

Basic medical terminology



AUTUMN 2016

Study materials



- Prucklová, R. – Severová, M.: *Introduction to Latin and Greek Terminology in Medicine*. Praha: KLP, 2012 (Unit 1-7)
- Teachers' own materials (e.g. hand-outs, presentations, activity cards) which are going to be periodically uploaded on the IS in Study materials of your subject.
- "Drill" on the IS (<https://is.muni.cz/auth/dril/?lang=en>)

Testing



- Two partial exams
 - each successfully written partial test (over 60 %) means that you get bonus 5 % for your final exam)
- Credit test
 - 60% required if you were not successful in any of the partial tests
 - 55% required if you were successful in ONE of the partial tests
 - 50% required if you were successful in BOTH partial tests

Testing



- All students are sitting all their tests **in his/her group only**.
- Students can sit the **credit test** during the 15th week of the semester (January 2-6, 2017).
- **Resits of the credit test** will take place **only during the exam period**, i. e. January, 9 – February 17, 2017.
- The number of possible credit test **resits** is **two**.
- **The dates and number of resits** set by the teacher before the exam period is **final**, it means **no other dates will be added** during the exam period or later.

Testing



- Results of the tests will be available to students in the Notebook on the IS.
- The student's results will be given in percentage together with the pass mark.
- The student will have the access to his/her tests during his/her teacher's office hours or by prior e-mail arrangement.

Attendance



- **Absences** are going to be **electronically registered in the IS**. In order to be sure you have been registered as present in the class, be punctual, the attendance is always checked immediately after the beginning of the class.
- We can tolerate **ONE** unexcused absence only; all further absences have to be properly **excused by the Study Department**.
- **Unexcused absences** are regularly recorded in the Notebook on the IS, and students having these records **cannot sit the credit test**.
- The student may substitute a class only by a special appointment agreed with a teacher.
- The **substitution is not possible** in the week for which **a partial test or the credit test** has been planned.

Course objectives



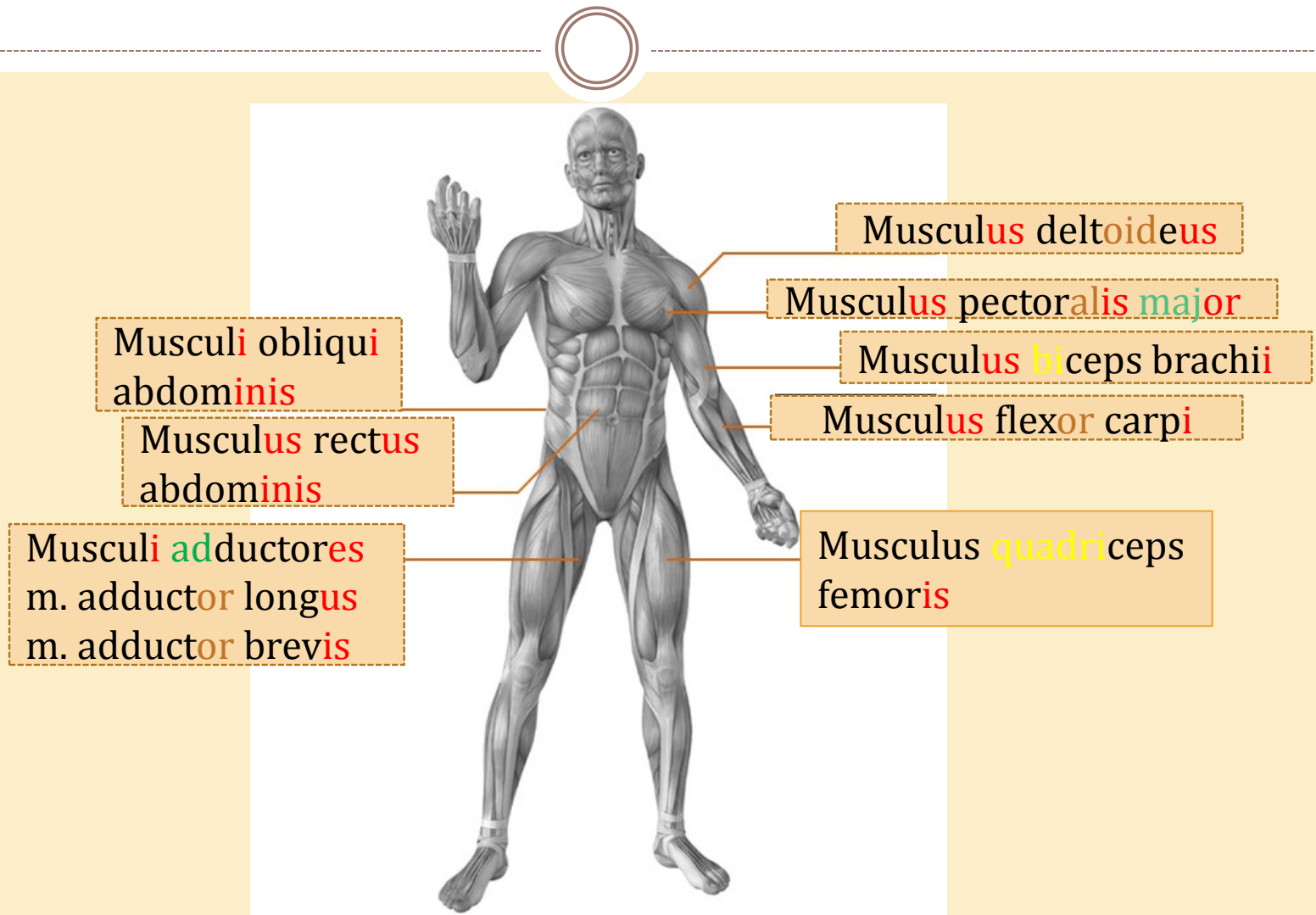
- To familiarize with basic medical terminology
- To understand rules of creating Latin terms and to understand meaning of particular terms based on:
 - Morphological analysis
 - Syntactical analysis
- To create correct Latin terms (both from anatomical and clinical terminology)
- To understand basics of pharmacological Latin
- To master the vocabulary in a systematic way

