



BASIC MEDICAL  
TERMINOLOGY I  
INTRODUCTION

# Requirements

- **See the course requirements in IS, but basically:**
  - ACTIVE attendance
  - regular preparation before each session
  - passing the credit test



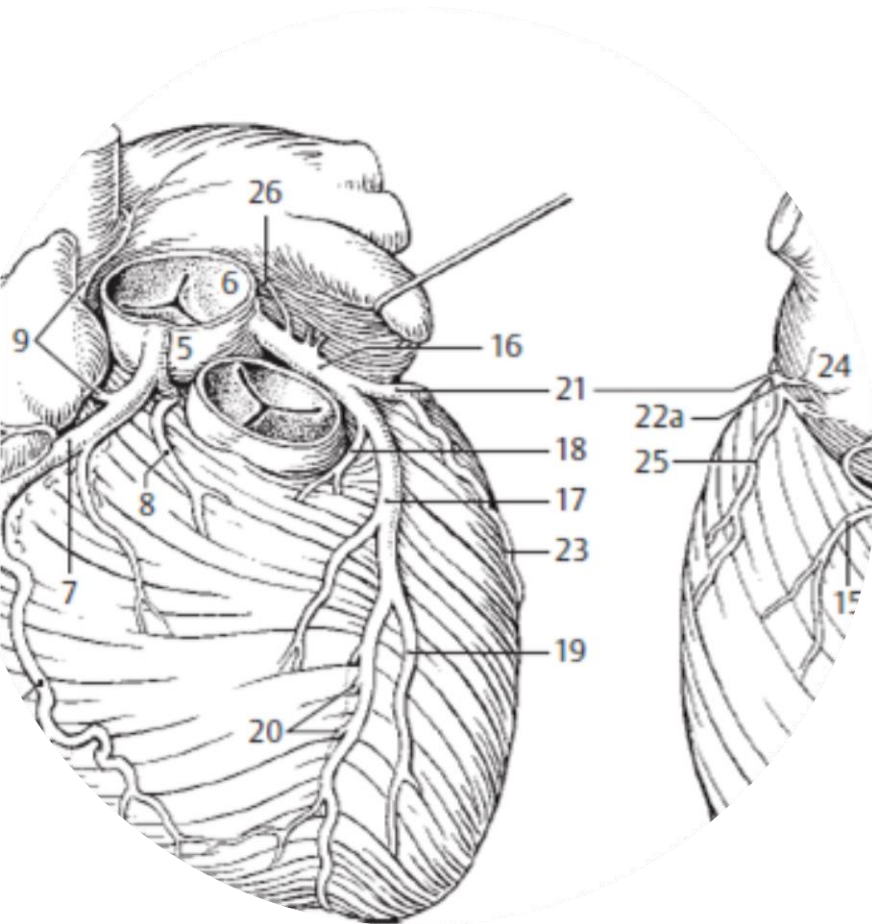
# Why Latin/Greek?

- **universal, precise and flexible** system of terms denoting:
  - anatomical structures
  - medicaments, instructions for pharmacists
  - medical documentation (diagnoses, procedures)
- **Application:**
  - clinical diagnoses
  - dissection protocols
  - medical prescriptions
  - medical documentation --- communication between doctors from different environments/countries/fields of study

