-	rectum, i n	rectum
colp-	vagīna, ae f	vagina

Latin and Greek names of anatomical formations having absolutely identical meaning are called Greek-Latin doublets (from Latin *duplex* doubled). Doublet character of roots in terms formation sometimes leads to occurrence of doublet terms: *cystographia, vesicographia* – X-ray examination of the urinary bladder; *proctoscopia, rectoscopia* – rectum examination with the help of a special device; *colpitis, vaginitis* – inflammation of the vagina and so on. In these cases substitution of the derivating stem does not change the meaning of the derivative term.

§5. Stress in clinical terms

To stress medical terms may be difficult in many cases. On reading latinized Greek words ending with *-ia*, the words with the final TE *-lógia* as well as *apáthia, sympáthia, agónia, artéria, anatómia, hérnia* are read according to the rule of the Latin language «a vowel before a vowel is short», that is the stress falls on the third from the end syllable. In other cases the second from the end syllable is stressed: *nephrectomía, hemiplegía, tachyphagía* and others.

The third from the end syllable must be stressed in terms with the final TEs *-cýtus, -geněsis, -gěnus, -lithiāsis, -līthus, -lōgus, -lýsis, -stāsis, -stōma*.

§6. Term-elements with multiple meaning, variation and many components

In most cases TEs are monosemantic, but some of them may have two or more meanings which cannot be divided into main and secondary and all of them must be learnt.

For example:

aden-	gland, glandular tissue – <i>adenocytus glandular cell</i> ;
	adenoids – <i>adenotomia removal of adenoids</i> ;
	lymph node – <i>lymphadenitis inflammation of the lymph node</i> ;
kerat-	eye cornea – <i>keratotomia incision of the cornea</i> ;
	corneal layer of epidermis – <i>keratosis skin disease characterized by thickening of the epidermis corneal layer</i> ;
myel-	bone marrow – <i>myelogramma blood picture of bone marrow punctuate</i> ;
	spinal cord – <i>myelographia X-ray filming of the spinal cord</i> .

We should distinguish between multiple meanings and cases of TEs homonymy, when they are formed from different stems but coincided in spelling and reading. For example, the TE **arthr-** is the stem of the Greek noun 'arthron' – *joint*. It is a constituent part of the terms: haem-arthr-osis – *accumulation of blood in the joint cavity*; arthr-algia – *pain in the joints*; arthr-osis – *chronic disease of a joint of dystrophic character with articular cartilage lesion*; dys-arthr-osis – *amalgformed joint, a false joint and others*. In the following terms the TE **arthr-** is the stem of the Greek verb 'arthroo' – *to pronounce distinct sounds, to articulate*: dys-arthr-ia – *articulate speech disorder*; an-arthr-ia – *inability of distinct articulate speech, the gravest degree of dysarthria*. As we see, root TEs are identical in both cases.

In the terms metrographia – *X-ray examination of the uterine cavity after instillation of contrast medium*; metroptosis – *falling of uterus*; metrorrhagia – *acyclic uterine bleeding*; metrorrhexis – *rupture of the pregnant uterus*, the TE **metr-** dates from the Greek noun 'metra' – *uterus*. But in the term hypermetropia – *farsightedness, anomaly of refraction characterized by focusing of the light into the eye parallel beams behind the retina*, the TE **metr-** is the stem of the Greek noun 'metron' – *measure of distance*.

Some TEs have variants depending on the case form of the initial word of the language-basis. For example, the TEs *haem-*, *pneum-*, *derm-*, *stom-* originate from the form of Nominative case and their variants *haemat-*, *pneumat-*, *dermat-*, *stomat-* – from the stem of Genitive case.

LESSON 2

§7. Term-elements used in the formation of names of medical specialities and related disciplines, specialists, methods of primary diagnostic control, appliances and instruments

The main objectives of the lesson are:

- 1) *to learn the term-elements used in names of medical specialities and related disciplines, specialists, methods of primary diagnostic control, appliances and instruments;*
- 2) *to be able to analyze compound Latin clinical terms;*
- 3) *to train in forming compound Latin clinical terms;*
- 4) *to train in translating clinical terms from Latin into English, and vice versa.*

Final term-elements

Term-element	Meaning	English equivalent
-logia	science, field of science, field of medicine	<i>-logy</i>
-lōgus	specialist (in the field of some science), doctor	<i>-logist</i>
-metria	measuring, determining (according to size, quantity)	<i>-metry</i>
-paedia	teaching, correction of defects	<i>-pedia</i>
-scopia	examination, investigation by special instruments	<i>-scopy</i>
-scopium	special instrument	<i>-scope</i>
-iater	doctor, specialist	<i>-atrician,</i> <i>-atrist</i>
-iatria	science of diseases treatment	<i>-iatry,</i> <i>-atrics</i>
-therapia	treatment with the use of methods, treatment by means	<i>-therapy</i>

Root term-elements

Greek term-element	Latin term	Meaning	English equivalent
bio-	<i>vita, ae f</i>	life	<i>bi-</i>
dactyl-	<i>digītus, i m</i>	finger	<i>dactyl-</i>
derm-; dermat- (-dermia)	<i>cutis, is f</i>	skin	<i>derm-,</i> <i>dermat-</i>

Greek term-element	Latin term	Meaning	English equivalent
embry-	1) embryo, <i>ōnis m</i> 2) fetus, <i>us m</i>	1) embryo (a living organism from the fertilized ovum to the first 8 weeks of intrauterine life) 2) fetus (a living organism after first 8 weeks of intrauterine life)	<i>embry-</i>
geri-; geront-	<i>senex, senis m, f</i>	old man, old woman (process of aging)	<i>ger-, geront-</i>
gynaec-	<i>femīna, ae f</i>	woman, female	<i>gynec-</i>
laryng-	<i>larynx, ngis m</i>	throat, larynx	<i>laryng-</i>
morph-	<i>forma, ae f</i>	appearance, form	<i>morph-</i>
noso-*	<i>morbus, i m</i>	disease	<i>noso-</i>
onc-	<i>tumor, ōris m</i>	tumor	<i>onc-</i>
ophthalm-	<i>ocūlus, i m</i>	eye	<i>ophthalm-</i>
ot-	<i>auris, is f</i>	ear	<i>ot-</i>
paed-	<i>infans, ntis m, f</i>	child, baby	<i>ped-</i>
phon- (-phonia)	<i>vox, vocis f</i>	voice	<i>phon- (-phonia)</i>
phthisi-	<i>tuberculōsis, is f</i>	tuberculosis	<i>phthisi-</i>
physi-	<i>natūra, ae f</i>	- nature; - normal vital processes in the organism	<i>physi-</i>
psych-	<i>anīmus, i m</i>	soul, consciousness, psyche	<i>psych-</i>
rhin-	<i>nasus, i m</i>	nose	<i>rhin-</i>
stomat- (-stomia)	<i>os, oris n</i>	mouth, oral cavity	<i>stomat-</i>

Prefix term-element

endo-	inside
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**nosologia – study about forms and classification of diseases.*

Simple medical terms:

Latin simple term	English equivalent	Meaning
aetiologia, ae f	etiology	<i>study about causes of a disease</i>
anamnēsis, is f	anamnesis	<i>the information about the beginning and development of a disease received by questioning the patient or his relatives</i>
diagnōsis, is f	diagnosis	<i>recognition, determining of a disease on the basis of anamnesis and investigation</i>
diagnostica, ae f	diagnostics	<i>1. science about diseases recognition; 2. process of a patient's examination</i>
epicrīsis, is f	epicrisis	<i>a conclusion containing explanation about possible causes of a disease, description of its course, treatment and outcome</i>
infarctus, us m	infarction, infarct	<i>a limited area of the tissue mortification in blood supply stop</i>
insultus, us m	stroke	<i>acute disturbance of blood supply in some part of brain (sometime causing inability to move a part of the body)</i>
necrōsis, is f	necrosis	<i>mortification (death) of tissues</i>
sclerōsis, is f	sclerosis	<i>hardening of tissues</i>
stenōsis, is f	stenosis	<i>narrowing of canals or openings</i>
symptōma, ātis n	symptom	<i>a sign, characteristic manifestation of a disease</i>
syndrōmum, i n	syndrome	<i>combination of symptoms which make up a certain clinical presentation</i>
therapia, ae f	therapy	<i>a science about treatment of internal diseases</i>
ulcus, ěris n	ulcer	<i>local destruction of the main skin layer or mucous lining, usually healing slowly and infected with pyogenic microorganisms</i>

EXERCISES

Ex. 1. Give the lexical form of Latin equivalents corresponding to the following Greek roots:

phthisi-, rhin-, dermat-, gynaec-, ophthalm-, embry-, morph-, ot-, physi-, stomat-, psych-

Ex. 2. Give Greek equivalents to the Latin ones:

femīna, ae f; nasus, i m; embryo, ōnis m; oculus, i m; cutis, is f; inside; natūra, ae f; os, oris n, forma, ae f; tuberculōsis, is f.

Ex. 3. Give definitions to the following words:

-lōgus	-iater	-lōgus; -iater
oncolōgus	paediater	psycholōgus
otorhinolaryngolōgus	phthisiater	psychiater
gynaecolōgus	phoniater	gerontolōgus
ophthalmolōgus		geriater
biolōgus		
embryolōgus		
stomatolōgus		
physiolōgus		
dermatolōgus		

Ex. 4. Make up terms with the following term-elements, explain their meaning:

- 1) dermat(o) -logia; (-lōgus);
- 2) ophthalm(o) -logia; (-lōgus; -metria; -scopia; -scopium);
- 3) physi(o) -logia; (-lōgus; -therapia);
- 4) psych(o) -logia; (-lōgus; -iatria; -iater; -therapia);
- 5) stomat(o) -logia; (-lōgus; -scopia);
- 6) paed- -iatria; (-iater);
- 7) phthisi- -iatria; (-iater).

Ex. 5. Make up and write down Latin terms with the following meaning:

1) scientific study about:

a) life; b) normal vital processes in the organism; c) man's psyche; d) embryo development; e) process of aging; f) external shape and inner structure of the human body; g) forms and classification of diseases.

2) field of medicine dealing with treatment of:

a) eye diseases; b) diseases of a female genital system; c) skin diseases; d) diseases of the oral cavity; e) old age diseases; f) psyche diseases (mental diseases); g) children diseases.

3) treatment with the help of:

a) influence on psyche; b) physical natural and artificial factors.

4) examination of:

a) the oral cavity; b) nose; c) fundus of the eye; d) ear; e) interior of the hollow organs or tubular formations.

5) a doctor who treats:

a) tuberculosis; b) ear, throat, nose; c) psychiatric diseases; d) eye diseases; e) skin diseases; f) oral cavity diseases.

Ex. 6. Explain the meaning of the following terms:

nosologia; morphologia; dermatologia; dermatolōgus; geriatria; gerodermia; gerontologia; dactyloscopia; ophthalmolōgus; otolaryngolōgus; otorhinolaryngologia; otoscopia; phonendoscopium; phthisiater; physiologia; physiolōgus; psychiater; rhinoscopia; rhinoscopium; stethoscopium; stomatoscopia.



* **Stethoscopium** (from Greek στηθοσκόπιο, στήθος (stéthos) - chest and σκοπή (skopé) - examination) – stethoscope – a medical instrument for listening to the action of someone’s heart or breathing, having a small disc that is placed against the chest and two tubes connected to earpieces.

* **Phonendoscopium** (from Greek φωνενδοσκόπιο, from φωνή (phone) – sound, ἔνδον (endo) -inner; internal and σκοπή (skopé) - examination) – phonendoscope – a form of stethoscope that intensifies the auscultatory sounds by means of two parallel resonating plates, one resting on the patient’s chest or attached to a stethoscope tube, the other vibrating in unison with it.

Ex. 7. Explain the meaning of the following terms:

- 1) **-iatria:** psychiatria, phthisiatria, paediatria, geriatria, phoniatria.
- 2) **-logia:** nosologia, dermatologia, gerontologia, oncologia, embryologia, otorhinolaryngologia.
- 3) **-scopia:** ophthalmoscopia, otoscopia, rhinoscopia, endoscopia.
- 4) **-lōgus:** dermatolōgus, ophthalmolōgus, physiolōgus, otolaryngolōgus.
- 5) **-therapia:** physiotherapia, psychotherapia.

Ex. 8. Give the Latin lexical form and the full definition of each term in English:

otorhinolaryngology, biologist, geriatrics, ophthalmology, phoniatics, physiotherapy, psychiatrics (psychiatry), physiology, stomatology, paediatrics, gerontology, ophthalmoscopy, otolaryngologist, psychologist, rhinoscopy, pediatrician, gynaecologist, rhinoscope.

Ex. 9. Learn the following professional expressions:

- 1) **Anamnēsis morbi.** Information about a disease.
- 2) **Anamnēsis vitae.** Information about life.
- 3) **Diagnōsis certa.** Definite diagnosis.
- 4) **Diagnōsis dubia.** Doubtful diagnosis.
- 5) **Diagnōsis probabilis.** Probable, preliminary diagnosis.
- 6) **Diagnōsis ex juvantibus.** Diagnosis on the basis of adjuvant means effect.
- 7) **Diagnōsis ex observatiōne.** Diagnosis on the basis of observation.