Latin in medical terminology



- Definite set of terms that name the parts and structures of the human body
- First worldwide official standard terminology appeared 1895 (*Basiliensia Nomina Anatomica*) since then it was periodically updated and changed to implement new findings and/or understanding of the anatomical structures
- Current terminology is approved by FCAT (Federative Committee on Anatomical Terminology) and published in 1998 as TERMINOLOGIA ANATOMICA
(cf. <http://www.unifr.ch>)

Anatomical structures



Latin in the clinical terminology



- Non-definite set of terms that names diseases, health conditions or causes of death
- First authoritative list of diseases and causes of death 1868 (*Nomenclature of diseases*), 1893 Bertillon's classification of diseases
- Current terminology ICD-10 (*International Classification of Diseases*) is approved by WHO and published every \pm 10 years (www.who.int/classifications/icd/en/)
- Widely used in medical documentation e.g. medical reports, surgical and hospital reports, pathological reports (central Europe, Russia and former republics of USSR, partly Western Europe - Germany, Austria)

Diagnose



Dg: T068 Polytrauma

W1731 Pád s padákem

S4220 Fractura humeri proximalis l. sin comminutiva luxans

S3250 Fr. rami sup. et inferioris ossis pubis l. dx

S3250 Fr. ramus sup. ossis pubis l. sin

S3210 Fr. sacri l. dx

S2210 Fr. corporis vertebrae thoraciceae VII et VIII.

S3200 fr. processus transversi vertebrae lumbalis II.-IV.

S3700 Contusio renis l. dx cum hematoma perirenale

S134 Distensio ligg. col. vert. partis cervicalis

S202 Contusio thoracis l. sin

S2730 Contusio pulm. l. sin

S2710 Hemothorax postraumaticum l. sin

S4210 Fr. proc. coracoideus scapulae l. sin

I269 Embolia pulmonum susp.

ICD Fracture of upper end of humerus : S 42. 2 (<http://apps.who.int/classifications/icd10>)

Latin in the pharmacologic terminology



- Definite set of terms used in European Pharmacopoea (current version is 8th ed.) to name:
 - essential medicines (*acidum phosphoricum*)
 - classes of medicines (*antipyretica, spasmolytica*)
 - forms of medicines (*solutio, injectio, tabuletta*)
 - drugs (*calendula officinalis*)
- Prescriptions
 - main part of the prescription including name and quantity of the medicine as well as the way of its administration is usually written in Latin, using system of routine abbreviations

VZOR

INSCRIPTIO

Kód
pojišťovny

RECEPT

poř. č.

Údaje platné pro celý recept (výpis, pohotovost, repetatur s počtem opakování, nutná a neodkladná péče, atd.)

PERSONALIA AEGROTI

Příjmení a jméno

Číslo pojištěnce

f.

