

# Basic medical terminology

Winter period 2014

Teacher: J. Artimová

# Objectives of the course

- 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

# Translate/Explain

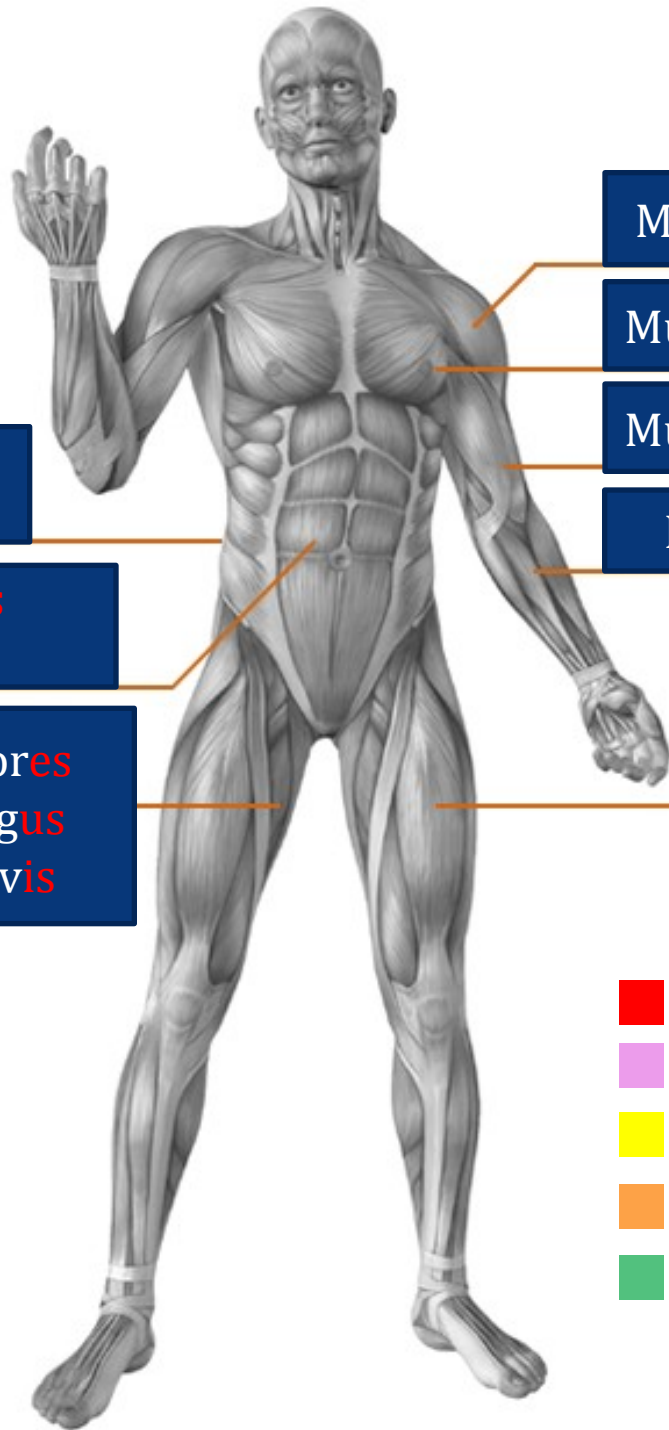
- Cryocautery
- Hydrocephaly
- Sideropenia
- Tocograph
- Styloid (process)
- Xiphocostal (articulatio)

# Latin in the anatomical 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*)
- Current terminology is approved by FCAT and published in 1998 as TERMINOLOGIA ANATOMICA (cf. <http://www.unifr.ch>)

| Gegenbaur                        | Henle                             | Hyrtl                   |
|----------------------------------|-----------------------------------|-------------------------|
| <b>Vestibulum labyrinthi (6)</b> | <b>Vestibulum (7)</b>             | <b>Vestibulum</b>       |
| Fenestra ovalis (12)             | Fenestra vestibuli (2)            | Fenestra ovalis         |
| Recessus sphaericus (12)         | Recessus sphaericus               | Recessus hemisphaericus |
| Recessus ellipticus (12)         | Recessus ellipticus               | Recessus hemielipticus  |
|                                  | Sinus sulciformis (1)             | —                       |
| Crista vestibuli (14)            | Crista vestibuli                  | Crista vestibuli        |
| Pyramis (4)                      | Pyramis vestibuli (6)             | Pyramis vestibuli       |
| Recessus cochlearis (14)         | Recessus cochlearis               | —                       |
| Maculae cribrosae (15)           | Maculae cribrosae                 | Maculae cribrosae       |
| Oberer Siebfecken                | Macula cribrosa superior (13)     | Oberer Macula           |
| Mittlerer Siebfecken             | Macula cribrosa media (13)        | Mittlere Macula         |
| Unterer Siebfecken               | Macula cribrosa inferior (13)     | Untere Macula           |
|                                  | —                                 | —                       |
| Knöcherne Bogengänge             | Canales semicirculares (2)        | Canales semicirculares  |
| Canalis anterior (5)             | Vorderer verticaler Bogengang (1) | Oberer Bogengang        |
| Canalis externus (4)             | Horizontaler Bogengang (2)        | Aeusserer Bogengang     |
| Canalis posterior (4)            | Hinterer verticaler Bogengang (1) | Hinterer Bogengang      |