LESSON 3

§8. Terms denoting various psychosomatic pathologies, methods of electro- and roentgenographic control

The main objectives of the lesson are:

- 1) *to learn the term-elements denoting various psychosomatic pathologies, methods of electro- and roentgenographic control;*
- 2) *to be able to analyze compound Latin clinical terms;*
- 3) *to train in forming compound Latin clinical terms;*
- 4) *to train in translating clinical terms from Latin into English, and vice versa.*

Final term-elements

Term-element	Meaning	English equivalent
-pathia	general name of diseases	-pathy
-graphia	1) X-ray examination; 2) examination of electrical activity (<i>of the heart or brain</i>)	-graphy
-gramma	result of examination or X-ray picture	-gram
-algia	pain (ache)	-algia (-algy)
-odynia		-odynia
-phobia	obsessive fear	-phobia
-mania	abnormal addiction to something	-mania
Suffix term-elements		
-itis, itidis f	inflammation	-itis
-ōsis, is f	non-inflammatory disease	-osis

Root term-elements

Greek term-element	Latin term	Meaning	English equivalent
angi-	vas, vasis <i>n</i>	vessel	angi-
arthr-	articulatio, ōnis <i>f</i>	joint	arthr-
cardi- (-cardia)	cor, cordis <i>n</i>	heart	cardi- (-cardia)
cephal-; -cephalia	caput, itis <i>n</i>	head	cephal-
cholecyst-	vesīca fellea	gall-bladder	cholecyst-
cyst-	vesīca urinaria	urinary bladder	cyst-
encephal-	cerēbrum, i <i>n</i>	brain	encephal-
gloss-	lingua, ae <i>f</i>	tongue	gloss-

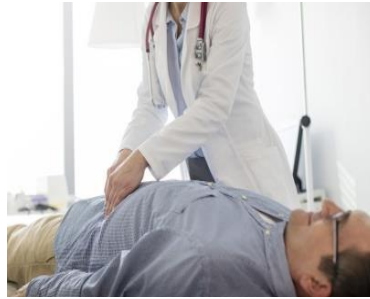
Greek term-element	Latin term	Meaning	English equivalent
hydr-	aqua, ae <i>f</i>	water	hydr-
my-, myos-	muscūlus, i <i>m</i>	muscle	my-
myel- (myelia)	medulla spinālis	spinal cord	myel- (-myelia)
neur-	nervus, i <i>m</i>	nerve	neur-
odont-	dens, dentis <i>m</i>	tooth	odont-
oste-	os, ossis <i>n</i>	bone	oste-
osteomyel-	medulla ossium	bone marrow	osteomyel-
path-	morbis, i <i>m</i>	disease, disorder	path-
phleb-	vena, ae <i>f</i>	vein, venous network	phleb-
pyr-	febris, is <i>f</i>	1. fire 2. fever	pyr-
somat-	corpus, ōris <i>n</i>	body	somat-
spondyl-	vertēbra, ae <i>f</i>	vertebra, backbone	spondyl-
tox-, toxic-	venēnum, i <i>n</i>	poison	tox-, toxic-

Simple medical terms:

Latin simple term	English equivalent	Meaning
angīna, ae <i>f</i>	quinsy	<i>acute infectious disease of pharyngeal lymphadenoid ring</i>
ascītes, ae <i>m</i>	ascites	<i>accumulation of fluid in the abdominal cavity</i>
asthenia, ae <i>f</i>	asthenia	<i>general weakness, characterized by exhaustion of nervous and mental processes in the organism</i>
auscultatio, ōnis <i>f</i>	auscultation (1)	<i>listening to the internal sounds of the body, usually using a stethoscope (performed for the purposes of examining the circulatory, respiratory and gastrointestinal systems)</i>
curatio, ōnis <i>f</i>	curing	<i>care, taking care of the patient, treatment</i>
cysta, ae <i>f</i>	cyst	<i>hollow tumor with liquid or semi-liquid contents</i>
habitus, us <i>m</i>	habitus	<i>combination of external signs, body-build</i>
hydrops, ōpis <i>m</i>	hydrops	<i>accumulation of fluid in some body cavity</i>
oedema, atis <i>n</i>	oedema	<i>accumulation of fluid in tissue spaces</i>
palpatio, ōnis <i>f</i>	palpation (2)	<i>medical diagnostic examination with the hands to discover internal abnormalities</i>
pathologia, ae <i>f</i>	pathology	<i>1) deviation from norm; 2) field of medicine, studying regularities of morbid processes arising</i>
percussio, ōnis <i>f</i>	percussion (3)	<i>a method of tapping body parts with fingers, hands, or small instruments</i>
toxicosis, is <i>f</i>	toxicosis	<i>any diseased condition due to poisoning</i>



(1)



(2)



(3)

EXERCISES:

Ex. 1. Give the lexical form of Latin equivalents corresponding to the following Greek roots:

encephal-, spondyl-, cholecyst-, phleb-, hydr-, toxic-, cephal-, somat-, arthr-, cardi-, path-, my-, oste-, angi-, odont-.

Ex. 2. Give Greek equivalents to the Latin ones:

medulla ossium; corpus, ōris n; lingua, ae f; vesīca fellea; os, ossis n; aqua, ae f; venēnum, i n; cerēbrum, i n; vertēbra, ae f; vas, vasis n; morbus, i m; muscūlus, i m; articulatio, ōnis f; vena, ae f; nervus, i m; dens, dentis m.

Ex. 3. Make up terms with the following term-elements, explain their meaning:

- 1) angi-(o) -gramma; (-logia);
- 2) arthr-(o) -pathia; (-gramma; -logia; -algia);
- 3) cardi-(o) -pathia; (-gramma; -logia; -lōgus);
- 4) cholecyst-(o) -pathia; (-gramma; -ītis);
- 5) cyst-(o) -pathia; (-gramma; -ītis);
- 6) encephal-(o) -pathia; (-gramma; -ītis);
- 7) my-(o), myos- -algia; (-odynia; -logia; -pathia; -ītis);
- 8) myel-(o) -pathia; (-ītis; -gramma);
- 9) neur-(o) -algia; (-ītis; -logia; -pathia; -osis);
- 10) odont(o) -algia; (-logia);
- 11) phleb-(o) -graphia; (-gramma; -ītis);
- 12) spondyl-(o) -ītis; (-ōsis; -pathia);
- 13) toxic- (o) -ōsis; (-logia; -phobia; -mania);
- 14) hydr-(o) -arthrōsis; (-cephalia; -phobia; -ophthalmus; -therapia).

Ex. 4. Explain the meaning of the following terms:

1) **-pathia:** cystopathia; cardiopathia; cholecystopathia; ophthalmopathia; rhinopathia; otopathia; osteopathia; angiopathia; neuropathia; myelopathia; arthropathia; encephalopathia.

2) **-graphia:** cardiographia; cystographia; phlebographia; spondylographia; cholecystographia; myelographia; angiographia.

3) **-gramma:** encephalogramma; angiogramma; phlebogramma.

4) **-algia:** cephalgia; odontalgia; glossalgia; arthralgia; neuralgia; myalgia.

5) **-phobia:** pyrophobia; toxicophobia; gynaecophobia; hydrophobia, nosophobia; phthisiophobia; iatrophobia.

6) **-itis:** encephalitis; myocarditis; glossitis; cholecystitis; otitis; arthritis; spondylitis. phlebitis; cystitis; rhinitis; peritonitis; dermatitis; neuritis; myositis.

7) **-osis:** dermatosis; spondylōsis; arthrosis; psychosis; neurosis; toxicosis.

Ex. 5. Make up and write down in Latin terms with the following meaning:

1) general name of the diseases of:

a) the eyes; b) gall-bladder; c) bones; d) nervous system; e) nose; f) back-bone; g) psyche; h) heart; i) brain; j) vessels; k) spinal cord; l) joints.

2) examination (by X-rays or electric current) of:

a) the venous network; b) gall-bladder; c) urinary bladder; d) heart; e) vessels; f) spinal cord.

3) inflammation of:

a) the gall-bladder; b) urinary bladder; c) skin; d) nose; e) oral cavity; f) tongue; g) joint; h) brain; i) peritoneum.

4) non-inflammatory disease of:

a) joints; b) skin; c) psyche; d) nervous system; e) backbone.

5) obsessive fear of:

a) women; b) poisoning with toxins; c) water; d) fire.

6) pathological addiction to:

a) poisonous substances and drugs; b) setting fire.

7) a) pain in joints; b) toothache; c) headache; d) muscle pain; e) tongue pain; f) pain in the chest; g) pain in the muscles of the chest.

Ex. 6. Explain the meaning of the following terms:

angiocardigraphia; cholecystitis; angiologia; cephalgia; encephalitis; encephalomyelitis; myocarditis; glossalgia; myositis; neurodermatitis; neurologus; osteoarthritis; osteoarthropathia; osteoarthrosis; osteomyelitis; osteologia; pathologia; peritonitis; phlebogramma; thoracodynia; thoracomyodynia; thrombophlebitis; neurasthenia; toxicosis; psychosis; psychopathia, myologia.

Ex. 7. Give the Latin lexical form and the full definition of each term in English:

arthropathy, stenosis, dermatosis, phlebography, cystitis, etiology, neuralgia, cardiogram, toxicomania, spondylopathy, diagnosis, angiology, cystography, rhinopathy, necrosis, osteitis, encephalogram, tonsillitis, arthralgia, psychosis, infarct, cardiopathy, therapy, odontalgia, rhinogram, myelitis, hydrarthrosis, sclerosis, cephalgia, toxicosis, angiopathy, arthritis, ulcer, glossalgia, epicrisis, pathophysiology.

Ex. 8. Learn the following professional expressions:

1) **Diagnōsis bona — curatio bona.** *Correct diagnosis — correct treatment.*

2) **Habitus aegroti.** *Patient's appearance.*

3) **Ubi pus, ibi evacua.** *Evacuate, if there is pus.*

4) **Ubi pus, ibi incisio.** *If there is pus, there is an incision.*

LESSON 4

§9. Term-elements used in the formation of terms denoting surgical manipulations, ways of surgical aid

The main objectives of the lesson are:

1) *to learn the term-elements used in the formation of terms denoting surgical manipulations, ways of surgical aid;*

2) *to be able to analyze compound Latin clinical terms;*

3) *to train in forming compound Latin clinical terms;*

4) *to train in translating clinical terms from Latin into English, and vice versa.*

Final term-elements

Term-element	Meaning	English equivalent
-cele	hernia, evagination, cyst	-cele
-centēsis	puncture	-centesis
-ectomia	complete removal (of an organ or tissue), excision	-ectomy
-pexia	fixation, attachment of some inner organ	-pexis, -pexy
-plastīca	plastic surgical operation, operative restoring of organ form or functions	-plasty
-ptōsis	descending	-ptosis

Term-element	Meaning	English equivalent
-rrhagia	bleeding	-rrhagia, -rrhage
-rrhēxis	tissue rupture	-rrhexis
-rrhaphia	suturing	-rrhaphy
-schĭsis	congenital splitting, dividing into two parts	-schisis
-stōma	artificial opening (fistula)	-stoma
-stomia	operation of making a fistula or anastomosis	-stomy
-tomia	dissection, making an incision	-tomy
Suffix term-element		
-ōma, ātis n	mainly benign tumor from some kind of tissue	-oma
-carcinōma, ātis n	malignant tumor from some kind of tissue	-carcinoma

Prefix term-elements

endo-	inner (mucous) lining	endo-
para-	cellular tissue around the organ	para-
peri-	outer covering (capsule, fibrous tissue, peritoneum covering an organ)	peri-

Root term-elements

Greek term-element	Latin term	Meaning	English equivalent
aden-	1) glandŭla, ae <i>f</i> 2) adenoĭdes, um <i>f</i> 3) nodus lymphaticus	1) glandular epithelium; 2) adenoids; 3) lymph node	aden-
cheil- (-cheilia)	labium, i <i>n</i>	lip	cheil- (-cheilia)
chondr-	cartilāgo, ĩnis <i>f</i>	cartilage	chondr-
col-, -colon	1) crassum, i <i>n</i> 2) colon, i <i>n</i>	1) large intestine; 2) colon	col-, -colon
colp-	vagĭna, ae <i>f</i>	vagina	colp-
enter-	intestĭnum, i <i>n</i>	intestine (mainly small intestine)	enter-
gastr-	ventricŭlus, i <i>m</i>	stomach	gastr-
hepat-	jecur, ōris <i>n</i>	liver	hepat-

Greek term-element	Latin term	Meaning	English equivalent
kerat-	cornea, ae <i>f</i>	1) cornea; 2) corneal layer of epiderm ²	<i>kerat-</i>
lapar-	abdomen, ĩnis <i>n</i>	abdomen	<i>lapar-</i>
mast- (-mastia), mamm-	mamma, ae <i>f</i>	mammary gland	<i>mast-, mamm-</i>
1) metr-, hyster- 2) -metra	utĕrus, i <i>m</i>	1)uterus; 2)in the uterus	<i>metr-, hys- ter-</i>
nephr-	ren, renis <i>m</i>	kidney	<i>nephr-</i>
proct-	rectum, i <i>n</i>	rectum	<i>proct-</i>
pyel-	pelvis renālis	renal pelvis	<i>pyel-</i>
salping- (-salpinx)	tuba uterīna	uterine tube	<i>salping-</i>
splen- (-splenia)	lien, liēnis <i>m</i>	spleen	<i>splen-</i>
typhl-	caecum, i <i>n</i>	blind intestine (caecum)	<i>typhl-</i>

Simple medical terms:

Latin simple term	English equivalent	Meaning
adenotomia, ae <i>f</i>	adenotomy	<i>removal of adenoids</i>
amputatio, ōnis <i>f</i>	amputation	<i>operation of cutting off an extremity, its part or some organs</i>
cancer, cri <i>m</i>	cancer	<i>group of diseases involving abnormal cell growth with the potential to spread to other body parts</i>
carcinōma, ātis <i>n</i>	carcinoma	<i>malignant tumor developing from scaly or glandular epithelium</i>
cirrhōsis, is <i>f</i>	cirrhosis	<i>replacement of the liver or lung parenchyma for fibrous tissue</i>
exstirpatio, ōnis <i>f</i>	extirpation	<i>complete removal of an organ</i>
hernia, ae <i>f</i>	hernia	<i>evagination of an organ or its part through openings in the anatomical formations</i>
herniotomia, ae <i>f</i>	herniotomy	<i>hernia repair</i>

² *kerat-* also indicates processes of skin keratinization: **keratoma, atis *n*** — keratoma, benign skin new growth with excessive keratinization; **keratōsis, is *f*** — an area of skin marked by overgrowth of horny tissue

Latin simple term	English equivalent	Meaning
prolapsus, us m	prolapse	<i>falling, displacement of an inner organ through a natural opening</i>
resectio, ōnis f	resection	<i>partial removal of an organ, usually connecting of its preserved parts</i>
sarcōma, ātis n	sarcoma	<i>malignant tumor consisting of immature connective tissue</i>

EXERCISES:

Ex. 1. Give the lexical form of Latin equivalents corresponding to the following Greek roots:

aden-; lapar-; mast-; chondr-; typhl-; nephr-; colp-; hyster-; kerat-; salping-; enter-; splen-; cheil-; hepat-; gastr; proct-; col-; metr-; pyel-.

Ex. 2. Give Greek equivalents to the Latin ones:

tuba uterīna; ventricūlus, i m; vagīna, ae f; intestīnum, i n; crassum, i n; cornea, ae f; utērus, i m; adenoīdes, um f; ren, renis m; pelvis renālis; abdomen, īnis n; labium, ii n; rectum, i n; caecum, i n; glandula, ae f; mamma, ae f; cartilāgo, īnis f; lien, liēnis m.

Ex. 3. Make up terms with the following term-elements, explain their meaning:

- 1) aden(o) -tomia; (-itis; -oma; -pathia; -carcinoma);
- 2) cheil(o) -itis; (-osis; -schisis; -plastica);
- 3) col(o) -tomia; (-ptosis; -stomia; -itis; -pexia);
- 4) colp(o) -itis; (-ptosis; -scopia; -rrhaphia);
- 5) enter(o) -itis; (-pexia; -ptosis; -rrhagia; -rrhaphia; -plastica; -colitis; -pathia);
- 6) gastr(o) -algia; (-itis; -ectomy; -cele; -ptosis; -rrhagia; -rrhaphia; -scopia; -tomia);
- 7) mast(o) -itis, (-pathia; -ectomy);
- 8) hyster(o) -ectomy; (-rrhaphia; -pexia; -ptosis; -tomia);
- 9) kerat(o) -itis; (-ectomy; -tomia; -osis; -plastica);
- 10) lapar(o) -centesis; (-scopia; -tomia);
- 11) metr(o) -pathia; (-ptosis; -rrhagia; -tomia);
- 12) salping(o) -ectomy; (-tomia; -itis; -graphia);
- 13) nephr(o) -pathia; (-pexia; -ptosis; -rrhagia; -osis; -tomia);
- 14) pyel(o) -nephritis; (-cystitis; -graphia; -tomia);
- 15) proct(o) -algia; (-itis; -logus; -logia; -ptosis; -scopia; -rrhagia; -ectomy; -pexia);
- 16) splen(o) -itis; (-ptosis; -tomia; -pexia; -rrhagia; -ectomy);
- 17) typhl (o) (-itis; -tomia);

- 18) hepat (o) -itis; (-pathia; -pexia; -ptosis);
- 19) ot (o) -itis; (-rrhagia; -scopia);
- 20) oste(o) -logia (-ectomia; -oma; -pathia; -tomia; -itis).