Bydliště (adresa)

INVOCATIO

ORDINATIO

a) PRAESCRIPTIO
(COMPOSITIO)

b) SUBSCRIPTIO

c) SIGNATURA

Popl.

Diagnóza¹⁾

Sk.

Kód

Započ.dopl.

Úhrada

Rp.

Kali jodidi

1,0

Ephedrini hydrochloridi

0,2

Thymi sirupi comp.

20,0

Aquae purif.

ad 100,0

M. f. liquid.

D. ad lag.

D. S. 3x denně 1 lžiči

MAGISTRALITER

Popl.

Diagnóza¹⁾

Sk.

Kód

Započ.dopl.

Úhrada

Rp.

Frontin 0,5 mg

Exp. orig. No. III (tres)

D. S. 1 tbl. ráno, 1 tbl. večer

SPECIALITAS

DATUM

Dne:

SIGILLUM ET NOMEN
MEDICI

razítko poskytovatele,
jmenovka, podpis a telefon lékaře

Připravil:

Vydal:

¹⁾ Vypňuje se povinně v případě zvýšené úhrady.

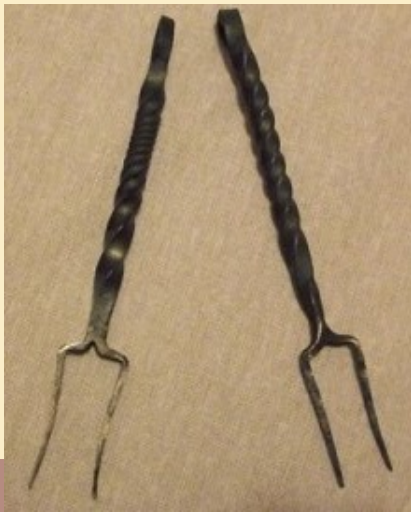
Latin medical terminology

- Many ancient terms are based on metaphors and similes, i.e. they are formed from words of nonmedical origin:

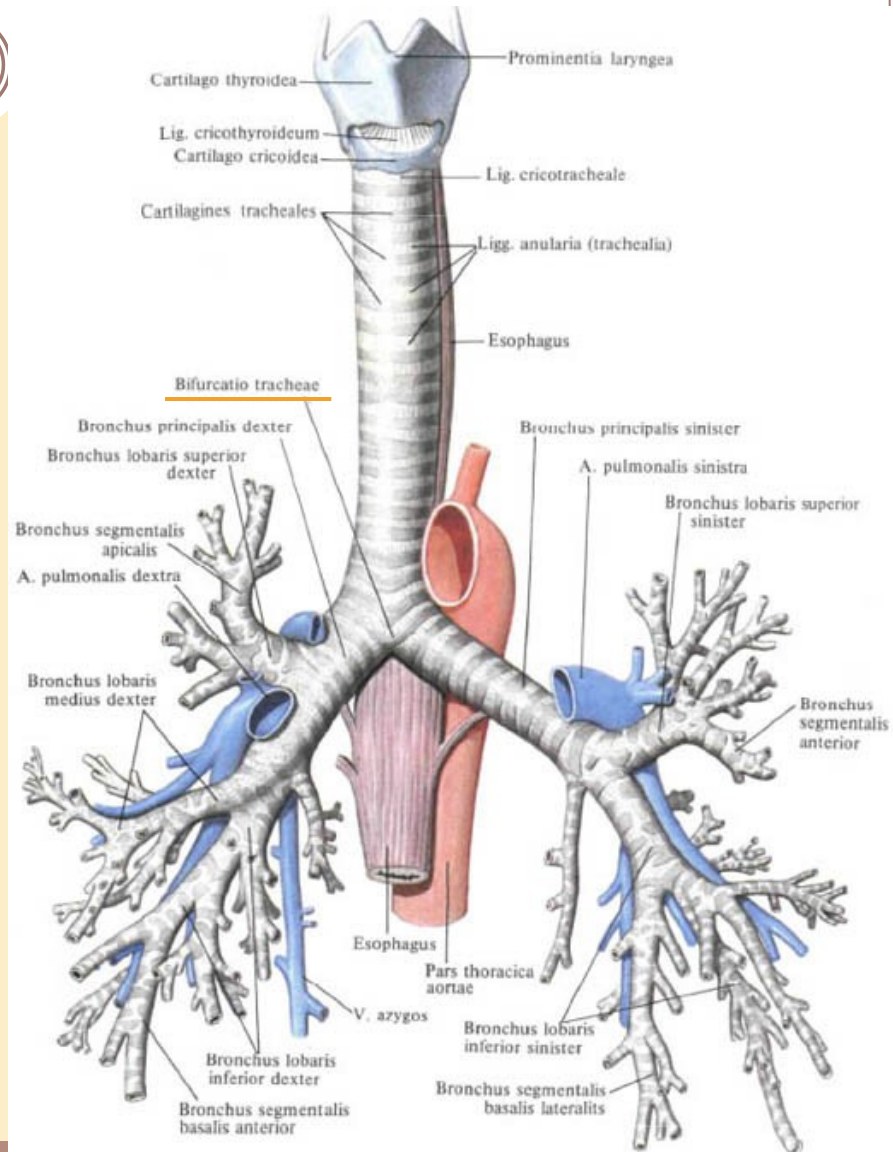
Animals, Letters of alphabet,
Musical instruments, Household utensils,
Military objects, Agricultural tools/products....