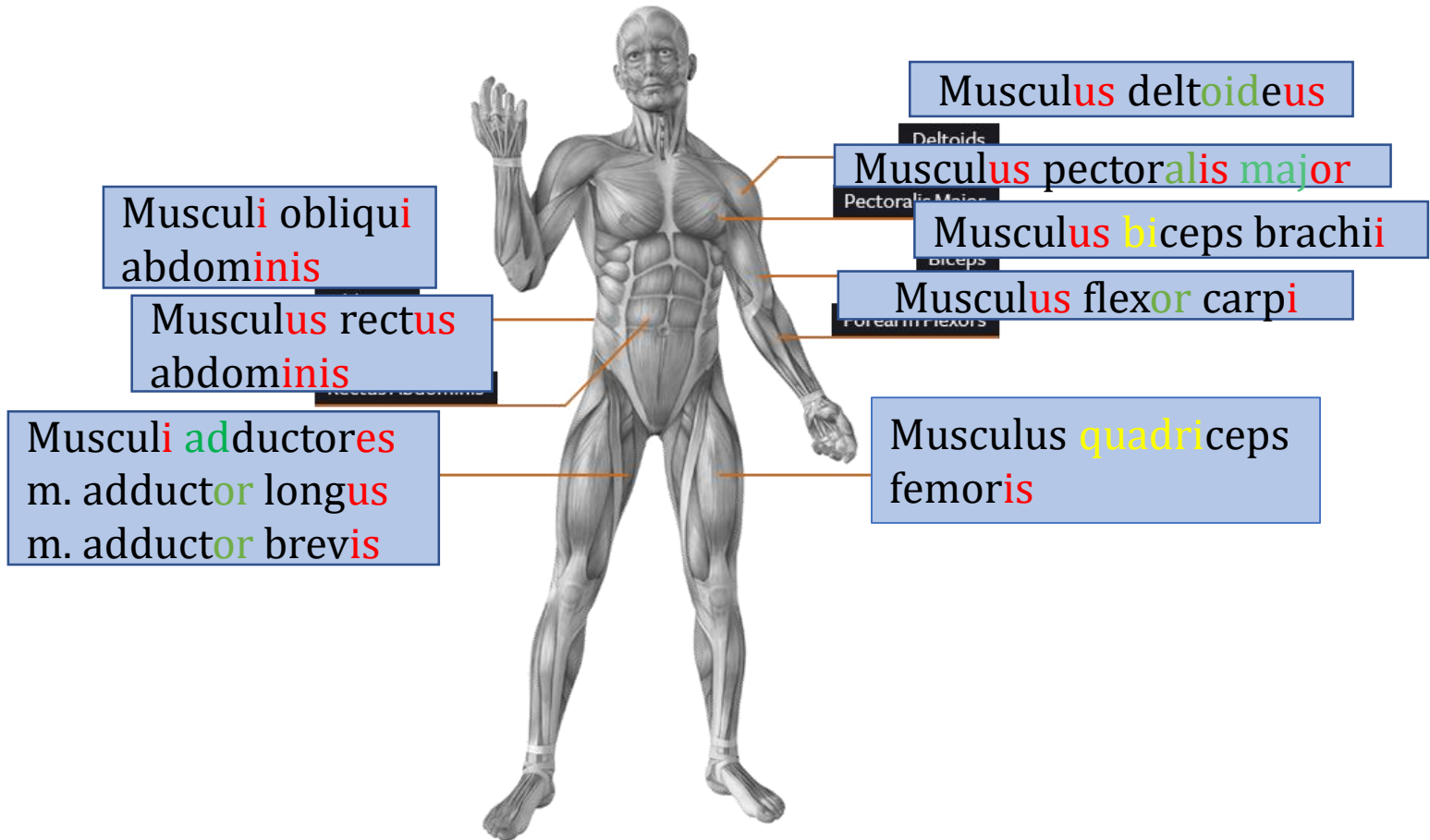


## ANATOMICAL NOMENCLATURE

- 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>)



- 5 bulbus aortae atrialis intermedium interventricularis major
- 6 arteria coronaria dextra
- 7 rami atrioventriculares
- 8 ramus coni arteriosi
- 9 ramus nodi sinuatrialis
- 10 ramia atriales
- 11 ramus marginalis dexter
- 12 ramus
- 13 ramus interventricularis posterior
- 14 rami interventriculares septales
- 15 ramus nodi atrioventricularis
- 16 ramus posterolateralis dexter
- 17 arteria coronaria sinistra
- 18 ramus
- 19 ramus con arteriosi
- 20 ramus lateralis
- 21 rami interventriculares septales
- 22 ramus circumflexus
- 23 ramus atrialis anastomoticus