Ex. 4. Determine term-elements common to each word row. Explain the meaning of the terms:

- 1) gastrocēle; rectocēle; laryngocēle;
- 2) glossalgia; glossītis; glossoplastica; glossoptosis; glossorrhagia; glossorrhaphia;
- 3) cardiocentesis; laparocentesis; thoracocentesis;
- 4) cheiloschisis; palatoschisis; onychoschisis (*onych - nail*);
- 5) appendectomy; tonsillectomia, keratectomia; mastectomy; cystectomy;
- 6) enterocolītis; gastroduodenītis; gastroenterītis; gastroenterocolītis; lymphadenītis;
- 7) myōma; odontōma; osteōma; neurōma;
- 8) gastroptōsis; hepatoptōsis; hysteroptōsis; colpoptōsis; nephroptōsis;
- 9) adenotomia; embryotomia; myelotomia; phlebotomia; osteotomia.

Ex. 5. Explain the meaning of the terms:

colpohysterotomia, colpohysteropexia; palatoschīsis; cardiorrhēxis; gastroenterologia; lymphadenōma; myotomia; nephroptōsis; cheiloschīsis; metro(hystero)salpingographia; hydrosalpinx; chondrosarcōma; embryotomia; ophthalmorrhēxis; chondrītis; septoplastica; endometrītis; parametrītis; perimetrītis; endocardītis; endophthalmītis; pericardītis; perinephrītis; paranephrītis; pyelonephrītis; paracolītis; paraproctītis; periadenītis; periarteriītis; periarthrītis; perichondrītis; periduodenītis; peritonītis; periostītis; perisalpingītis.

Ex. 6. Make up and write down in Latin terms with the following meaning:

1) complete removal of:

- a) the stomach; b) mammary gland; c) kidney; d) rectum; e) spleen; f) uterus.

2) dissection of:

- a) colon; b) vagina; c) stomach; d) eye cornea; e) uterus; f) rectum;
- g) abdominal wall.

3) fixation, attaching of:

- a) pathologically floating uterus; b) small intestine; c) colon; d) rectum.

4) bleeding from:

- a) the eye; b) the nose; c) the lip; d) the tooth socket after removing a tooth;
- e) the ear; f) the uterus; g) the rectum.

5) suturing of:

- a) the small intestine; b) the uterus; c) the ruptured nerve; d) a vessel.

6) benign tumor from:

a) bone tissue; b) vascular tissue; c) muscular tissue; d) fibrous tissue; e) muscular and fibrous tissue; f) glandular epithelium; g) cartilaginous tissue.

7) plastic repair (surgery) of:

a) the small intestine; b) the tongue; c) the nose; d) the dividing wall (septum); e) the lip; f) the stomach.

Ex. 7. Tell in what cases the TE “-stomia” means “making a fistula” and in what cases “making anastomosis”:

gastrostomia, gastroenterostomia, gastroduodenostomia, enterostomia, gastrooesophagostomia, nephropyelostomia, colostomia, laryngostomia, cholecystoenterostomia, cholecystocolostomia, proctostomia.

Ex. 8. Give the Latin lexical form and the full definition of each term in English:

hepatitis, embryotomy, salpingopexy, arthrocentesis, metrorrhexis, colpohysteropexy, ascites, gastroptosis, cystoschisis, keratoplasty, adenotomia, oesophagostoma, gastrocele, proctoscopy, angiorrhagia, enterocolitis, auscultation, mammogram, salpingectomy, typhlocele, ophthalmorrhexis, asthenia, pyelitis, nephropathy, proctologist, angioma, palpation, splenoptosis, infarct, nephritis, hydrops, colonorrhagia, enterogastritis, hydrosalpinx, cystorrhagia, myocele, osteoma, colpocystotomy, cheiloschisis, percussion, salpingogram, laparoscopy, neurorrhaphy, oedema, cardiorrhexis.

Ex. 9. Learn the following professional expressions:

- 1) Situs viscerum inversus.** *Abnormal position of viscera.*
- 2) Facies Hippocratica.** *Hippocrates' face (face of a dying man).*
- 3) Rubor, tumor, calor, dolor et functio laesa.** *Redness, tumor, fever, pain and impaired function (classic signs of inflammation).*

LESSON 5

§10. REVISION Lessons 1–4

The main objectives of the lesson are:

1) to know the term-elements used in names of medical specialities and related disciplines, specialists, methods of primary diagnostic control, appliances, and instruments;

2) to know the term-elements used in names of various psychosomatic pathologies, methods of electro- and roentgenographic control;

3) to know the term-elements used in names of surgical manipulations, ways of surgical aid;

- 4) to know and to be able to use simple medical terms;
- 5) to be able to analyze compound Latin clinical terms;
- 6) to train in forming compound Latin clinical terms;
- 7) to train in translating clinical terms from Latin into English, and vice versa.

Ex. 1. Give Greek equivalents to the following words:

abdomen; lymph node; vein; head; ear; vessel; large intestine; water; vertebra; old age; small intestine; uterine tube; stomach; lip; eye; gall-bladder; child; heart; life; disease; fire; spinal cord; skin; kidney; woman; muscle; renal pelvis; nose; voice; cornea; bone marrow; vagina; mind; tuberculosis; uterus; spleen; external shape; tooth; nature; blind intestine; mouth; mammary gland; joint; urinary bladder; nerve; bone; body; rectum; poison.

Ex. 2. Explain the meaning of the terms:

adenalgia, phthysiater, stomatoscopia, osteitis, encephalogramma, psychosis, thoracocentesis, gastrotoma, cystorrhagia, diagnosis, salpingectomy, physiologia, angiopathia, myelitis, cancerophobia, rhinogramma, colpotomy, osteopathia, toxicosis, neurologus, adenocarcinoma, keratotomia, dermatosis, gynaecologus, myasthenia, oncologus, enterocolitis, psychiatria, aetiologia, osteoma, biologia, cardiologus, physiotherapia, otorhinolaryngologia, hydrarthrosis, spondylitis, laparoscopia, cystoschisis, myocèle, embryologia, geriater, cholecystitis, gastrocèle, neuralgia, pyelitis, osteonecrosis, lymphangioma, mastogramma, ophthalmoscopia, proctologus, somatologia, toxicomania, odontalgia, nephrographia, paediatria, mammogramma, arthropathia, hepatitis, gastroenteritis, osteosclerosis, metrorrhexis, splenoptosis, herniotomia

Ex. 3. Make up the Latin one-word terms with the following meaning:

- 1) the science of the blood vessels;
- 2) a specialist treating ear, nose and larynx diseases;
- 3) inflammation of the stomach, the small and large intestines;
- 4) record of heart investigation;
- 5) branch of clinical medicine treating rectum diseases;
- 6) pain in the head;
- 7) general name of the mammary gland diseases;
- 8) non-inflammatory disease of skin;
- 9) X-ray examination of veins;
- 10) benign tumor from vascular tissue;
- 11) an area of skin marked by overgrowth of horny tissue;
- 12) inflammation of the renal pelvis and the urinary bladder;
- 13) puncturing a joint;
- 14) a specialist treating tumorous diseases;
- 15) bleeding from the colon;

- 16) the surgical removal of the embryo;
- 17) rupture of the eyeball;
- 18) inflammation of the liver;
- 19) the operative fixation of the uterus through the vagina;
- 20) any kind of pain affecting a joint;
- 21) a doctor treating tuberculosis;
- 22) branch of medicine treating children diseases;
- 23) inflammation of the bronchi;
- 24) examination of the brain activity with electrical current;
- 25) inflammation of the urinary bladder;
- 26) accumulation of water in a joint;
- 27) plastic surgery of the cornea;
- 28) specialist studying mental activities of a human personality;
- 29) instrumental examination of the rectum;
- 30) inflammation of the uterus inner lining;
- 31) benign skin new growth with excessive keratinization;
- 32) general name of the kidney disease;
- 33) instrumental examination of the eye;
- 34) any plastic operation for repairing or reconstructing urinary bladder;
- 35) puncture of the abdomen;
- 36) hardening of the bone tissue;
- 37) surgical fixation of the uterine tube;
- 38) a scientist studying normal vital processes in human organism.

Ex. 4. Make up terms with the following term-elements:

-itis: 1) inflammation of the gall-bladder; 2) inflammation of urinary bladder; 3) inflammation of skin; 4) inflammation of nose; 5) inflammation of oral cavity; 6) inflammation of joint; 7) inflammation of brain; 8) inflammation of peritoneum.

-rrhagia: 1) bleeding from the eye; 2) bleeding from nose; 3) bleeding from lip; 4) bleeding from tooth socket after removal of a tooth; 5) bleeding from ear; 6) bleeding from uterus; 7) bleeding from rectum.

-phobia: 1) obsessive fear of women; 2) obsessive fear of poisoning with toxins; 3) obsessive fear of water; 4) obsessive fear of fire; 5) obsessive fear of cancer.

-pathia: 1) general name of the diseases of the eyes; 2) general name of the diseases of the gall-bladder; 3) general name of the diseases of the bones; 4) general name of the diseases of the nervous system; 5) general name of the diseases of the nose; 6) general name of the diseases of the backbone; 7) general name of the diseases of the psyche; 8) general name of the diseases of the heart; 9) general name of the diseases of the brain; 10) general name of the diseases of the vessels; 11) general name of the diseases of the spinal cord; 12) general name of the diseases of the joints.

-graphia: 1) X-ray examination of the venous network; 2) X-ray examination of the gall-bladder; 3) X-ray examination of the urinary bladder; 4) X-ray examination of the vessels; 5) X-ray examination of the spinal cord; 6) examination of the heart activity with electrical current.

-oma: 1) benign tumor from glandular epithelium; 2) benign tumor from bone tissue; 3) benign tumor from vascular tissue; 4) benign tumor from muscular tissue; 5) benign tumor from muscular and fibrous tissue; 6) benign tumor from cartilaginous tissue; 7) benign tumor from nerve tissue.

-iatria: 1) field of medicine dealing with treatment of old age diseases; 2) field of medicine dealing with treatment of psyche diseases (mental diseases); 3) field of medicine dealing with treatment of children diseases; 4) field of medicine dealing with treatment of tuberculosis.

-logia: 1) science which studies life; 2) science which studies normal vital processes in the organism; 3) science which studies man's psyche; 4) science which studies embryo development; 5) science which studies process of aging; 6) science which studies external shape and inner structure of the human body; 7) studies about forms and classification of diseases; 8) field of medicine dealing with treatment of eye diseases; 9) field of medicine dealing with treatment of diseases of a female genital system; 10) field of medicine dealing with treatment of skin diseases; 11) field of medicine dealing with treatment of gastrointestinal tract.

enter- 1) fixation of the small intestine; 2) inflammation of the small intestine; 3) suturing of the intestine; 4) descending of the small intestine; 5) bleeding from the small intestine; 6) general name of the diseases of the small intestine; 7) plastic surgery of the small intestine; 8) inflammation of the large and small intestine.

thorac-, -thorax: 1) a diagnostic puncture of the wall of the thorax; 2) pain in the chest; 3) pain in the muscles of the chest; 4) plastic surgery of the chest.

typhl-: 1) a hernia involving the cecum; 2) inflammation of the cecum; 3) incision of the cecum.

LESSON 6

§11. Term-elements used in the formation of the names of laboratory-diagnostic definitions

The main objectives of the lesson are:

1) to learn the term-elements used in names of laboratory-diagnostic definitions;

2) to be able to analyze compound Latin clinical terms;

3) to train in forming compound Latin clinical terms;

4) to train in translating clinical terms from Latin into English, and vice versa.

Final term-elements

Term-element	Meaning	English equivalent
-lŷsis	1) breakdown, dissolution, destruction; 2) freeing from adhesions by surgical way (<i>heart, lung, uterine tube, brain membrane</i>)	- <i>lysis</i>
-aemia	presence of something in the blood	- <i>aemia</i>
-ectāsis (-ectasia)	pathological widening	- <i>ectasia</i>
-genēsis	process of development	- <i>genesis</i>
-lithus (lith-)	stone	- <i>lith</i>
-lithiāsis	stone disease, stone formation	- <i>lithiasis</i>
-penia	decreased number of some blood cells	- <i>penia</i>
-philia	tendency to something	- <i>philia</i>
-poēsis	formation	- <i>poesis, -poiesis</i>
-rrhoea	1) outflow of secretion, mucus; 2) loss (<i>hair</i>)	- <i>rrhea</i>
-menorrhoea	monthly uterine bleeding (menstruation)	- <i>menorrhea</i>
-stāsis	flow stop; congestion of physiological fluid	- <i>stasis</i>
-uria	presence of something in the urine	- <i>uria</i>
Suffix term-elements		
-ōsis, is <i>f</i>	increased amount of blood cells; multiplicity of manifestation	- <i>osis</i>

Root term-elements

Greek term-element	Latin term	Meaning	English equivalent
chole- (-cholia)	1) fel, fellis <i>n</i> 2) bilis, is <i>f</i>	bile	<i>chole- (-cholia)</i>
chyl-, lymph-*	lymp ^h a, ae <i>f</i>	lymph	<i>chyl-, lymph-</i>
cyt- (-cytus)*	cellŭla, ae <i>f</i>	cell, blood corpuscle	<i>cyt- (-cyte)</i>
erythr-	ruber, bra, brum	red, related to erythrocytes	<i>erythr-</i>
glyk-, glucos-	dulcis, e	sweet, presence of sugar, glucose	<i>glyc-</i>
galact-, -galactia	lac, lactis <i>n</i>	milk	<i>galact-, -galactia</i>
haem-, haemat-	sanguis, inis <i>m</i>	blood	<i>hem-, hemat-</i>
hidr-	sudor, ōris <i>m</i>	sweat	<i>hidr-</i>
hygr-	humor, ōris <i>m</i>	moisture, humor, fluid	<i>hygr-</i>
leuc-	albus, a, um	white, related to leucocytes	<i>leuc-</i>

Greek term-element	Latin term	Meaning	English equivalent
lip-, seb-	1) adeps, ĩpis <i>m</i> 2) sebum, i <i>n</i>	1) fatty tissue of the body; 2) fatty secretion of the sebaceous glands	lip-, seb-
mening-	meninx, ngis <i>f</i>	brain membrane	mening-
pneum-, pneumat-	aĕr, aĕris <i>m</i>	air or gas in the organ or cavity	pneum-, pneumat-
pneum-, pneumon-	pulmo, ōnis <i>m</i>	lung	pneum-, pneumon-
py-	pus, puris <i>n</i>	pus	py-
sero-	serum, i <i>n</i>	blood serum	sero-
thyr-	glandŭla thyr(e)oidea	thyroid gland	thyro-
trich-(-trichia)	pĭlus, i <i>m</i> capillus, i <i>m</i>	hair	trich-
thorac-, -thōrax	thorax, pleural cavity		thorac-, -thōrax
thromb-	thrombus, i <i>m</i>	blood clot	thromb-
ur-	urĭna, ae <i>f</i>	1) urine; 2) urinary organs; 3) nitrous substance	ur-

*The meaning "lymph" is denoted by the initial roots **chyl-** and **lymph-**.