- Eg.: bifurcatio = bifurcation

1. a division into two branches.
2. the point at which division into two branches occurs.



Furca = a two-pronged fork



bifurcatio tracheae

Word parts, combining forms and rules of word-building



root

suffix

prefix

combining element

card-i-a

card-i-acus

card-i-alis

peri-**card**-ium

endo-**card**-ium

myo-**card**-ium

card-itis

peri-**card**-itis

card-i-o-logia

card-i-o-graphia

card-i-o-my-o-pathia



At the end of the course, you will be able to:



- understand the system in the terminology of anatomical structures
(= easier memorizing of the terms)
- understand the principles of forming more complex terms
- understand a clinical diagnose
- write your own clinical diagnose
- write a medical prescription

Latin pronunciation



Vowels



A Ā B C D E Ē F G H I Ī K L M N

O Ō P Q R S T U Ū V X Y Ÿ Z

Vowels

Long

Ā (father) frāctūra A (cut) lingua

Ē (sad) artēria

Ī (intrigue) spīna I (intrigue) digitus

Ō (door) sensōrius

Ū (boom) ruptūra U (put) uterus

Y (analysis) hypophysis

Short

E (met) vertebra

I (yes) > J

O (on) skeleton

Y (lady) tympanum

Diphthongs

AE=Ē (care) anaemia

OE=Ē (care) lagoena

Greek words

OE (o-e) dyspnoe

EU (e-u) euthanasia

Read aloud



- hypnosis
- ala
- olla
- eupnoe
- ileus
- mucus
- haematoma
- iliacus
- ossa
- diploe
- cubitus
- venae
- diameter
- sacralis
- ulcus
- iris
- sutura
- sigmoideus
- depressor
- area
- oesophagus
- melior
- meatus
- leucocytus

Consonants



A Ā **B** C **D** E Ē **F** G H I Ī K **L** **M** **N**

O Ō **P** Q **R** S **T** U Ū **V** X Y Ŷ Z

Consonant/group of consonants	Pronunciation	Example
1: c + a, o, u, consonants c + ae, oe, e, i, y	[k] medical [ts] tsar	c amera, c osta, c ultivatio, c ranium c aecus, c oeliacia, c entrum, c irculatio, c ynismus
2: ch	[x] loch	chirurgia, cholera

Consonants II



Consonant/group of consonants	Pronunciation	Example
3: g gu + vowel	[g] ground [gv]	gramma, gastritis lingua, sanguis
4: h	[h] house	herba, haematologia
5: j + vowel	[y] yes	iniectio/injectio, maior/major
6: p p + h	[p] present [f] physiology	pneumonia, pulmo phantasia, pharmacia
7: qu+ vowel	[kv]	aqua, quadriceps
8: r r+h	[r] rupture [r]	vertebra, ruptura rheuma, rhinitis

Consonants III



Consonant/group of consonants	Pronunciation	Example
9: s/ss <i>s between two vowels and following after l, r, n</i>	[s] some [z]	serum, fossa nasus, incisura, pulsus, tonsilla, inversus, suspensio
10: t ti + vowel s/t/x + ti + vowel t+h	[t] tongue [tsi] [ty] [t]	trauma, tactus operatio, substantia tibia, ostium, mixtio therapia, thermometrum
11: z	[z] zone	zoologia