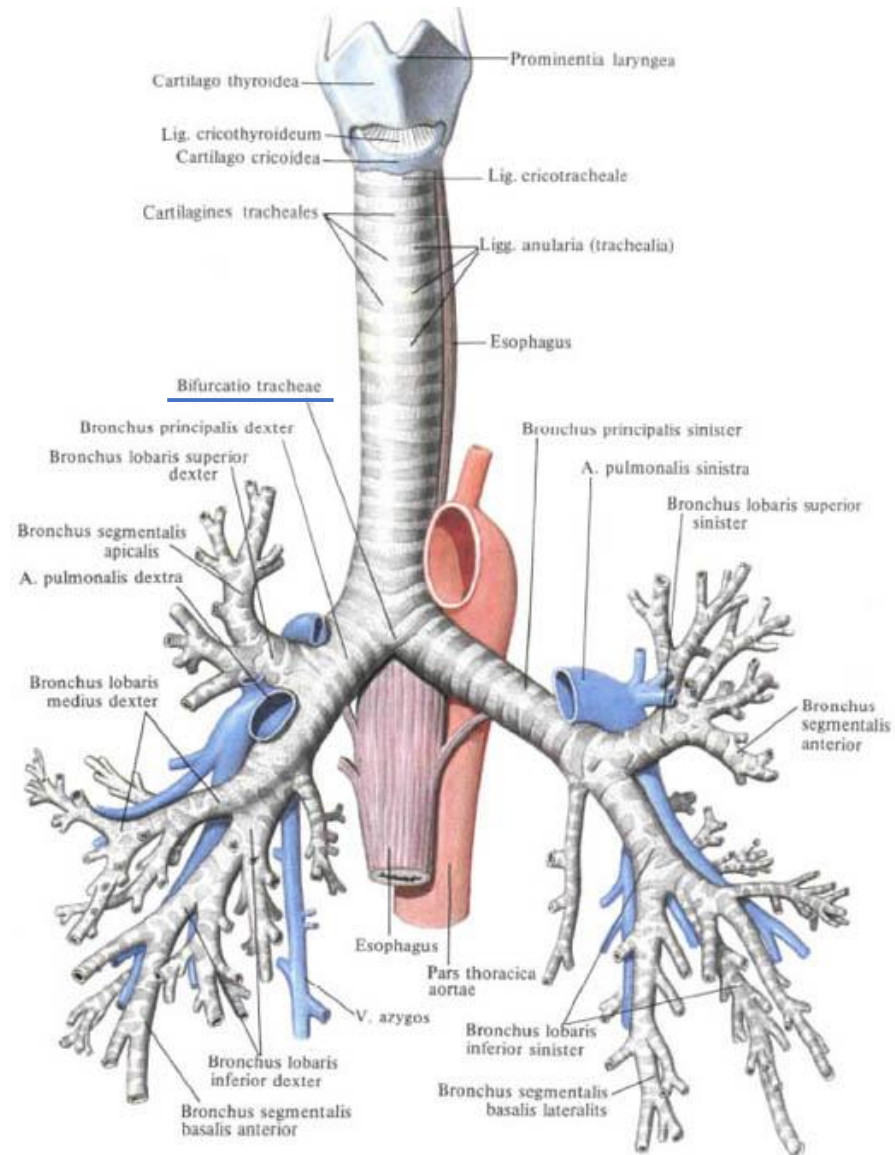
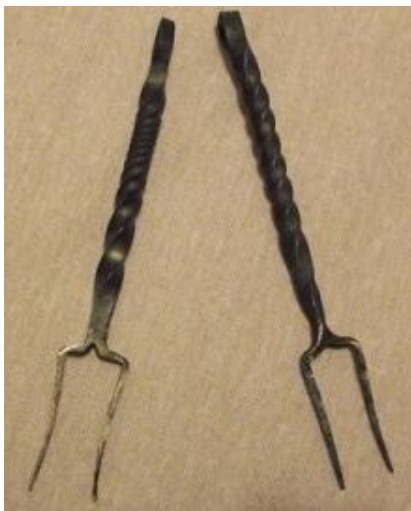


- Many medical terms are based on metaphors and similes, i.e. they are formed from words of non-medical origin
- E.g. bifurcatio = bifurcation

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

*furca* = a two-pronged fork

**bifurcatio tracheae**



# 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/](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, partially also in Western Europe - Germany, Austria)



# Medical records



Rehabilitační oddělení  
B Rehabilitace odd 186A (B-RHO-A)  
Fyzioterapie 625 00 Brno  
IČP: 72100054

RHO-1A  
Fakultní nemocnice Brno  
rehabilitační oddělení  
Jihlavská 20, 625 00 Brno

Č. chor.