The root **chyl-** is used if lymph is present in a cavity, in the blood or urine:

chylothōrax, ācis m — a condition in which there is an effusion of lymph into the thoracic cavity, chylothorax;

chyluria, ae f — a condition in which the urine contains lymph, chyluria.

The root **lymph-** is used if lymph is considered as a part of lymphatic cells, glands and vessels:

lymphangiĭtis, iĭdis f — an inflammation of lymphatic vessels, lymphangiitis.

**Myelocytus, i m* — myelocyte — bone marrow cell.

Simple medical terms:

Latin simple term	English equivalent	Meaning
asthma, ātis <i>n</i>	asthma	suffocation attacks of different origin
exsudātum, i <i>n</i>	exudate	inflammatory fluid coming out from small vessel walls in inflammation
glaucoma, ātis <i>n</i>	glaucoma	eye disease characterized by elevated intraocular pressure
(haemo)dialĭsis, is <i>f</i>	(haemo)dialysis	method of treating renal failure by means of the apparatus "artificial kidney"
hidrōsis, is <i>f</i>	hidrosis	process of sweating, perspiration
hygrōma, ātis <i>n</i>	hygroma	an accumulation of fluid in a sac, cyst or bursa causing swelling

Latin simple term	English equivalent	Meaning
leucōsis, is f	leucosis	general name of tumors arising from blood cells (blood cancer)
panaritium, i n	panaritium	acute purulent inflammation of the tissue around the nail
polypus, i m	polyp	pathologic formation protruding above the organ surface and connected to it with a pedicle
sepsis, is f	sepsis	infection with pyogenic microorganisms
struma, ae f	goiter	enlarged thyroid gland as a result of iodine deficiency
thrombōsis, is f	thrombosis	formation of a blood clot inside a blood vessel, obstructing the blood flow through the circulatory system

EXERCISES:

Ex. 1. Give the lexical form of Latin equivalents corresponding to the following Greek roots:

chyl-, haemat-, onc-, erythr-, glyk-, pneumon-, thorac-, cyt-, mening-, thyr-, py-, leuc-, ur-, glucos-, hidr-, trich-, chole-, sero-.

Ex. 2. Give Greek equivalents to the Latin ones:

cellūla, ae f; albus, a, um; pulmo, ōnis m; sanguis, ĩnis m; pus, puris n; serum, i n; lymphā, ae f; urīna, ae f; glandūla thyr(e)oidea; tumor, ōris m; thorax, ācis m; thrombus, i m; ruber, bra, brum; bilis, is f.

Ex. 3. Make up terms with the following term-elements, explain their meaning:

- 1) chol(e)- -aemia; (-stāsis; -lithiāsis; -cystītis; -cystogramma; -angītis);
- 2) chyl(o)- -stāsis; (-thōrax; -uria);
- 3) cyt(o)- -logia; (-gramma; -diagnōsis);
- 4) erythr(o)- -cŷtus; (-dermia; -poēsis; -cytōsis);
- 5) haem(o)- -rrhagia; (-lŷsis; -philia; -thōrax);
- 6) haemat(o)- -ōma; (-lōgus; -uria);
- 7) hidr(o)- -adenītis; (-adenōma, -cystōma; -ōsis);
- 8) leuc(o)- -cŷtus; (-cytōsis; -ōsis; -derma; -lŷsis; -poēsis);
- 9) myel(o)- -ītis; (-cŷtus; -graphia; -pathia; -tomia);
- 10) onc(o)- -logia; (-lōgus; -genēsis);
- 11) thromb(o)- -cŷtus; (-phlebītis; -philia; -cytōsis; -ōsis);
- 12) py(o)- -dermia; (-metra; -salpinx; -thōrax; -uria);

- 13) sero- -diagnōsis; (-logia; -therapia);
 14) ur(o)- -logia; (-aemia; -graphia; -lithiāsis; -lithus; -lōgus; -poēsis; -sepsis);
 15) pneum(o)- -tomia; (-lŷsis; -thōrax; -peritoneum);
 16) lip- -ōma; (-aemia);
 17) thorac(o)- -algia; (-centēsis; -scopia; -odynia; -tomia; -plastīca);
 18) trich(o)- -rrhoea; (-logia; -logus; -pathia; -osis; -algia).

Ex. 4. Determine term-elements common to each word row. Explain the meaning of the terms:

- 1) rhinorrhoea; trichorrhoea; otorrhoea;
- 2) cardiolŷsis; pneumolŷsis; meningolŷsis; osteolŷsis; hydrolŷsis;
- 3) uropoēsis; erythropoēsis; leucopoēsis; haemopoēsis;
- 4) haemorrhagia; haemolŷsis; haemophilia; haemothōrax; haematolōgus;
- 5) glucosuria; glykaemia;
- 6) hydrothōrax; hydropneumothōrax; pneumothōrax; haemothōrax;
- 7) phlebolithus; urolithus; rhinolithus; nephrolithus; enterolithus; hepatolithus; odontolithus;
- 8) cholelithiāsis; hepatolithiāsis; urolithiāsis; enterolithiāsis.

Ex. 5. Explain the meaning of the terms:

strumectomy; haematosalpinx; typhlectasia; chondrogenēsis; galactostāsis; pneumohaemothōrax; leucocyturia; salpingolŷsis; adiponecrōsis; thyreotoxicōsis; albuminuria; hidradenītis; hidradenōma; hydrōma; lipuria; pathogenēsis; thyreoidectomy; thyreoidītis; odontogenēsis; thrombōsis; cholecystolithotomy; leucōsis; leucocytōsis; myelogenēsis; dacryorrhoea (*dacry-* tears); urolithiāsis; strumītis.

Ex. 6. Make up and write down in Latin terms with the following meaning:

1) surgical freeing from adhesions with surrounding tissues of:

a) heart; b) lung; c) brain membranes.

2) presence of.....in the blood:

a) urea and other nitrous substances; b) poisonous substances; c) bile; d) fatty substances; e) sugar.

3) presence of.....in the urine:

a) glucose; b) pus; c) lymph; d) blood; e) protein (*albumin-*); f) leucocytes above norm; g) fat.

4) decreased number of:

a) leucocytes; b) lymphocytes; c) monocytes; d) thrombocytes (platelets);
e) blood cells; f) erythrocytes.

5) increased number of:

a) red blood cells; b) platelets; c) white blood cells.

6) process of development:

a) tumor; b) disease; c) cartilage; d) bone.

7) formation of:

a) erythrocytes; b) monocytes; c) leucocytes; d) blood; e) urine.

8) tendency to:

a) bleeding; b) clots formation.

9) puncture for diagnostics of:

a) the chest; b) heart; c) abdominal wall.

**10) a) venous stone; b) urinary stone; c) nose stone; d) intestinal stone;
e) liver stone; f) kidney stone.**

Ex. 7. Give the Latin lexical form and the full definition of each term in English:

typhlectasia, hidradenitis, ascites, pneumocentesis, cytology, glycaemia, chylothorax, uraemia, monocytopenia, adenotomy, galactostasis, thyrotoxicosis, hemophilia, erythropenia, lymphangitis, trichorrhea, cholecystolithiasis, hematometra, osteochondrosis, pneumorrhaphy, dialysis, thoracometry, meningolysis, hematology, pathogenesis, pyorrhea, leucosis, oesophagostenosis, hematuria, chondroma, gastrectasia, thrombosis, sarcoma, lymphostasis, chyluria, pyosalpinx, extirpation, hemogram, resection, enterolithiasis, pyopneumothorax, bronchiectasis, odontolith, chondropathy, hidrosis, thrombocytopoiesis, hematologist, sepsis, leucocytosis, thoracocentesis, pyuria, goiter.

Ex. 8. Learn the following professional expressions:

1) Non est via in medicina sine lingua Latina. *There is no way in medicine without latin.*

2) Contra vim mortis non est medicamen in hortis. *There is no remedy against power of death in gardens.*

3) In vivo. *On a living organism.*

4) In vitro. *In laboratory conditions.*

5) In situ. *On site, locally, in place.*

LESSON 7

§12. Final term-elements used in the formation of names of biochemical, physiological processes in the human body

The main objectives of the lesson are:

1) to learn final term-elements used in names of biochemical and physiological processes in the human body; to learn Latin and Greek prefixes used in clinical terms;

2) to be able to analyze compound Latin clinical terms;

3) to train in forming compound Latin clinical terms;

4) to train in translating clinical terms from Latin into English, and vice versa.

Final term-elements

Term-element	Meaning
-arthria	ability to pronounce distinctly
-aesthesia	sensitivity
-chlorhydria	hydrochloric acid (HCl)
-chylia	gastric juice
-ergia; -urgia	reactivity, activity, work
-kinesia	movement
-mnesia (mnem)	memory
-pepsia	digestion
-phagia (phag-)	1) swallowing; 2) eating up
-plasia	formation of an organ or tissue
-plegia	paralysis of muscles group
-tensio	pressure in the vessels or hollow organs
-thermia	temperature, heating
-tonia	tonus (of muscles, vessels)
-trophia	nutrition of tissues and organs
optic-; -opia, -opsia	1) related to eyesight; 2) diagnostic investigation

§13. Latin and Greek prefixes in clinical term formation

There are many terms in medical terminology, biology which are formed by prefixal means. Latin prefixes prevail in anatomical nomenclature and prefixes of Greek origin prevail in terminology of pathologic anatomy, physiology, clinical disciplines. As a rule, Latin prefixes are added to Latin roots and Greek ones are added to Greek roots.

In anatomical terminology Latin and Greek doublet prefixes indicate organs location in anatomical space: inside, higher, lower, in front of, behind.

Clinical terminology uses more abstract concepts and employs more often secondary, figurative meanings of prefixes which developed on the basis of their direct meanings.

Prefix		Meaning	Examples
a-, an- (before a vowel)	Latin	absence	adentia – <i>absence of some or all teeth</i>
		deprivation	anaesthesia – <i>method of blocking pains in surgical operations</i>
		inability	aphagia – <i>inability to swallow</i>
dia-	Greek	through	diathermia – <i>heating of deep lying body tissues by high-frequency and great strength currents</i>
dys-	Greek	disorder, impairment	dysplasia – <i>disorder of organs or tissues development during embryogenesis</i>
		difficulty	dysphagia – <i>difficulty in swallowing</i>
		disturbance	dysphonia – <i>disturbance of voice formation</i>
ec-	Greek	out (of)	ectopia = ec- + topos <i>place (literally 'out of place')</i> congenital organ displacement
in-	Latin	in, into	invasio – <i>invasion of the disease causative agents, parasites into an organism</i>
im- be- fore b, m			implantation – <i>implantation, inserting materials foreign to the organism (plastic, metals and others) and implants of living nature (cartilages, bones and others) into the body</i>
ir-			irradiatio – <i>radial spreading of pain to nearby body parts</i>
endo-	Greek	inner lining of a hollow organ	endometrium – <i>mucous tunic of the uterus</i>
hyper-	Greek	increase, elevation	hyperaesthesia – <i>increased sensitivity</i>
hypo-	Greek	decrease	hypotensio – <i>decreased arterial pressure</i>
		reduction	hypoplasia – <i>underdevelopment of an organ or body part</i>
		weakening of the main concept	hypomnesia – <i>weakening of memory</i>
meta-	Greek	transition from one place or state into another	metaplasia – <i>transformation of one tissue kind into another one;</i> metastasis – <i>spreading of pathological material from one organism place to another</i>
para-	Greek	1. cellular tissue near or around the organ;	parametrium – <i>cellular tissue around uterus;</i>
		2. false;	paramnesia – <i>pseudorecollections, «recollection» of events which never occurred;</i>
		3. from both sides	paraplegia – <i>paralysis of the same extremities</i>

Prefix		Meaning	Examples
peri-	Greek	outer covering	perimetrium – serous uterus covering; periosteum – external covering of bones
pro-	Greek	forward, in advance	prognōsis = pro forward+ agnos recognition, cognition – foreseeing; scientifically well-grounded supposition about further disease course; progeria – untimely organism aging
re-	Latin	recurrence, restoration	recidivum recidivation – relapse, recurrence of a disease in its typical or not fully manifested form; replantatio replantation – operation of reattachment of the amputated in trauma part of an organ or extremity
		reverse action	refluxus reflux – reverse flow
sub-	Latin	less, in a lesser degree	subacūtus – subacute (about a disease which has no acute and no chronic course); subictērus – the slightest degree of jaundice
super-	Latin	more, excess	superacūtus – extremely acute (about a disease) superinfectio – new, repeated contamination while the primary infection still persists
syn-, sym-	Greek	connection	syndactylia – fusion of fingers or toes
		joint action	synergismus – joint activity of organs in the same direction
Greek numerals as prefixes			
hemi-		half-, one-sided	hemiplegia – hemiplegia, paralysis of muscles of one body side
mono-		one-, one, single	monoplegia – monoplegia, paralysis of one extremity
di-		two-, double	diplegia – diplegia, bilateral paralysis of the same body parts (both legs, both halves of the face)

Simple medical terms:

Latin simple term	English equivalent	Meaning
allergia, ae f	allergy	reaction by person's immune system to harmless substances (food, plant pollen, dust, etc.)
apathia, ae f	apathy	state of indifference or the suppression of emotions
autopsia, ae f	autopsy	a medical procedure involving the examination of a dead body
biopsia, ae f	biopsy	the removal of tissue from any body part to examine it for disease