| Krause                               | Langer                      | Sonstige Autoren   |
|--------------------------------------|-----------------------------|--|
| <b>Vestibulum</b>                    | <b>Vestibulum</b>           | <b>Vestibulum osseum</b>   |
| Fenestra ovalis                      | Fenestra vestibuli          | Fenestra ovalis, Schwalbe, Fenestra ovalis, Quain. Fenêtre ovale, Sappey, Testut. Fenestra ovale   |
| Recessus sphaericus                  | Recessus hemisphaericus (2) | Fovea hemisphaerica, Quain. Fossatte hémisphérique   |
| Recessus ellipticus                  | Recessus hemielipticus (2)  | Fovea hemieliptica, Quain. Fossatte semi-ovoïde, Fossatte elliptique, Testut   |
|                                      | —                           | Sinus sulciformis, Morgagni. Fossula sulciformis, Schwalbe (1). Recessus labyrinthi, Reissner. Fossatte sulciforme, Sappey. Gouttière sulciforme, Testut |
| Crista vestibuli                     | Crista vestibuli            | Crista pyramidalis. Spina vestibuli  |
| —                                    | Pyramis vestibuli           | Eminentia pyramidalis. Pyramide  |
| Recessus cochlearis                  | —                           | Recessus cochlearis, Reichert. Fossatte cochléaire, Testut   |
| Maculae cribrosae                    | Maculae cribrosae           |  |
| Macula cribrosa superior             | Macula cribrosa superior    | Macula major. Tache criblée antérieure, Sappey. Tache criblée supérieure, Testut. Macchia cribrosa anteriore   |
| Macula cribrosa media                | Macula cribrosa media       | Macula minor. Macula major. Tache criblée moyenne, Sappey. Tache criblée antérieure, Testut. Macchia cribrosa mediana                                    |
| Macula cribrosa inferior             | Macula cribrosa inferior    | Macula minima. Tache criblée postérieure, Sappey, Testut   |
| Macula cribrosa recessus cochlearis  | —                           | Macula cribrosa quarta. Tache criblée cochléaire, Testut   |
| Canales semicirculares ossei (10)    | —                           |  |
| Canalis semicircularis superior (6)  | Oberer Bogengang            | Superior canal. Canal demi-circulaire supérieur. Canale semicircolare superiore  |
| Canalis semicircularis lateralis (2) | Horizontaler Bogengang      | Canalis semicircularis medius. External canal. Canal demi-circulaire externe. Canale semicircolare esterno   |
| Canalis semicircularis inferior      | Hinterer Bogengang          | Canalis semicircularis internus. Posterior canal. Canal demi-circulaire postérieur. Canale semicircolare posteriore (1)                                  |



Musculus deltoideus

Musculus pectoralis major

Musculus biceps brachii

Musculus flexor carpi

Musculus quadriceps femoris

Musculi obliqui abdominis

Musculus rectus abdominis

Musculi adductores  
m. adductor longus  
m. adductor brevis

- Case and number endings
- Prefixes
- Roots of the compound words
- Suffixes
- Special forms

# 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 is approved by WHO and published every  $\pm 10$  years  
([www.who.int/classifications/icd/en/](http://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)

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>)



Po dobu ošetřování ponechte pacientovi

## Ústavní pohotovostní chir. služba NsP Rakovník

Dukelských hrdinů 200, 269 01 Rakovník

tel.: +420 313 525 432

e-mail: chirurgie@nemorako.cz

Příjmení a jméno:

Bydliště pacienta:

NÁLEZ ze dne 05.06.04 11:34

Zapsal: Šimek Lubor, MUDr. 05.06.04 12:01

Diagnózy:

S610 Vulnus scissum digiti II. manus l. sin.