Zákl. dg: M160 Coxarthrosis l. sin.  
Dg. souhrn:  
St.p. implantationem endoprotheseos totalis coxae l.sin. propter  
coxarthrosim 13.10.2010 Z 96 6  
Coxarthrtosis l.dx. I st. M 16 0  
Morbus hypertonicus in anamnesi h.t.comp. I 10

### Léčebný a diagnostický plán:

LTV - 2 x denně - cvičební jednotka pro pac. po TEP kyčle, kondi  
cvičení dle tolerance pac., dechová a cévní gymnastika, nácvik ch  
po rovině a po schodech o 2 PB bez zatěžování operované LDK s její  
příkládáním.  
Goniometrie kyčle 1x týdně. MT na jizvu - po vytažení  
stehů denně - od 1.11.2010  
Nácvik samostatnosti a soběstačnosti.  
PIR - protažení flexorů kyčlí i kolenních kloubů, resp.  
protážení zkrácených svalových skupin a posílení oslabených  
svalových skupin.  
Poučení pacienta o péči o jizvu, instruktáž pacienta.

20.10.2010

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 dýkou - Jiné určené místo

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.

31	NEMOCNICE S POLIKLINIKOU
001	Dukelských hrdinů 200, 269 29 Rakovník
616	IČO: 00068331, tel.: 313 525 432
	chirurgie-příjmová ambulance VS 129

# WORD COMPOUNDING

*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**



# Medical prescriptions

VZOR

INSCRIPTIO

Kód pojišťovny	<b>RECEPT</b>	poř. č.
Udaje 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

Popl.	Diagnóza <sup>1)</sup>	Sk.	Kód	Započ.dopl.	Úhrada
-------	------------------------	-----	-----	-------------	--------

ORDINATIO

*Rp.*  
 Kalii 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

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

Popl.	Diagnóza <sup>1)</sup>	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:
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<sup>1)</sup> Vyplňuje se povinně v případě zvýšené úhrady.

# Dissection protocols

tok mozku, podchlazení  
Podchlazení organismu E 901,

ELATIO.  
holaemia :  
holuria :  
res mortis lucide rubri.

ma cerebri grave, conus occipitalis et t  
uot subpleurales. Venostasis acuta pulmon  
ersae pulmonum. Sanguis ventriculorum co  
stasis acuta organorum abdominalium.