Latin simple term	English equivalent	Meaning
consilium, i n	consultation	<i>council of some physicians to reveal the character of the disease</i>
hypermetropia, ae f	hypermetropia	<i>farsightedness or longsightedness</i>
myopia, ae f	myopia	<i>nearsightedness or shortsightedness</i>
implantatio, ōnis f	implantation	<i>inserting materials foreign to the organism (plastic, metals and others) and implants of living nature (cartilages, bones, valves and others) into the body</i>
invasio, ōnis f	invasion	<i>1. penetration of pathogenic agents into the organism; 2. contamination with animal parasites</i>
irradiatio, ōnis f	irradiation	<i>radial spread of pain to nearby body parts</i>
metabolismus, i m	metabolism	<i>exchange of substances: combination of chemical transformations taking place in a living organism;</i>
paralysis, is f	paralysis	<i>total absence of voluntary movements</i>
recidivum, i n	recidivation	<i>relapse of a disease in its typical or non-typical form</i>
refluxus, us m	reflux	<i>reverse flow</i>
rehabilitatio, ōnis f	rehabilitation	<i>period of restoring for working activities</i>
remissio, onis f	remission	<i>temporal relief of a disease</i>
replantatio, ōnis f	replantation	<i>operation of reattaching the amputated extremity back to its place</i>
subfebrilis, e	subfebrile	<i>slightly elevated temperature (subfebrile temperature – 37.1 – 38°C)</i>
sympathia, ae f	sympathy	<i>an expression of understanding and care for someone else's suffering</i>
transplantatio, ōnis f	transplantation	<i>grafting of organs or tissues</i>

EXERCISES:

Ex. 1. Make up terms with the following term-elements, explain their meaning:

1) **a- (an-)**

-aesthesia; -aesthesiologus; -chylia; -pathia; -phagia; -plasia; -tonia; -chlorhydria; -trophia; -arthria; -phonia; -vitaminosis; -trichosis; -menorrhoea;

2) **dys-**

-arthria; -kinesia; -phagia; -plasia; -tonia; -trophia; -arthrosis; -enteria; -ostosis; -phonia; -hidrosis; -menorrhoea;

3) **hyper-**

-aesthesia; -chlorhydria; -kinesia; -plasia; -thermia; -tonia; -chylia; -trophia; -keratosis; -thyreosis; -hidrosis; -ergia;

- 4) **hypo-**
 -plasia; -aesthesia; -chylia; -kinesia; -thermia; -tonia; -thyreosis; -hidrosis;
 -ergia; -vitaminosis; -chlorhydria;
- 5) **sym- (syn-)**
 -biosis; -pathia; -chondrosis; -ostosis; -desmosis; -ergismus;
- 6) **para-**
 -metritis; -nephritis; -proctitis; -mnesia; -plegia; -spasmus;
- 7) **peri-**
 -arthritis; -carditis; -chondritis; -metritis; -nephritis; -ostitis;
- 8) **endo-**
 -scopia; -metritis; -cervicitis; -carditis; -ophthalmitis;
- 9) **hydr(o)-**
 -arthrosis; -lysis; -phobia; -ophthalmus; -salpinx; -therapia; -thorax.

Ex. 2. Determine term-elements common to each word row. Explain the meaning of the terms:

- 1) glucosuria; glykaemia; hyperglykaemia; hypoglykaemia;
- 2) hyperaesthesia; anaesthesia; anaesthesiologia; anaesthesiologus; hypaesthesia;
- 3) hemialgia; hemianopsia; hemiatrophia; hemicrania; hemiplegia;
- 4) monoplegia; monophobia; mononeuritis; monodactylia; monocytus;
- 5) glossoplegia; ophthalmoplegia; diplegia; cystoplegia; hemiplegia.

Ex. 3. Make up and write down in Latin terms with the following meaning:

- 1) inflammation of cellular tissue near colon: _____*colitis*;
- 2) inflammation of serous membrane covering the uterus:
 _____*metritis*;
- 3) inflammation of mucous tunic of the uterus: _____*metritis*;
- 4) eversion of the eyelids out: _____*tropion*;
- 5) changed reactivity of the organism: *all*_____;
- 6) disturbance of quantity and composition of normal microflora of the organism: _____*bacteriosis*;
- 7) abnormality of organs or tissues development during embryogenesis:
 _____*plasia*;
- 8) organism overheating: _____*thermia*;
- 9) organism supercooling: _____*thermia*;
- 10) increased function of the thyroid gland: _____*thyreosis*;
- 11) decreased function of the thyroid gland: _____*thyreosis*;
- 12) decreased arterial pressure: _____*tensio*;
- 13) transformation of one kind of tissue into another: _____*plasia*;
- 14) untimely organism aging: _____*geria*;
- 15) heating of deep lying body tissues by high-frequency and great strength currents: _____*thermia*;

- 16) field of medicine dealing with operative and manual treatment of diseases: *chir* _____;
- 17) disturbance of voice formation: _____*phonia*;
- 18) disturbance of digestion: _____*pepsia*;
- 19) disorder of muscles and vessels tonus: _____*tonia*;
- 20) lower jaw and chin sharply protruding forward: _____*genia*;
- 21) living of various organisms together: _____*biosis*;
- 22) fusion of fingers or toes: _____*dactylia*;
- 23) enhanced formation of some tissues cellular elements: _____*plasia*;
- 24) partial or complete memory loss: _____*mnesia*;
- 25) excessive thickening of epidermis corneal layer: _____*keratosis*.

Ex. 4. Make up the Latin dictionary form of one-word terms with the following meaning:

- 1) inability to swallow;
- 2) abnormal slowness and weakness of the process of digestion;
- 3) inflammation of cellular tissue near urinary bladder;
- 4) paralysis of similar parts on both sides of the body;
- 5) mucous tunic of the uterus;
- 6) loss of half the vision in each eye;
- 7) fusion of fingers or toes;
- 8) inflammation of the cellular tissue around the kidney;
- 9) an excess of blood in any part of the body;
- 10) impairment of any voice;
- 11) paralysis of one side of the body;
- 12) inflammation of outer (serous membrane) covering the uterus;
- 13) increased amount of sugar in the blood;
- 14) examination for purposes of diagnosis of issue cut from the living body;
- 15) high arterial blood pressure;
- 16) inflammation of cellular tissue near rectum;
- 17) loss of memory;
- 18) very high body temperature (overheating).

Ex. 5. Give the Latin lexical form and the full definition of each term in English:

atrachia, dysphonia, hypermetropia, etiology, parametritis, aphagia, hypogalactia, thyrotoxicosis, monophobia, extirpation, sympathy, adentia, diagnosis, paracystitis, ophthalmoplegia, hypomnesia, anuria, infarction, dysuria, hyperkinesia, atrophy, hypothermia, epicrisis, anaesthesiologist, metaplasia, biopsy, myoplegia, anhidrosis, hypopepsia, apathy, dystonia, glaucoma, hypertension, dysthyreosis, thermotherapy, amputation, dysarthrosis, hypergia, autopsy, amnesia, diathermia, syndactylia, myopia.

Ex. 6. Learn the following professional expressions:

- 1) **Per os.** *Through mouth, perorally.*
- 2) **Per rectum.** *Through rectum.*
- 3) **Per se.** *As it is.*
- 4) **Per vaginam.** *Through vagina.*
- 5) **Per vias naturāles.** *Through natural ways.*

LESSON 8

§14. Term-elements used in the formation of terms denoting properties, qualities, relations, various signs

The main objectives of the lesson are:

- 1) *to learn the term-elements used in the formation of terms denoting properties, qualities, relations, various signs;*
- 2) *to be able to analyze compound Latin clinical terms;*
- 3) *to train in forming compound Latin clinical terms;*
- 4) *to train in translating clinical terms from Latin into English, and vice versa.*

Final term-elements

Term-element	Meaning	English equivalent
-gēnus, a, um	having some origin; causing something, being caused by something; arising from – in something	-genic, -genous
-phrenia, ae f	spirit, mind, intellect ('phren' – diaphragm, «location of the soul»)	-phrenia
-prīvus, a, um	conditioned by absence of some organ	-privic
-trōpus, a, um	selectively directed to something, affecting something	-tropic

Root term-elements

Term-element	Meaning
acr-	distal body parts; height
aetio-	cause, reason
auto-	self-
brady-	slow
chlor(o)-	green; yellow-green

Term-element	Meaning
chrom(o)-; chromat(o)-; -chromia	color; coloration
cyan(o)-	blue
heter(o)-	different
hom(o)-	identical, the same
iso-	identical, equal
macr(o)-	large (in size)
mega-, megal-, -megalia	large, enlarged
melan(o)-	black, melanin
micr(o)-	small (in size)
noo(s)-	thinking processes
olig(o)-	scanty, small (in quantity)
orth(o)-	straight, correct, corresponding to normal position
pan-	all, whole
poli(o)-	gray, related to gray substance of the brain
poly-	many (in quantity); large amount of
tachy-	fast, rapid
xanth(o)-	yellow
xen(o)-	another's, foreign
xer-	dry, dryness

Simple medical terms:

Latin simple term	English equivalent	Meaning
transplantatio, ōnis f	transplantation	<i>a medical procedure in which an organ is removed from one body and placed in the body of a recipient, to replace a damaged or missing organ</i>
allograft, ōnis f	allograft	<i>transplantation of organs or tissues from a human being to a human being</i>
autograft, ōnis f	autograft	<i>transplantation of man's own tissues or organs</i>
endogēnus, a, um	endogenic	<i>arising inside the organism</i>
exogēnus, a, um	exogenic	<i>arising under the influence of external effects</i>
iatrogenia, ae f	iatrogenia, iatrogenic disease	<i>psychogenic disease or neurosis arising as a result of imprudent remark of a doctor about the diagnosis</i>
isograft, ōnis f	isograft	<i>transplantation of organs or tissues from the genetically identical organisms</i>

Latin simple term	English equivalent	Meaning
megalomania, ae f	megalomania	<i>a mental state characterized by delusions of self-importance and greatness</i>
paroxysmus, i m	paroxysm	<i>bad attack, bad fit</i>
oligophrenia, ae f	oligophrenia	<i>mental retardation</i>
orthodontia, ae f	orthodontics	<i>field of medicine dealing with correction of the teeth and jaws deformities</i>
orthopaedia, ae f	orthopedics	<i>field of medicine dealing with correction of bones deformities</i>
orthoptica, ae f	orthoptics	<i>field of medicine dealing with correction of eyes deformities and cross-sightedness</i>
orthostasis, is f	orthostasis	<i>vertical position of the body</i>
schizophrenia, ae f	schizophrenia	<i>a mental disorder marked by hallucinations and delusions, and a decreased ability to understand reality</i>
xanthochromia, ae f	xanthochromia	<i>yellow coloration of the cerebrospinal fluid</i>
xanthopsia, ae f	xanthopsia	<i>condition in which all objects seem to be yellow</i>
xenotransplantatio, ōnis f	xenotransplantation	<i>transplantation of organs or tissues from an animal to a human being (xenos – another's) or from an animal to an animal</i>

EXERCISES:

Ex. 1. Make up terms with the following term-elements, explain their meaning:

- 1) brady- (-arthria; -cardia; -kinesia; -phagia);
- 2) tachy- (-cardia; -phagia);
- 3) hetero- (-genus; -morphus; -chromia);
- 4) macr- (-cheilia; -glossia; -mastia);
- 5) micr- (-gastria; -scopia; -chirurgia);
- 6) acr- (o) -aesthesia; (-phobia; -odynia);
- 7) olig- (-uria; -cytaemia; -dactylia; -dentia; -kinesia; -phrenia; -menorrhoea);
- 8) orth(o)- (-paedia; -odontia; -optica; -stasis);
- 9) poly- (-neuritis; -avitaminosis; -uria);
- 10) xero- (-dermia; -ophthalmia; -stomia);
- 11) melano- (-dermia; -oma; -uria);
- 12) xantho- (-opsia; -dermia; -chromia);

- 13) xeno- (-transplantatio; -phobia);
14) pan- (vasculitis; -hysterectomy; -carditis; -algia).

Ex. 2. Make up and write down in Latin terms with the following meaning:

1) selectively directed to (affecting):

a) the nervous system; b) psychic processes; c) thinking processes; d) cause of disease; e) the skin.

2) a) having different origin; b) having the same origin; c) causing a disease; d) arising inside the organism; e) arising under the influence of external effects; f) having aural origin (arising in the ear); g) having dental origin (arising in the tooth); h) causing suppuration (pus formation); i) causing cancer; j) arising in the blood.

3) inflammation of the spinal cord gray substance.

4) insufficient (scanty) number of blood cells.

Ex. 3. Explain the meaning of the terms:

heterometropia; isometropia; neurotropus; nootropus; thyreogenus; thyreotropus; thyreoprivus; isotonia; megalomania; megacolon; splenomegalia (megalosplenia); hepatosplenomegalia; tachycardia; poliomyelitis; achromatopsia; achromatosis; gastrogenus; psychogenus; pathogenus; haematogenus; nephrogenus; autotransplantatio; homogenus; schizophrenia.

Ex. 4. Explain the meaning of the following terms:

1. mega-, megal-, -megal-:

a) a condition of abnormally large fingers or toes; b) enlargement of the spleen; c) a condition of enlargement of the liver; d) duodenum of abnormally large size; e) abnormally largehead.

2. melan-:

a) a condition in which there is an unusually large accumulation of melanin in the skin; b) a form of skin cancer that arises in the cells producing black pigment; c) the presence of melanin in the urine;

3. micr-:

a) congenital smallness of the stomach; b) examination using a microscope; c) surgical operation on the small anatomical structures with the help of a microscope; d) general reduction in size of the spinal cord; e) abnormal smallness of the mammary glands; f) an unusually small size of head.

4. olig-:

a) less urination than normal; b) a congenital deficiency of fingers or toes; c) congenital lack of intellect; d) less menstrual blood flow than usual; e) insufficient number of blood cells.

5. -tropus:

a) directed to the cause of a disease; b) selectively directed to thinking processes; c) affected psychic or mental functioning or behavior; d) localizing selectively in nerve tissue; e) having a stimulating effect on body growth; f) having an affinity for the skin.

6. –genus:

a) having different origin; b) having the same origin; c) having thyroid gland origin; d) occurring in the blood; e) causing cancer; f) arising in the kidney; g) arising in the stomach; h) producing any disease.

Ex. 5. Give the Latin lexical form and the full definition of each term in English:

neurogenic, xerodermia, metabolism, hepatomegalia, orthodontics, etiology, microcephaly, oliguria, myopia, tachycardia, invasion, otogenic, etiotropic, bradycardia, panhysterectomy, extirpation, psychogenic, orthopedics, rehabilitation, tachyphagia, melanoma, autopsy, nephrogenic, megaduodenum, implantation, oligodontia, leucosis, micromastia, polyavitaminosis, melanoderma, remission, oligocytaemia, enteromegalia, polioencephalitis, replantation, somatotropic, allergy, hypermetropia, oligophrenia, xenotransplantation, orthoptics, acrophobia.