W268 Kontakt s nožem, mečem nebo dykou-Jiné určené místa

před 8mi hod si seřizl dorzolater- stranu II. prstu L ruky nad PIP  
loubem - lalok, periferie +

tetanus snad více než 5 let

dop.: vulnus scissum digiti II. man. l. sin. inveter.

ch.: V LA 14 mesokainem, revize, revitalizace okrajů, sutura jedn. a  
samoadapt. stehy, krytí, obvaz

alteana 0,5ml i.m.

dop.: fyz. šetření, elevace HK, nemáčet, analgetika při bolesti,

kontrola na cHA pozitivní 7.6.04 dopol. při zhoršení kdykoliv dříve

Zpracoval(a):

Šimek Lubor, MUDr.



# Transcription of the medical report

Dg.:

S610 Vulnus scissum digiti II manus l. sin

W268 Kontakt s nožem, mečem nebo dýkou

Před 8 hod. si seřízl dorsolater. stranu II prstu  
L. ruky

Th.:

V LA mesokainem revisio et revitalisatio  
marginum, sutura, krytí a obvaz

# Latin in the pharmacologic terminology

- Definite set of terms used in European Pharmacopoea (current version is 8<sup>th</sup> 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  | <b>RECEPT</b> | poř. č. |
| Údaje platné pro celý recept (výpis, pohotovost, repatur s počtem opakování, nutná a neodkladná péče, atd.) |               |         |

PERSONALIA AEGROTI

Příjmení a jméno

Číslo pojištěnce

f.

Bydliště (adresa)

INVOCATIO

ORDINATIO

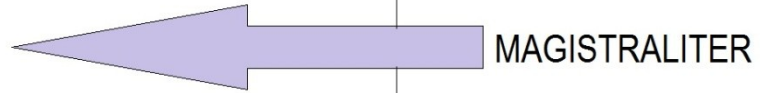
- a) PRAESCRIPTIO (COMPOSITIO)
- b) SUBSCRIPTIO
- c) SIGNATURA

| Popl. | Diagnóza <sup>7)</sup> | Sk. | Kód | Započ.dopl. | Úhrada |
|-------|------------------------|-----|-----|-------------|--------|
|-------|------------------------|-----|-----|-------------|--------|

Rp.

|                         |          |
|-------------------------|----------|
| Kalij 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



| Popl. | Diagnóza <sup>7)</sup> | Sk. | Kód | Započ.dopl. | Úhrada |
|-------|------------------------|-----|-----|-------------|--------|
|-------|------------------------|-----|-----|-------------|--------|

Rp.

Frontin 0,5 mg  
Exp. orig. No. III (tres)  
D. S. 1 tbl. ráno, 1 tbl. večer



DATUM

Dne:

SIGILLUM ET NOMEN MEDICI

razítko poskytovatele, jmenovka, podpis a telefon lékaře

|            |        |
|------------|--------|
| Připravil: | Vydal: |
|------------|--------|

<sup>7)</sup> Vyplňuje se povinně v případě zvýšené úhrady.

# Historical background

- Much of the medical terminology used today is attributed to *Hippocrates and Greek authors*
- Terminology arises from need to identify the anatomical structures, diagnoses, instruments, procedures, protocols and medications
- Many ancient terms are based on metaphors and similes, i.e. they are formed from words of nonmedical origin:

Animals

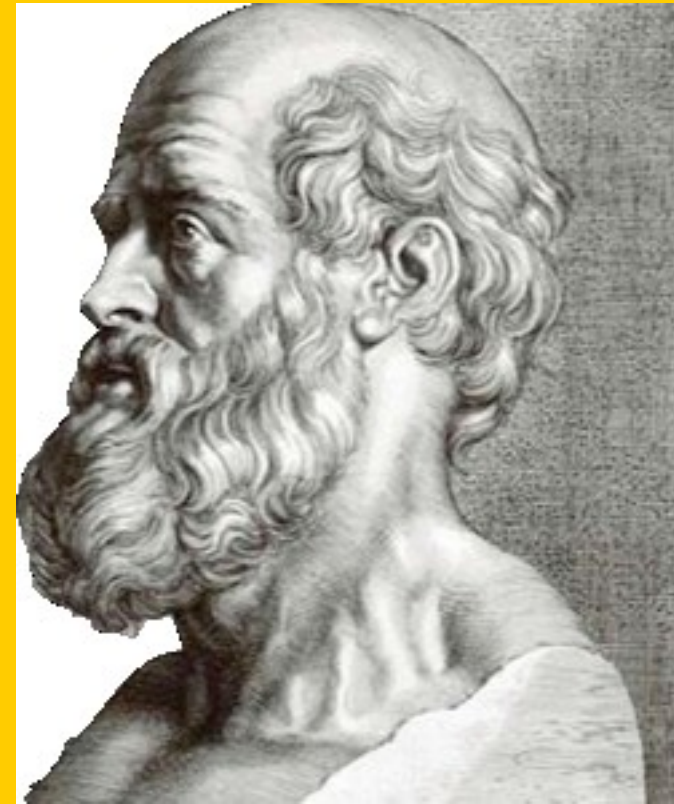
Musical instruments

Military objects

Letters of alphabet,

Household utensils,

Agricultural tools/products....