Read aloud



- cancer, medicamentum, lingua
- thorax, pulsus, contusio
- corpus, exitus, functio
- hemispherium, angulus, fractura
- intestinum, aqua, pharmacon
- oedema, musculus, defectus
- medicus, operatio, infarctus
- homo, bronchus, duodenum
- angina, haemorrhagia, spasmus
- encephalon, bacterium, acne
- migraena, pharynx, dysenteria
- inflammatio, leucaemia, virus
- laparoscopia, typhus, organismus
- therapia, digitus, gingiva
- gangraena, diagnosis, tonsilla
- injectio, lymphata, oxygenium
- vademecum, insufficientia, chirurgia

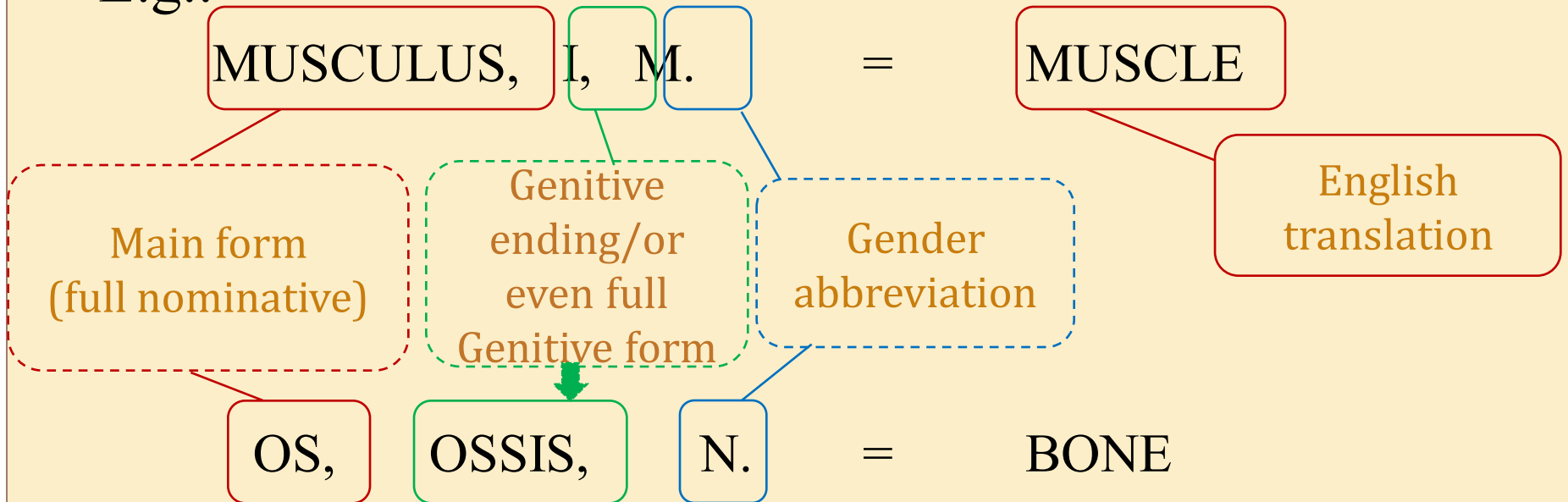
Grammatical categories



What will you find in the dictionary?



- English words are presented in one single form
- !!!Latin words are presented in three forms!!!
- E.g.:



!CAUTION! ALL THREE FORMS are EQUALLY important for the future ability to use the noun in the context.

Gender



- There are three genders in Latin
 - Masculine (e.g. nervus)
 - Feminine (e.g. vena)
 - Neutral (e. g. cerebrum)
- There is nothing, which could indicate the gender to you

YOU HAVE TO LEARN IT BY HEART



Genitive ending => Declension



- Declensions are groups of nouns (or adjectives) using the same set of suffixes (=endings)
- There are 5 declensions in Latin

DECLENSION	1 st	2 nd	3 rd	4 th	5 th
GENITIVE ENDING	-ae (-es)	-i	-(?)-is	-us	-ei
EXAMPLE	coxa, ae, f.	humerus, i, m. cranium, ii, n.	coccyx, gis, f. dens, dentis, m. femur, oris, n. pelvis, is, f.	arcus, us, m. genu, us, n.	facies, ei, f.