Ex. 6. Learn the following professional expressions:

- 1) **Status commūnis.** *General condition.*
- 2) **Status locālis.** *Local condition.*
- 3) **Status naturālis.** *Natural condition.*
- 4) **Status praesens aegroti.** *Present condition of a patient.*

LESSON 9

§15. Revision Lessons 1-8

The main objectives of the lesson are:

1) *to know the term-elements used in names of medical specialities and related disciplines, specialists, methods of primary diagnostic control, appliances, and instruments;*

2) *to know the term-elements used in names of various psychosomatic pathologies, methods of electro- and roentgenographic control;*

3) *to know the term-elements used in names of surgical manipulations, ways of surgical aid;*

4) *to know the term-elements used in the formation of the names of laboratory-diagnostic definitions;*

5) *to know Latin and Greek prefixes used in clinical term formation;*

6) *to know the term-elements used in formation of terms denoting properties, qualities, relations, various signs;*

7) *to know and to be able to use simple medical terms;*

8) *to be able to analyze compound Latin clinical terms;*

9) *to train in forming compound Latin clinical terms;*

10) *to train in translating clinical terms from Latin into English, and vice versa.*

EXERCISES:

Ex. 1. Explain the meaning of the terms:

amnesia; thrombocytopoësis; biolögia; peritonitis; angiopathia; odontolithus; cardiolögus; thermotherapia; aplasia; cardiogënus; leucosis; geriäter; pancarditis; bradyphagia; pneumocentësis; gynaecolögus; somatotropus; acraesthesia; haematologia; apathia; mammogramma; typhlectasia; neurolögus; asthenia; ophthalmoscopia; otorhinolaryngologia; dermatösis; physiologia; hyperkeratösis; phtisiäter; tachycardia; toxicomania; xerophthalmia; proctolögus; oliguria; psychiatria; dermatotropus; encephalogramma; amenorrhoea; hemicrania; myoplegia; colpotomia; rhinogramma; paraproctitis; chondropathia; haemarthrösis; somatologia; stomatoscopia; hemianopsia; hydrophobia; osteopathia; chylothörax; anaesthesiolögus; neurotropus; osteonecrösis; dysthyreösis; erythropenia; glossoplegia; sympathia; glykaemia; hyperthermia; hypotonia; leucocytösis; melanoderma; cholecystitis; hypokinesia; odontogenësis; oligocytaemia; hidradenitis; pyosalpinx; oligophrenia; gastrocële; colostomia; salpingectomy; dysarthria; symbiosis; pericarditis; nootropus; hyperaemia.

Ex. 2. Make up the one-word terms with the following meaning:

- branch of clinical medicine treating rectum diseases;
- an inflammation of the small intestine and the stomach;
- abnormal fast swallowing;
- causing cancer;
- less menstrual blood flow than usual;
- increased number of leucocytes in the blood;
- pain in the head;
- causing the growth of tumors;
- the origin and development of a disease;
- a malignant tumor arising from glandular epithelial;
- slow swallowing;
- inflammation of outer (serous membrane) covering the uterus;
- the origin and formative development of teeth;
- a rapid heart beat;
- presence of lymph in the urine;
- branch of medicine treating children diseases;
- insufficient number of blood cells;
- paralysis of similar parts on both sides of the body;
- tumor from vascular tissue;
- a process of sweating;
- bleeding from the urinary bladder;
- enlargement of the spleen;
- medical specialist treating blood diseases;

- a congenital fistula of the urinary bladder;
- inability to swallow;
- tendency towards bleeding;
- hardening of bony spaces;
- acute inflammation of the gray substance of the brain;
- science studying drugs and their usage;
- inflammation of lymphatic vessels;
- treatment by means of natural or artificial physical factors;
- rupture of the eyeball;
- specialist studying forms of life and living organisms;
- loss of half the vision in each eye;
- a malignant tumor of connective tissue;
- a state in which most of the teeth are lacking;
- paralysis of muscle;
- the presence of blood in the urine;
- inflammation of the sweat glands;
- dilatation of the stomach;
- narrowing of the oesophagus;
- a doctor treating mental diseases;
- surgical freeing from adhesions of a uterine tube;
- the X-ray examination of mammary glands;
- impairment of voice;
- making an incision into the cornea;
- a puncture of the thoracic wall;
- the X-ray examination of the great vessels and the chambers of the heart;
- effusion of the lymph into the thoracic cavity;
- a natural or artificial gastric fistula.

Ex. 3. Give the Latin lexical form and the full definition in English of the terms:

arthrocentesis; hyperglycaemia; cardiogram; arthralgia; cardiography; hydrometra; gerontology; bradycardia; cephalgia; hematology; polyavitaminosis; mammogram; neurogenic; dystrophy; pneumorrhaphy; keratoplasty; hemophilia; cholelithiasis; salpingopexy; nephrogenic; colonorrhagia; meningoencephalitis; homogenous; toxicosis; hypertension; ophthalmoscopy; endometritis; autopsy; otogenic; hepatomegalia; otolaryngologist; cystitis; nephropathy; ophthalmoplegia; pediatrician; micromastia; atrichia; phthisiologist; hypomnesia; osteochondrosis; proctoscopy; psychiatrist; etiology; colpohysteropexy; psychogenic; atrophy; psychologist; rhinoscopy; somatology; phlebography; stomatology; thoracometry; biopsy; mastopathy; cytology; hyperesthesia; dysmenorrhoea; enteromegalia; paranephritis; oncologist; typhlocele; oesophagostoma; otogenic; heterogenous; etiotropic.

SAMPLE OF THE FINAL TEST

“Clinical terminology”

I. Give the meaning of the terms:

1) atrichia; 2) polyuria; 3) panvasculitis; 4) cystoscopy; 5) gynaecologist;
6) leucopenia; 7) haemorrhagia; 8) aetiology; 9) hemiplegia; 10) hyperkinesia;
11) gastroduodenostomy; 12) neurotropus; 13) dysopia; 14) xerodermia;
15) thyroprivus; 16) cancerogenus; 17) otorrhoea; 18) cheiloschisis.

II. Make up the terms with the following term-elements:

derm- (dermat-) 1) inflammation of the skin; 2) affecting the skin; 3) doctor who treats skin diseases; 4) dryness of the skin; 5) field of medicine studying skin diseases.

-sclerosis 1) hardening of bone tissue; 2) hardening of kidneys; 3) hardening of arteries; 4) hardening of lung tissue.

-ectasia 1) widening of the stomach; 2) widening of the renal pelvis; 3) widening of the bronchi; 4) widening of the cecum.

III. Make up the terms with the following meaning:

1) pain in many joints; 2) increased number of erythrocytes in the blood;
3) stop of lymph flow; 4) tooth stone; 5) process of disease or morbid process arising and development; 6) plastic surgery of the thorax; 7) tendency to blood clots formation; 8) suture repair of any vessel; 9) suturing the ends of the ruptured nerve together; 10) evagination of an organ or its part through openings in the anatomical formations.

PHARMACEUTICAL TERMINOLOGY

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 № 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)**. INN is a nomenclature system used to identify active ingredients of medicines. Each INN is a unique name that is internationally consistent and globally recognized. The INN system began operating in 1953 and is now administered by the World Health Organization. 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, dragée, powder, species, pill).

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

§2. Brief information about medicinal forms

Liquid medicinal forms

Emulsion (*emulsum, i n*) is a liquid medicinal form in which water-insoluble fluids (fatty oils, balsams) are in an aqueous medium in a suspended state and look like small droplets.

Extract (*extractum, i n*) is obtained from medicinal vegetable raw materials.

Infusion (*infusum, i n*) and **decoction** (*decoctum, i n*) are liquid medicinal forms which are aqueous extracts from vegetable raw materials.

Liniment (*linimentum, i n*) is a medicinal form for external use. Most liniments are homogeneous mixtures in a state of thick fluids.

Mixture (*mixtura, ae f*) is a liquid medicinal form which is obtained when dissolving or mixing some solid substances in various liquid bases or when mixing some fluids.

Mucilage (*mucilago, ĩnis f*) is obtained by dissolving mucilaginous substances of vegetable origin or by extracting mucilaginous substances from vegetable raw materials by means of drawing as well as from starch processed with hot water.

Solution (*solutio, ōnis f*) is a liquid medicinal form which is obtained by means of dissolution of a solid pharmaceutical substance or a fluid in a solvent. There are aqueous, alcoholic, glyceric and oil solutions. They are used for internal and external use as well as for injections.

Suspension (*suspensio, ōnis f*) is a liquid medicinal form in which solid finely crushed insoluble pharmaceutical substances are in a suspended state in some fluid.

Tincture (*tinctura, ae f*) is a liquid clear coloured to different degrees spirituous extract from vegetable raw materials.

Soft medicinal forms

Ointment (*unguentum, i n*) is a viscous medicinal form for external use.

Paste (*pasta, ae f*) is a variety of ointments containing not less than 25 percent of powdery substances.

Suppository (*suppositorium, i n*) is a dosed medicinal form, solid at room temperature and melting or dissolving at body temperature. There are rectal suppositories (*suppositoria rectalia*) and vaginal suppositories (*suppositoria vaginalia*).

Solid medicinal forms

Capsule (*capsula, ae f*) is a cover for powdery, paste-like, granulated or liquid pharmaceutical substances in doses used orally. Medicinal preparations having an unpleasant taste, smell or an irritant effect are produced in capsules.

Dragée (*dragée*) is a solid medicinal form in doses for internal use obtained by making multiple layers of pharmaceutical substances and adjuvants over sugary granules.

Granule (*granulum, i n*) is a solid medicinal form in a state of homogeneous particles (grains, kernels) of rounded, cylindrical or irregular form.

Pill (*pilula, ae f*) is a solid medicinal form in doses for internal use which resembles small balls of 0.1 – 0.5 grammes. Nowadays pills are prescribed very seldom.

Powder (*pulvis, ěris m*) is a solid medicinal form for internal and external use having dry property.

Tablet (*tabuletta, ae f*) is a solid medicinal form in doses obtained by pressing pharmaceutical substances or mixtures of pharmaceutical substances and adjuvants.

Species (*species, ērum f*) is a mixture of several sorts of crumbled or more seldom of whole vegetable medicinal raw materials.

Different medicinal forms

Aerosol (*aërosolum, i n*) is a spray for inhalations or external use.

Ophthalmic films (*membranulae ophthalmicae*) are sterile polymeric films containing pharmaceutical substances in definite doses and soluble in tear fluid.

§3. Medicine names

There are three types of medicine names:

1) *non-proprietary names*, 2) *chemical names* and 3) *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**.

<i>English name</i>	<i>Latin name</i>
corvalole	Corlvalolum, i n
atropine	Atropinum, i n
chloroform	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 “Pyrcofen” – tabulettae “Pyrcofenum”;
ointment “Laevomecol” - unguentum “Laevomecolum”.*

§4. Capital and small letter

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

1) names of medicines: *Analgīnum, i n; Platyphyllīnum, i n; Spiritus aethylīcus – ethyl alcohol;*

2) names of medicinal plants: *Valeriāna, ae f; Althaea, ae f;*

3) names of chemical elements: *Calcium, i n; Kalium, i n;*

BUT: 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: *Recīpe (Take); Da (Give); Signa (Mark);*

5) the words *Aqua, ae f (water), Acīdum, i n (acid), Spirītus, us m (alcohol), Oleum, i n (oil);*

6) the first word of each new prescription line.

Small letter is always used in the following cases:

1) names of salt anions (*Atropini sulfas*);

2) all the adjectives and participles (*Aqua destillata*).

Capital / small letter may vary depending on the position of the word:

names of medicinal forms and names of parts of medicinal plants have the capital letter if they begin a prescription line and have the small letter if they don't begin a prescription line.

§5. 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 in Nominative Sing. / Plur.	medicine name or medicinal plant in Genitive Sing. with the capital letter

tablets of analgine – tabulettae Analgini;

Zinc paste = paste of zinc – pasta Zinci;

tincture of motherwort – tinctura Leonuri.

1	2
medicinal form in Nominative Sing. / Plur.	«trade medicine name» in Nominative Sing.

tablets «Citramon» – tabulettae «Citramonum»;

suppositories «Anusol» - suppositoria «Anusolum».

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

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

³ *coated tablets of ampicilline – tabulettae* ¹ *Ampicillini* ² *obductae*;
ophthalmic ointment of tetracycline – unguentum Tetracyclini ophthalmicum;
liquid extract of motherwort – extractum Leonuri fluidum.

REMEMBER!

❖ 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**:

vaginal suppositories with synthomycine – suppositoria vaginalia cum Synthomycino.

❖ 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 (*membranulae ophthalmicae*):

membranulae ophthalmicae cum Pilocarpini hydrochlorido.

❖ 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 Persicorum;

olive oil = oil of olives – Oleum Olivarum.

❖ 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 piperitae.

Vocabulary 1

Liquid medicinal forms

1) decoctum, i n	<i>decoction</i>	dec.
2) emulsum, i n	<i>emulsion</i>	emuls.
3) extractum, i n	<i>extract</i>	extr.
4) infusum, i n	<i>infusion</i>	inf.
5) linimentum, i n	<i>liniment</i>	lin.
6) mixtura, ae f	<i>mixture</i>	mixt.
7) solutio, ōnis f	<i>solution</i>	sol.
8) suspensio, ōnis f	<i>suspension</i>	susp.

❖ **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

Ex. 1. Latinize the following medicine names:

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

Ex. 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.

Ex. 3. Choose the correct endings and translate into English:

tabulettae Nitroglycerini (*obducta; obductae; obducti*); suspensio (*Hydrocortisonum; Hydrocortisoni*); (*tinctura; tincturae*) Valerianae; (*unguentum; unguenti*) Erythromycini; herba (*Leonuri; Leonurus*); infusum (*herba; herbae*) Leonuri; extractum Leonuri (*fluidum; fluidi; fluidus*); extractum Belladonnae (*siccum; siccae*); cortex (*Querci; Quercus*); decoctum (*cortex; cortis; corticis*) Quercus; suppositoria (*vaginālis; vagināle; vaginalia*).

Ex. 4. Put the following words into the necessary cases:

unguentum, i n - _____ (*Gen. Sing.*); tabuletta, ae f - _____ (*Nom. Plur.*); radix, icis f - _____ (*Gen. Sing.*); suppositorium, i n - _____ (*Nom. Plur.*); Quercus, us f - _____ (*Gen. Sing.*); siccus, a, um - _____ (*Nom. Sing., neuter*); vaginālis, e - _____ (*Nom. Plur., neuter*); pulvis, ěris m - _____ (*Gen. Sing.*); Belladonna, ae f - _____ (*Gen. Sing.*); obductus, a, um - _____ (*Nom. Plur., feminine*).

Ex. 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... vagināl... cum Synthomycino.

Ex. 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.*

§6. 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

<i>Imperative Singular</i>	<i>Translation</i>
Da!	Give!
Signa!	Mark!
Sterilīsa!	Sterilize!
Misce!	Mix!
Recīpe!	Take!
Repēte!	Repeat!
Verte!	Turn over!

!!!After verb “**Recīpe**” medicine names, names of medicinal forms or names of parts of medicinal plants are used in **Genitive** Singular or Plural.

Subjunctive mood. Modus conjunctivus

<i>Subjunctive Singular</i>	<i>Translation</i>	<i>Subjunctive Plural</i>	<i>Translation</i>
Detur	<i>Let it be given.</i>	Dentur	<i>Let them be given.</i>
Signētur	<i>Let it be marked.</i>		
Sterilisētur	<i>Let it be sterilized.</i>		
Misceātur	<i>Let it be mixed.</i>		
Repetātur	<i>Let it be repeated.</i>		

REMEMBER the following prescription phrases!