„The father of medicine“  
Hippocrates 460-370 BC

v



# 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**



BASIC MEDICAL TERMINOLOGY

**ALPHABET  
AND 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** **Ȳ** Z

## Vowels

### *Long*

**Ā** (father) frāctūra

**Ē** (term) artēria

**Ī** (intrigue) spīna

**Ō** (door) sensōrius

**Ū** (boom) rupfūra

**Ȳ** (analysis) hȳpophysis

### *Short*

**A** (cut) lingua

**E** (met) vertebra

**I** (intrigue) digitus

**I** (iatros) > **J**

**O** (on) skeleton

**U** (put) uterus

**Y** (lady) tympanum

## Diphthongs

**AE** (care) anaemia

**OE** (care) lagoena

**OE** (o-e)

**EU** (e-u)

# Read aloud and guess the meaning:

- 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 I.

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  |
|---|-------------------------------------|--|
| <b>1: c</b><br><br><b>c + ae, oe, e, i, y</b> | [k] medical<br><br>[ts] <b>tsar</b> | c <u>a</u> mera, c <u>o</u> sta,<br>c <u>u</u> ltivatio, c <u>r</u> anium<br><b>caecus, coeliacia,</b><br><b>centrum, circulatio,</b><br><b>cynismus</b> |
| <b>2: ch</b>                                  | [x] loch                            | chirurgia, cholera   |

# Consonants II.

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

# Consonants III.

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

# Read aloud and guess the meaning:

- 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, lymphia, oxygenium
- vademecum, insufficientia, chirurgia

BASIC MEDICAL TERMINOLOGY

**GRAMMATICAL CATEGORIES**

**BASIC LINGUISTIC TERMINOLOGY**

# What will you find in the dictionary?

English noun is presented only in its single form (nominative singular)

Latin noun is presented in three forms

Muscle =  
Bone =

MUSCULUS,  
OS,

I,  
OSSIS,

M.  
N.

Main form  
(full nominative)

Genitive ending/or  
even full Genitive  
form

Gender  
abbreviation

**CAUTION! When learning new words ALL THREE FORMS are EQUALLY important for the future ability to use the noun in the context.**



# Genitive ending = Declension

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

**Declensions are groups of nouns (or adjective) that use the same set of suffixes (=endings).**

# Latin and Greek declensions

## 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.            |
| S<br>i<br>n<br>g<br>u<br>l<br>a<br>r | 1. | -a                             | -e             | -es             | -us/-er                        | -um                            | -os            | -on          | ?   | ?                                       | -is/-es                            | -(s)is/<br>-xis/-osis | -ar/-e/<br>-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            |
| P<br>l<br>u<br>r<br>a<br>l           | 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.<br>of 1st<br>decl.<br>F |                |                 | + Adj.<br>of 2nd<br>decl.<br>M | + Adj.<br>of 2nd<br>decl.<br>N |                |              | +Compa<br>-rative<br>forms of<br>adj. M+F | + Com<br>parative<br>forms of<br>adj. N | + Adj.<br>of 3rd<br>decl.<br>M + F |                       | + Adj.<br>of 3rd<br>decl.<br>N |               |             |               |

# Read and write down the number of declension

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

# Genitive ending = stem of a word

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

|        |           |           |        |         |
|--------|-----------|-----------|--------|---------|
| ven-a  | humer-us  | dol-or    | arc-us | faci-es |
| ven-ae | humer-i   | dolor-is  | arc-us | faci-ei |
|        |           | corp-us   |        |         |
|        | diamet-er | corpor-is | gen-u  |         |
|        | diametr-i | de-ns     | gen-us |         |
|        |           | dent-is   |        |         |

# Decide what the stem of the noun is

**ex: caput, capit-is**

coxa, coxae

cervix, cervicis

hypogastrium,  
hypogastrii

oculus, oculi

sulcus, sulci

crus, cruris

processus, processus

arcus, arcus

coccyx, coccygis

bucca, buccae

metatarsus, metatarsi os, ossis

• ilia, ilium

fibula, fibulae

pubes, pubis

antebrachium,  
antebrachii

axilla, axillae

hallux, hallucis

patella, patellae

capilli, capillorum

thorax, thoracis

nasus, nasi

phalanx, phalangis

tarsus, tarsi

humerus, humeri

collum, colli

symphysis, symphysis

facies, faciei

corpus, corporis

femur, femoris

clavicula, claviculae