LATIN AND GREEK DECLENSIONS

Declens.		I.			II.				III.				IV.		V.	
Paradigm		<i>vena</i>	<i>systole</i>	<i>diabetes</i>	<i>nervus</i>	<i>septum</i>	<i>nephros</i>	<i>colon</i>	<i>dolor</i>	<i>corpus</i>	<i>pelvis</i>	<i>dosis febris</i>	<i>rete</i>	<i>ductus</i>	<i>genu</i>	<i>facies</i>
Gender		f.	f.	m.	m.	n.	m.	n.	m. + f.	n.	m. + f.	m. + f.	n.	m.	n.	f.
Singular	1.	-a	-e	-es	-us/-er	-um	-os	-on	?	?	-is/-es	-(s)is/ -xis/-osis	-ar/-e/ -al	-us	-u	-es
	2.	-ae	-es	-ae	-i	-i	-i	-i	-is	-is	-is	-is/-eos	-is	-us	-us	-ei
	4.	-am	-en	-am	-um	1	-um	1	-em	1	-em	-im/-in	1	-um	1	-em
	6.	-a	-e	-a	-o	-o	-o	-o	-e	-e	-e / (-i)	-i	-i	-u	-u	-e
Plural	1.	-ae	-ae	-ae	-i	-a	-i	-a	-es	-a	-es	-es	-ia	-us	-ua	-es
	2.	-arum	-arum	-arum	-orum	-orum	-orum	-orum	-um	-um	-ium	-ium	-ium	-uum	-uum	-erum
	4.	-as	-as	-as	-os	1	-os	1	-es	1	-es	-es	1	-us	1	-es
	6.	-is	-is	-is	-is	-is	-is	-is	-ibus	-ibus	-ibus	-ibus	-ibus	-ibus	-ibus	-ebus
		+ Adj. of 1st decl. F			+ Adj. of 2nd decl. M	+ Adj. of 2nd decl. N			+Compa -rative forms of adj. M+F	+ Com -parative forms of adj. N	+ Adj. of 3rd decl. M + F		+ Adj. of 3rd decl. N			

Genitive ending = stem of a word



- **A stem** is a form to which affixes (endings) can be attached
- In some declensions (1st, 4th, 5th, and in majority of cases also 2nd) the nominative and genitive forms of the word have identical stem
- In some declensions (3rd, partially 2nd) word's stem can greatly differ
- **In Latin we need to remove the genitive ending in order to gain the genitive stem**

ven-a
ven-ae

humer-us
humer-i

diamet-er
diametr-i

dol-or
dolor-is
corp-us
corpor-is
de-ns
dent-is

arc-us
arc-us

gen-u
gen-us

faci-es
faci-ei

Decide what is the stem of the noun



ex: caput, capit-is

- skeleton, skeleti
- os, ossis
- cranium, cranii
- orbita, orbitae
- collum, colli
- cervix, cervicis
- thorax, thoracis
- costa, costae
- discus, disci
- processus, processus
- vertebra, vertebrae
- pelvis, pelvis
- coxa, coxae
- ilia, ilium
- coccyx, coccygis
- ischium, ischii
- pubes, pubis
- symphysis, symphysis
- nasus, nasi
- dens, dentis
- mandibula, mandibulae
- clavicula, claviculae
- scapula, scapulae
- sternum, sterni
- humerus, humeri
- arcus, arcus
- radius, radii
- ulna, ulnae
- metacarpus, metacarpi
- carpus, carpi
- phalanx, phalangis
- femur, femoris
- patella, patellae
- tibia, tibiae
- fibula, fibulae
- metatarsus, metatarsi

Read and write down the number of declension



0. corpus, oris, n.	3	13.,18. digitus, i, m.	2	27. hypogastrium, ii, n.	2
cutis, is, f.	3			29. truncus, i, m.	2
1. caput. itis. n.	3	14. sulcus, i, m.	2	30. manus, us, f.	4
<input type="text"/>	2	15.,28. penis, is m.	3	31. crus, cruris, n.	3
3. facies, ei, f.	5	16. femur, oris, n.	3	32. tarsus, i, m.	2
4. os, oris, n.	3	17. genu, us, n.	4	talus, i, m.	2
lingua, ae, f.	1	19. frons, frontis, f.	3	33. pes, pedis, m.	3
				34. hallux, ucis, m.	3
5. mentum, i, n.	2	20. oculus, i, m.	2		
6. axilla, ae, f.	1	21. nasus, i, m.	2		
7. brachium, ii, n.	2	22. auris, is, f.	3		
8. cubitus, i, m.	2	23. bucca, ae, f.	1		
9. antebrachium, ii, n.	2	24. collum, i, n.	2		
		cervix, icis, f.	3		
10. carpus, i, m.	2	25. pectus, oris, n.	3		
11. pollex, icis, m.	3	26. abdomen, inis, n.	3		
12. palma, ae, f.	1				