Da tales doses numēro ... Give such doses in number ...
 Dentur tales doses numēro ... Let such doses be given in number ...

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

- 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.*

§7. Standard prepositional phrases used in prescription

ad 100 ml	<i>up to 100 ml</i>
ad usum internum (externum)	<i>for internal (external) use</i>
contra tussim	<i>against / for cough</i>
cum Glycerino	<i>with glycerine</i>
cum radicibus	<i>with roots</i>
ex 0,5 – 180 ml	<i>from 0.5 gram (of dry substance) – 180 ml (of decoction, infusion)</i>

in ampullis
 in capsulis gelatinosis
 in charta cerata
 in tabulettis
 in tabulettis obductis
 in vitro nigro
 per se
 pro auctore (pro me)
 pro infantibus
 pro injectionibus
 pro narcosi
 pro suspensiōne

in ampoules
in gelatinous capsules
in waxed paper
in tablets
in coated tablets
in a dark phial
by itself
for the author (for me)
for children
for injections
for narcosis
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 Ricini	castor oil	
5) spiritus, us m	alcohol	spir.
6) Spiritus aethylicus, Spiritus aethylici (Gen.Sing.)	ethyl alcohol	

Names of medicinal plants

7) Hypericum, i n	St. John's Wort	
8) Mentha, ae f	mint	
9) Mentha piperita, Menthae piperitae (Gen.Sing.)	peppermint	
10) Rheum, i n	rhubarb	
11) Urtica, ae f	nettle	
12) Viride nitens, Viridis nitentis (Gen.Sing.)	brilliant green	

Parts of medicinal plants

13) folium, i n	leaf	fol.
14) rhizoma, atis n	rhizome	rhiz.

Adjectives

15) aethylicus, a, um	ethyl	
16) destillatus, a, um	distilled	destill.
17) gelatinosus, a, um	gelatinous	gel.
18) oleosus, a, um	oily	
19) purificatus, a, um	purified	purif.
20) spirituosus, 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

Ex. 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.

Ex. 2. Use the necessary prepositions or endings and translate into English:

Nystatinum ____ tabulettis obduct ____; tabulettae Furacilin__ ad usum extern ____; Oleum Ricini ____ capsul ____ gelatinosis; rhizoma ____ radicibus Valerian ____; pulvis Polysorb ____ tussim; solutio Glucos ____ in ampull ____; suppositoria rectal ____ cum Theophyllin ____; tabulettae "Allochol ____" ____ infantibus; tabulettae Ampicillin ____ pro suspension ____.

Ex. 3. Translate into Latin minding the prepositional phrases:

solution of penicillin for injections; collargol in a dark phial; suppositories with ichthyole; oily solution of camphor for external use; tablets of dimedrole for children; water for injections; validole in capsules; dry mixture against cough for children; powder with levorine for suspension; solution of nitroglycerine in ampoules; rhizome with roots of valerian; theophylline by itself; predione for narcosis; amidoprocaine in coated tablets.

Ex. 4. Translate into Latin minding the prescription verb forms:

1. Give such doses in number 10 in tablets.
2. Give in waxed paper.

3. Mix to make a suppository.
4. Give such doses in number 20 in ampoules.
5. Mix to make ointment.
6. Sterilize.
7. Give in a dark phial.
8. Mix to make liniment.
9. Mark.
10. Mix to make species.
11. Give such doses in number 15 in gelatinous capsules.
12. Take ethyl alcohol 70% up to 100 ml.
13. Mix to make powder.
14. Give such doses in number 10 in coated tablets.
15. Mix to make paste.

Ex. 5. Read and analyze the underlined endings:

1. Recīpe: Menthōli 0,2
Spirītus aethylīci 90% 50,0
Misce. Da. Signa:
2. Recīpe: Aquae Menthae piperītae
Glycerīni
Spirītus aethylīci 70% ana 30 ml
Misce. Da. Signa:
3. Recīpe: Unguenti Xeroformii 3% 10,0
Da. Signa:
4. Recīpe: Solutiōnis Phentanyli 0,005% – 5 ml
Da tales doses numēro 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.

§8. 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, ūris n (3rd declension);*

Phosphorus, i m (masculine).

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

fluorine: Phthorum and Fluorum;

magnesium: Magnium and Magnesium.

Names of the most important chemical elements

<i>Latin name</i>	<i>Symbol</i>	<i>English name</i>	<i>Latin name</i>	<i>Symbol</i>	<i>English name</i>
Aluminium, i n	<i>Al</i>	<i>aluminium</i>	Hydrargyrum, i n	<i>Hg</i>	<i>mercury</i>
Argentum, i n	<i>Ag</i>	<i>silver</i>	Iodium, i n	<i>I</i>	<i>iodine</i>
Arsenicum, i n	<i>As</i>	<i>arsenic</i>	Kalium, i n	<i>K</i>	<i>potassium</i>
Aurum, i n	<i>Au</i>	<i>gold</i>	Lithium, i n	<i>Li</i>	<i>lithium</i>
Borum, i n	<i>B</i>	<i>boron</i>	Magnesium, i n	<i>Mg</i>	<i>magnesium</i>
Bromum, i n	<i>Br</i>	<i>bromine</i>	Magnium, i n		
Barium, i n	<i>Ba</i>	<i>barium</i>	Manganum, i n	<i>Mn</i>	<i>manganese</i>
Bismuthum, i n	<i>Bi</i>	<i>bismuth</i>	Nitrogenium, i n	<i>N</i>	<i>nitrogen</i>
Carboneum, i n	<i>C</i>	<i>carbon</i>	Natrium, i n	<i>Na</i>	<i>sodium</i>
Chlorum, i n	<i>Cl</i>	<i>chlorine</i>	Oxygenium, i n	<i>O</i>	<i>oxygen</i>
Calcium, i n	<i>Ca</i>	<i>calcium</i>	Plumbum, i n	<i>Pb</i>	<i>lead</i>
Cuprum, i n	<i>Cu</i>	<i>copper</i>	Phosphorus, i m	<i>P</i>	<i>phosphorus</i>
Fluorum, i n	<i>F</i>	<i>fluorine</i>	Sulfur, ūris n	<i>S</i>	<i>sulphur</i>
Phthorum, i n			Silicium, i n	<i>Si</i>	<i>silicon</i>
Ferrum, i n	<i>Fe</i>	<i>iron</i>	Zincum, i n	<i>Zn</i>	<i>zinc</i>
Hydrogenium, i n	<i>H</i>	<i>hydrogen</i>			

§9. Names of oxides, hydroxides, peroxides

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

1	2
<i>name of a chemical element</i>	<i>the word “oxide, hydroxide, peroxide”</i>
<ul style="list-style-type: none"> ▪ non-changeable ▪ always in Genitive Singular ▪ with the capital letter 	<ul style="list-style-type: none"> ▪ changeable ▪ Nominative or Genitive Singular ▪ with the small letter

English

zinc oxide

aluminium hydroxide

hydrogen peroxide

Nom.

Zinci oxydum

Alumini hydroxydum

Hydrogenii peroxydum

Gen.

Zinci oxydi

Alumini hydroxydi

Hydrogenii peroxydi

§10. Names of acids

Latin names of acids consist of the noun *Acidum, 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
<i>Acidum (acid)</i>	<i>adjective of neuter gender (- um)</i>
<i>Acidum</i>	<i>ascorbinicum</i>
<ul style="list-style-type: none"> ▪ changeable ▪ with the capital letter ▪ Nom. Sing. – um; Gen. Sing. – i	<ul style="list-style-type: none"> ▪ changeable ▪ with the small letter ▪ Nom. Sing. – um; Gen. Sing. – i

English	Nom. Sing.	Gen. Sing.
sulfuric acid	Acidum sulfuricum	Acidi sulfurici
sulfurous acid	Acidum sulfurosum	Acidi sulfurosi
hydrochloric acid	Acidum hydrochloricum	Acidi hydrochlorici

REMEMBER the following names of acids!!!

Latin	English
Acidum aceticum, i n	acetic acid
Acidum acetylsalicylicum, i n	acetylsalicylic acid
Acidum ascorbinicum, i n	ascorbic acid
Acidum benzoicum, i n	benzoic acid
Acidum boricum, i n	boric acid
Acidum carbolicum, i n	carbolic acid
Acidum carbonicum, i n	carbonic acid
Acidum citricum, i n	citric acid
Acidum folicum, i n	folic acid
Acidum glutaminicum, i n	glutaminic acid
Acidum hydrochloricum, i n	hydrochloric acid
Acidum lacticum, i n	lactic acid
Acidum lipoicum, i n	lipoic acid
Acidum nicotinicum, i n	nicotinic acid
Acidum nitricum, i n	nitric acid
Acidum salicylicum, i n	salicylic acid
Acidum sulfuricum, i n	sulphuric acid
Acidum sulfurosum, i n	sulphurous acid

Vocabulary 3

Chemical terms

1) Acĭdum, i n	<i>acid</i>
2) Cuprum, i n	<i>copper</i>
3) Ferrum, i n	<i>iron</i>
4) Fluorum, i n	<i>fluorine</i>
Phthorum, i n	
5) Hydrargyrum, i n	<i>mercury</i>
6) hydroxydum, i n	<i>hydroxide</i>
7) Iōdum, i n	<i>iodine</i>
8) Kalium, i n	<i>potassium</i>
9) Magnium, i n	<i>magnesium</i>
Magnesium, i n	
10) Natrium, i n	<i>sodium</i>
11) oxŷdum, i n	<i>oxide</i>
12) peroxydum, i n	<i>peroxide</i>
13) Phosphorus, i m	<i>phosphorus</i>
14) Sulfur, ŷris n	<i>sulphur</i>

Names of medicinal plants

15) Chamomilla, ae f	<i>matricaria</i>
16) Convallaria, ae f	<i>lily of the valley</i>
17) Foenicŷlum, i n	<i>fennel</i>
18) Glycyrrhĭza, ae f	<i>liquorice</i>

Parts of medicinal plants

19) flos, floris m	<i>flower</i>	fl.
20) fructus, us m	<i>fruit</i>	fr., fruct.

Adjectives

21) concentrĀtus, a, um	<i>concentrated</i>	concentr.
22) dilŷtus, a, um	<i>diluted</i>	dil.
23) flavus, a, um	<i>yellow</i>	

Extra information:

❖ **Fennel /Foenicŷlum/** 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, choloretic, laxative, pectoral, sedative. Fennel has an anti-spasmodic and antiseptic action. It helps when you have cough, insomnia, pain in the stomach.

❖ **Liquorice /Glycyrrhĭza/** The word "liquorice" is derived from the Greek (*glukurrhiza*), meaning "sweet root". Countries producing liquorice include In-

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.

§11. 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 <i>name of a chemical element or a drug</i>	anion <i>the name of the acid stem + “-as”; “-is”; “-idum”</i>
<ul style="list-style-type: none"> ▪ non-changeable ▪ always in Genitive Singular ▪ with the capital letter 	<ul style="list-style-type: none"> ▪ changeable ▪ Nominative or Genitive Singular ▪ with the small letter

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

<i>English</i>		<i>Latin</i>			
		<i>Nom.</i>	<i>Gen.</i>	<i>gender</i>	
-ate	<i>sulfate</i>	-as	-ātis	m	<i>sulfas – sulfātis</i>
-ite	<i>nitrite</i>	-is	-ītis	m	<i>nitris – nitrītis</i>
-ide	<i>hydrochloride</i>	-īdum	-īdi	n	<i>hydrochlorīdum – hydrochlorīdi</i>

*** **FOR EXAMPLE!!!**

<i>English</i>	<i>Nom. Sing.</i>	<i>Gen. Sing.</i>
atropine sulfate	Atropīni sulfas	Atropīni sulfātis
sodium nitrite	Natrii nitris	Natrii nitrītis
hydrocortisone acetate	Hydrocortisōni acētas	Hydrocortisōni acetātis
bismuth subcitrate	Bismūthi subcitrās	Bismūthi subcitrātis
morphin hydrochloride	Morphīni hydrochlorīdum	Morphīni hydrochlorīdi

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: Sulfacylum-natrium - Sulfacyli-natrii

✓ 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) Coffeīnum-natrii benzoas, Coffeīni-natrii benzoātis (Gen.Sing.)	caffeine and sodium benzoate
4) isotonicus, a, um	isotonic, having the same pressure
5) Saccharum, i n	sugar, sachar
6) Solutio Ammonii caustici, Solutionis Ammonii caustici (Gen.Sing.)	ammonia solution
7) Sulfacylum-natrium - Sulfacyli-natrii	sulphacyl-sodium

Nota Bene!!!

English	Latin
eth-	aeth-
sulph-	sulf-

EXERCISES

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

barium sulphate – Bari__ sulf__; *iron lactate* – Ferr__ lact__; *potassium chloride* – Kali__ chlor__; *codeine phosphate* – Codein__ phosph__; *mercury iodide* – Hydrargyr__ iod__; *copper citrate* – Cupr__ citr__; *sodium nitrite* – Natri__ nitr__.

Ex. 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, sulphacyl-sodium; ethylmorphine hydrochloride, apomorphine hydrochloride, bismuth subnitrate, caffeine and sodium benzoate, sodium nitrite, zinc sulphate.

Ex. 3. Translate into Latin:

barbitale-sodium in tablets; solution of ethazole-sodium in ampoules; bismuth subnitrate with extract of belladonna; solution of sodium arsenate for injections; ointment of copper citrate; ointment of ethacridine 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.

Ex. 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
Ethylmorphine 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 sulphate 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:

14. Take: Riboflavine 0,05
Ascorbic acid 0,1
Nicotinic acid 0,03
Give such doses in number 50 in tablets
Mark:
15. 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:
16. 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.*

§12. 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 *Recīpe*, /*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_x 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 número*

- 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.

Министерство здравоохранения
Российской Федерации
Кафедра фармакологии
УГМА

Код формы по ОКУД
код учреждения по ОКПО
Медицинская документация

Форма № 107/у

Рецепт (взрослый, детский – ненужное зачеркнуть)	
« _____ » _____ 2002 г.	
Ф.И.О. больного	
Возраст	
Ф.И.О. врача	
Руб. коп.	Рр.:
Подпись и личная печать Врача	
М.П.	
Рецепт действителен в течение 10 дней, 1 месяц, 2 месяца (ненужное зачеркнуть)	

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.

§13. 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.):

Reciĥpe: Vaselini 5,0

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

Reciĥpe: 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

Reciĥpe: Olei Menthae piperitae guttas IV (guttam I)

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

Reciĥpe: Insulini 25OD

- 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):

*Reciĥpe: 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:

*Reciĕpe: Solutiōnis Platyphyllīni
hydrochlorīdi 1% 10 ml*

§14. Types of prescriptions

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

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 dosage for the whole course of treatment*.

A **dose** refers to a specified amount of medication taken at one time. By contrast, **dosage** is the prescribed administration of a specific amount, number, and frequency of doses over a specific period of time.

There are **dosed** and **non-dosed** medicines. Dosed medicines are prescribed in a certain number (*tablets, capsules, suppositories*). Non-dosed medicines are prescribed in a certain amount (*ointment, paste, solution*).