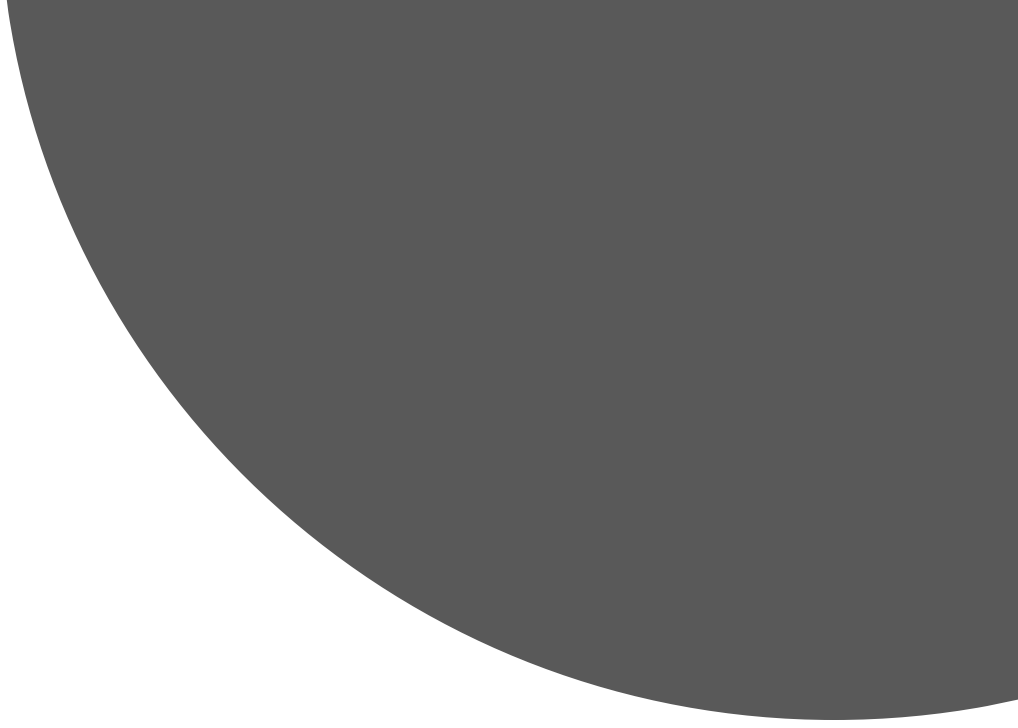
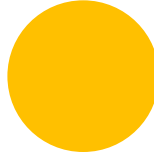
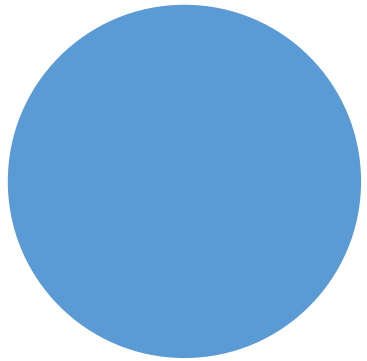
ma cerebri. Congelatio.

erosclerosis aortae I. gradus et arteria  
us. Bronchitis catarrhalis chronica. I  
icularum pulmonum. Hypertrophia trabe  
tri cordis /cor pulmonale/. Haematom  
remitarum inferiorum et superiorum.  
dorsi manus. usriusque.



# Learning outcomes

- apply relevant Latin anatomical terms correctly and with understanding;
- recognize and explain grammatical concepts and categories relevant to the acquisition of Greek-Latin medical terminology;
- recognize the semantic structure of selected anatomical and clinical one-word terms;
- explain syntactic structure of complex terms;
- derive adjectives from nouns and vice-versa using common suffixes;
- form simple compound words denoting inflammatory and non-inflammatory diseases, as well as the basic types of tumours (-itis, -osis, -oma)
- translate anatomical terms and simple clinical diagnoses (with focus put on fractures and basic types of injuries, i.e. traumatology).



Latin pronunciation



- 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



# 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** (sad) artēria

**Ī** (intrigue) spīna

**Ō** (door) sensōrius

**Ū** (boom) ruptūra

**Y** (analysis) hypophysis

### *Short*

**A** (cut) lingua

**E** (met) vertebra

**I** (intrigue) digitus

**I** (yes) > **J**

**O** (on) skeleton

**U** (put) uterus

**Y** (lady) tympanum

## Diphthongs

**AE=Ē** (care) anaemia

**OE=Ē** (care) lagoena

*Greek words*

**OE** (o-e) dyspnoe

**EU** (e-u) euthanasia

# 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
<b>1: c</b> + a, o, u, consonants  <b>c</b> + ae, oe, e, i, y	[k] medical  [ts] <b>tsar</b>	c <u>a</u> mera, c <u>o</u> sta, c <u>u</u> ltivatio, cr <u>a</u> nium c <u>a</u> ecus, c <u>o</u> eli <u>a</u> cia, c <u>e</u> ntrum, c <u>i</u> rculatio, c <u>y</u> nismus
<b>2: ch</b>	[x] lo <b>ch</b>	chirurgia, cholera

# Consonants

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

# Consonants

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



# Basic grammatical concepts

# Gender

- **Masculine** (e.g. nervus)
- **Feminine** (e.g. fractura)
- **Neutral** (e.g. cerebrum)

Not always intuitive – you have to learn the gender of each noun !!!