Structure of a prescription for **non-dosed** medicines

Recipe: Medicinal form + Medicine name + dosage
in Gen. Sing. in Gen. Sing.

Da. Signa:

*Reciĕpe: Unguenti Xeroformii 3% - 10,0
Da. Signa:*

Structure of a prescription for **dosed** medicines

Recipe: Medicinal form + Medicine name + dose
in Gen. Sing. in Gen. Sing.

Da tales doses numĕro 10.

Signa:

*Reciĕpe: Pulvĕris Polysorbi 10,0
Da tales doses numĕro 10
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.

*Reciĥpe: Xeroformii 1,0
Zinci oxŷdi 5,0
Lanolini
Vaselini ana 10,0
Misce, fiat unguentum
Da. Signa:*

§15. 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 *simple prescription*, 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 *Reciĥpe*. 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).

*Reciĥpe: Tinctŷrae Leonŷri 25 ml
Da. Signa:*

*Reciĥpe: Solutiŷnis Camphŷrae oleŷsae 10% – 100 ml
Da. Signa:*

*Reciĥpe: Solutiŷnis Furacilŷni 1: 5000 – 500 ml
Da. Signa:*

*Reciĥpe: Solutiŷnis Furacilŷni 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:

Reciĭpe: *Olei Ricĭni 20 ml*
Xeroformii 1,
Vinylini 1ml
Misce, fiat linimentum
Da. Signa:

When prescribing mixtures in a detailed way, the direction “*Misce, fiat mixtura*” is **not written**. *Misce. Da. Signa.* is written:

Reciĭpe: *Mentholi 0,1*
Phenylii salicylatis 0,3
Olei Vaselini ad 10 ml
Misce. Da. Signa: nasal drops

§16. 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 injectionibus*” 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 numĕro ... in ampullis*”;

-the prescription is finished with the prescription verb *Signa:*.

Reciĭpe: *Solutiōnis Thiamini bromidi 3% – 1 ml*
Da tales doses numĕro 10 in ampullis
Signa: 1 ml intramuscular

When writing out medicines in vials a prescription is drawn up according to the same rules as when writing out medicines in ampoules but the word “vial” is not written.

Reciĭpe: *Benzylpenicillini-natrii 500 000 OD*
Da tales doses numĕro 12
Signa:

VOCABULARY 5

Names of medicinal plants

1) Aloë, es f	aloe
2) Althaea ,ae f	marshmallow
3) Anīsum, i n	anise
4) Eucalyptus, i f	eucalypt
5) Frangūla, ae f	buckthorn
6) Oleum Cacao, Olei Cacao	cacao butter
7) sirūpus, i m	syrup

Adjectives

8) composītus, a, um	compound
9) diuretīcus, a, um	diuretic
10) laxans, ntis	laxative
11) pectorālis, e	pectoral
12) sedatīvus, a, um	sedative

EXERCISES

Ex. 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.

Ex. 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 lily 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:

Ex. 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 solution of adrenaline hydrochloride 0,1% 1 ml;
- 12) 10 ampoules of solution of caffeine and sodium benzoate 10% 1 ml

Ex. 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 sulphate 0,1; ethylmorphine 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 sulphacyle-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.*

§17. 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.

/1/



/2/



/3/



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*).

Reciĕpe: Unguenti Xeroformii 3% - 10,0
Da. Signa: ophthalmic ointment

Reciĕpe: 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.

Reciĕpe: Argenti nitritis 0,25
Vinylini 1,0
Vaselĭni 30,0
Misce, fiat unguentum
Da. Signa:

Reciĕpe: Iodoformii 10,0
Amĕyli Tritĭci
Zinci oxĕydi ana 5,0
Vaselĭni 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 (*suppos-*

itoria 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 numĕro...*” 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: Suppositoria cum Glycerino 1,44 numĕro 10

Da. Signa:

The adjectives *vaginal* and *rectal* are always written just after the noun “suppository” in the corresponding form (*Acc. Sing – vaginalē / rectalē; Acc. Plur. – vaginalia / rectalia*):

Recĭpe: Suppositorium vaginalē cum Synthomycĭno 0,25

Da tales doses numĕro 5

Signa:

Recĭpe: Suppositoria vaginalia cum Synthomycĭno 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:

Recĭpe: Suppositoria “Anusolum” numĕro 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*):

Reciĉpe: Promedoli 0,02
Olei Cacão 3,0
Misce, fiat suppositorium rectāle
Da tales doses numĕro 6
Signa:

Reciĉpe: Promedoli 0,02
Olei Cacão quantum satis
Misce, fiat suppositorium rectāle
Da tales doses numĕro 6
Signa:

EXERCISES

Ex. 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
Cocoa 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:

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

- 1) ointment of neomycine sulphate 1% 50,0;
- 2) paste of zinc 50,0;
- 3) ointment consisting of sulphacyle-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; cocoa 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 forms and aerosol.

§18. 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 numĕro 10*) which is finished with the prepositional phrase *in tabulettis* (*in tablets*):

Recĭpe: Analgĭni 0,5

Da tales doses numĕro 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 numĕro 10*):

Recĭpe: Tabulettam Analgĭni 0,5
Da tales doses numĕro 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 (*numĕro 10*):

Recĭpe: Tabulettas Analgĭni 0,5 numĕro 10
Da. 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
numĕro 25
Da. 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 (*numĕro 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:

Recĭpe: Tabulettas “Pentalginum” numĕro 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 “dragée” has the same form in all versions of prescription:

Recĭpe: Dragée Diazolĭni 0,05
Da tales doses numĕro 20
Signa:

Recĭpe: Dragée “Hexavitum” numĕro 50
Da. Signa:

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

Prescribing **simple non-dosed powder**:

Reciĥe: Pulvĕris Ampicillini 60,0
Da. Signa:

Prescribing **simple dosed powder**:

Reciĥe: Pulvĕris Theobromini 0,5
Da tales doses numĕro 10
Signa:

Prescribing **compound non-dosed powder**:

Reciĥe: Benzylpenicillini-natrii 125 000 OD
Ethazōli 5,0
Misce, fiat pulvis
Da. Signa:

Prescribing **compound dosed powder**:

Reciĥe: Euphyllini 0,01
Dimedroli 0,0125
Sacchari 0,2
Misce, fiat pulvis
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:

Reciĥe: Solutiōnis Nitroglycerīni 1% oleōsae 0,5
Da tales doses numĕro 50 in capsūlis gelatinōsis
Signa:

Reciĥe: Ampicillīni 0,25
Da tales doses numĕro 20 in capsūlis
Signa:

§19. Other medicinal forms

Ophthalmic films (*membranūlae ophthalmīcae*) and **aerosols** (*aĕrosōla*) 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:

Reciĥe: Membranūlas ophthalmīcas cum Apilaco 0,2 numĕro 6
Da. Signa:

Reciĥe: Aĕrosōlum "Ephatinum" numĕro 1
Da. Signa:

EXERCISES

Ex. 1. Complete the prescription with the necessary endings:

1. Reciþe: Cyclophosphān___ 0,05
 Da tales doses numĕro 50 in tabulett___ obduct___
 Signa:
2. Reciþe: Tabulett___ “Citramon___” numĕro 6
 Da. Signa:
3. Reciþe: Tabulett___ Nitrogranulong___ 0,029 obduct___
 Da tales doses numĕro 50
 Signa:
4. Reciþe: Aerosōl___ “Amprovisol___” numĕro 1
 Da. Signa:
5. Reciþe: Membranŭl___ ophthalmic___ cum Dicaĭn___ 0,2 numĕro 6
 Da. Signa:

Ex. 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.

§20. Abbreviations in prescriptions

Abbreviation	Full Latin form	Translation
Ac. (Acid.)	acīdum	acid
aa	ana	equally, of each
amp.	ampulla	ampoule
aq.	aqua	water
Aq. destill.	Aqua destillāta	distilled water
Aq. purif.	Aqua purificāta	purified water
aēros.	aērosōlum	aerosol
caps.	capsūla	capsule
comp., cps., cp.	composītus, a, um	compound, compounded
concentr.	concentrātus, a, um	concentrated
cort.	cortex	bark
D.	Da.	Give.
	Detur.	Let it be given.
	Dentur.	Let them be given.
D.S.:	Da. Signa:	Give. Mark:
	Detur. Signetur:	Let it be given. Let it be marked:
D.t.d. N.	Da tales doses numēro	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.	fluīdus, a, um	fluid, liquid
fol.	folium	leaf
fr., fruct.	fructus	fruit
gran.	granūlum	granule

Abbreviation	Full Latin form	Translation
gtt.	guttam	drop
gtts.	guttas	drops
h., hb.	herba	herb
in ampull.	in ampullis	in ampoules
in caps. (gel.)	in capsūlis (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.	mixtura	mixture
mucil.	mucilāgo	mucilage
N.	numēro	in number
obd.	obductus, a, um	coated
past.	pasta	paste
pil.	pilūla	pill
praec., ppt.	praecipitātus, a, um	precipitated
pro inject.	pro injectionibus	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 substances)
Rep.	Repēte!	Repeat!
	Repetātur!	Let it be repeated!
rhiz.	rhizōma	rhizome
Rp.:	Recīpe:	Take:
S.:	Signa:	Mark:
	Signetur:	Let it be marked:
sem.	semen	seed
sicc.	siccus, a, um	dry
simpl.	simplex, ĩcis	simple
sir.	sirūpus	syrup
sol.	solutio	solution
spec.	species	species
Spir.	Spirītus	spirit
Steril.	Sterilīsa!	Sterilize!
	Sterilisētur!	Let it be sterilized!

Abbreviation	Full Latin form	Translation
supp.	suppositorium	suppository
susp.	suspensio	suspension
tab.	tabuleta	tablet
tinct., t-ra, tct.	tinctūra	tincture
ung.	unguentum	ointment
vagin.	vaginālis, e	vaginal

EXERCISES

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

- 1) 10 tablets of methyloestradiol 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 synoestrol 0,1% 1 ml;
- 4) 25 coated tablets of tetracycline with nystatine;
- 5) mixture consisting of menthol 2,5; novocaine and anaesthesine equally 1,0; ethyl alcohol 70% up to 100ml;
- 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 sacchar 0,3;
- 9) 6 ampoules of solution of ethazole-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; diluted hydrochloric 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 "Anusol";
- 19) 30 ophthalmic films with florenale;
- 20) 10 capsules of oily solution of nitroglycerine 1% -0,0005.

Ex. 2. Translate into Latin:

thiopentale-sodium in ampoules; dibazole with papaverine 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; 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 caffeine and sodium benzoate 20% 1 ml;
3) 40 coated tablets “Ferrocil”;
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./	<i>Before meals /medical instruction/.</i>
2. A posteriōri.	<i>From the latter, based on observation. / used to denote something known from experience/</i>
3. A priōri.	<i>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./</i>
4. Anamnēsis morbi.	<i>Data about the disease.</i>
5. Anamnēsis vitae.	<i>Data about the life.</i>
6. Bis in die. /b.i.d./	<i>Twice a day.</i>
7. Casus extraordinarius.	<i>Extraordinary /unusual/ case.</i>
8. Casus ordinarius.	<i>Ordinary /usual/ case.</i>
9. Cito!	<i>Quickly!</i>
10. Exītus letālis.	<i>Fatal outcome.</i>
11. Facies Hippocratīca.	<i>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 dusky...and 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.</i>
12. In vitro.	<i>Taking place outside a living organism (for example in a test tube).</i>
13. In vivo.	<i>In a living organism /An experiment or process performed on a living specimen/.</i>
14. Oculus dexter. /O.D./ Oculus sinister. /O.S./	<i>Right eye. /abbreviations used in Ophthalmology as Left eye. /medical attention for eyes/</i>
15. Per os.	<i>Through the mouth.</i>
16. Per rectum.	<i>Through the rectum.</i>
17. Per vagīnam.	<i>Through the vagina.</i>
18. Post cibum /p.c./	<i>After meals /medical instruction/.</i>
19. Post mortem.	<i>Examination of a body after death to learn the cause of death /autopsy/.</i>
20. Prognōsis bona / optima.	<i>Good / the best prognosis.</i>
21. Prognōsis dubia.	<i>Doubtful prognosis.</i>
22. Prognōsis mala / pessima.	<i>Bad / the worst prognosis.</i>
23. Rubor, tumor, calor, dolor et functio laesa.	<i>Redness, swelling, fever, pain, and loss of function are the classical signs of inflammation.</i>
24. Statim!	<i>Immediately!</i>
25. Ter in die /t.i.d./	<i>Three times a day.</i>

GAUDEAMUS

Gaudeamus igitur,
Juvenes dum sumus;
Post icundum iuventutem,
Post molestam senectutem
Nos habebit humus.

Vita nostra brevis est,
Brevi finietur;
Venit mors velociter,
Rapit nos atrociter;
Nemini parceretur.

Ubi sint qui ante nos
In mundo fuere?
Vadite ad superos,
Transite in inferos
Hos si vis videre.

Vivat academia,
Vivant professores,
Vivat membrum quodlibet,
Vivat membra quaelibet;
Semper sint in flore!

Vivat et republica
Et qui illam regit.
Vivat nostra civitas,
Maecenatum caritas
Quae nos hic protegit

Vivant omnes virgines,
Faciles, formosae!
Vivant et mulieres,
Tenerae, amabiles,
Bonae, laboriosae.

Pereat tristitia,
Pereant osores.
Pereat diabolus,
Quivis antiburschius
Atque irrisores!

Let us therefore rejoice,
While we are young;
After our youth,
After a troublesome old age
The ground will hold us.

Our life is short,
It will shortly end;
Death comes quickly,
Cruelly snatches us;
No-one is spared.

Where are those who before us
Existed in the world?
You may go up to the gods,
You may cross into the underworld
If you wish to see them.

Long live the university,
Long live the teachers,
Long live each male student,
Long live each female student;
May they always flourish!

Long live the state
And those who rule it.
Long live our city,
And the charity of benefactors
Which protects us here.

Long live all young women,
Easy and beautiful!
Long live wives as well,
Tender, loveable,
Honest, hardworking.

Perish sadness,
Perish haters.
Perish the devil,
Whoever is against the student fraternity,
As well those who mock us!

Quis confluxus hodie
Academicorum?
E longinquo convenerunt,
Protinusque successerunt
In commune forum.

Vivat nostra societas,
Vivant studiosi!
Crescat una veritas,
Floreat fraternitas,
Patriae prosperitas.

Alma Mater floreat,
Quae nos educavit;
Caros et commilitones,
Dissitas in regions
Sparsos, congregavit.

Who has gathered now
Of the university?
They gather from long distances,
Immediately joining
Our common forum.

Long live our fellowship,
Long live the studios!
May truth and honesty thrive,
Flourish with our fraternity,
And our homeland be prosperous.

May our Alma Mater thrive,
That which educated us;
Dear ones and comrades,
Who we let scatter afar,
Let us assemble.

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И МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ
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