Why?

to properly inflect the noun  
and connect adjectives to it

# Number

- **Singular** (=1)
- **Plural** (=2 and more)

# Case

- **ENGLISH:** the order of the words in a sentence/phrase gives the information on their grammatical function

e.g. complicated fracture of the left humerus

(**adjective** – **noun** – non-agreed attribute (*of...*) – **WORD ORDER MATTERS**)

- **LATIN:** the form of each word in a sentence/phrase gives the information on its grammatical function

e.g. Fractura humeri sinistri complicata = fractura complicata humeri sinistri – **ENDINGS MATTER**





Latin

v

English

- **English:** meaning changes if we change word order

soft ulcer in duodenum x  
~~ulcer in soft duodenum~~

- the function of a word is conveyed by WORD ORDER (Subject-Verb-Object rule)
- **Latin:** meaning does not change  
soft ulcer of/in duodenum  
*ulcus molle duodeni =  
ulcus duodeni molle*  
etc.
- the function of a word is conveyed by its ENDING!!!

# Function of case in medical terms

case	function	use	vocab system
NOMINATIVE	subject of the phrase always first in the sentence!!	ANATOMY <b>corpus</b> ulnae (= body of ulnar bone)	1 <sup>st</sup> dictionary entry
GENITIVE	~ English „of“	ANATOMY caput <b>femoris</b> (= head <b>of thigh bone</b> )	2 <sup>nd</sup> dictionary entry
ACCUSATIVE	after prepositions	CLINICAL DIAGNOSES <b>post</b> operationem (after the operation)	
ABLATIVE		<b>sine</b> complicationibus (=without complications)	

status post implantationem osteoprotheseos coxae sine complicationibus

↑  
NOMINATIVE  
= state/condition

↑  
ACCUSATIVE  
= after implantation

↔  
GENITIVE  
= of osteoprothesis  
= of hip bone

↑  
ABLATIVE  
= without complications

= state after the implantation of osteoprothesis of hip bone without complications

# DICTIONARY ENTRY

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

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.

Basic form  
(full nominative)

Genitive ending/or  
even full Genitive form  
if the word is short

Gender  
abbreviation

# Genitive ending (2nd info) = 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, <b>ae</b> , f.	humerus, <b>i</b> , m. cranium, ii, n.	coccyx, <b>gis</b> , f. dens, dentis, m. femur, oris, n. pelvis, is, f.	arcus, <b>us</b> , m. genu, us, n.	faci <b>es</b> , ei, f.

**Declensions are groups of nouns (or adjectives) that use the same set of case endings.**

**Without learning Genitive form, you cannot classify the noun into a proper declension group, thus, you cannot use it properly in a sentence.**

# Declension

= a group of nouns that share the same case endings

(have the same set of case endings), see the **declension table**

Each noun belongs to one of 5 declensions:

- 1st declension – a-stems – ven-**a**-rum
- 2nd declension – o-stems – nerv-o-rum
- 3rd declension
  - i-stems – pelv-**i**-um
  - consonant stems – dolo-**r**-um, pon-**t**-um, sectio-**n**-um
- 4th declension – u-stems – duct-**u**-um
- 5th declension – e-stems – faci-**e**-rum

# GENITIVE STEM

IT IS CRUCIAL TO KNOW THE STEM TO CREATE ALL OTHER CASES, because the endings are always attached to the stem of the word !!!

**how do I know the stem?**

**remove the genitive ending, what stays is the stem!**

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

# Adjectives

= words describing nouns

**Adjectives always have to correspond with the noun to which they belong in gender, number and case!!!!**

fractura ulnae dextrae complicata  
vertebrae thoracicae  
ad lagoenam fuscam  
cum anaemia perniciosa

***Why do you think this is so?***



# Prepositions

- with accusative
- with ablative

➤ **See the Overview: Basic grammatical concepts in IS**

## Follow-up exercise

- **Assign the terms given in Handout 1 to their declensions**
- **Write down the full Genitive and stem of each term**