

14

Word Formation

Studying nouns and adjectives requires that we remember words as wholesome dictionary units and building parts of Latin medical terminology, e.g. **vena** – vein, **operatio** - operation; **acutus, a, um** – acute, **facialis, e-** facial, etc. To make use of these words we just need to remember their dictionary form and meaning. But to know exactly why a diagnosis or a structure has the name it is known by, means to learn the etymology, i.e. the origin and meaning in the language of origin – e.g. **atlas** – the first cervical vertebra has that name in analogy to that of the giant Atlas (Gr. Atlas, antis m), as it supports the head in the same way as Atlas is said to have supported the sky over the earth.

Quite different is the case with composite terms of Greek origin – e.g. **myocardium**, **pericarditis**, **endocardium**, **cardiorrhexis**, etc.

Identification

Medical terminology is structured into three primary parts: the root of the word, the prefix and the suffix. The root is generally located in the middle of the word and signifies the basic meaning. The prefix comes before the word root and identifies the word's meaning by revealing further information. The suffix, at the end of a word, works as an inflectional ending that conveys definite features, including condition, type of disease, attitude, etc.

Considerations

Medical terminology also uses Greek and Latin compounds to connect nouns, adjectives, verbs in the complex term. There are a few rules when using medical roots:

Firstly, prefixes and stems, primarily in Greek, have a droppable *-o-*. As a general rule, this *-o-* almost always acts as a joint-stem to connect two consonantal roots, e.g. *neur-+o-+logia* = *neurologia*. But generally, the *-o-* is dropped when connecting to a vowel-stem or suffix, e.g. *neur- + itis* = *neuritis*. In combining prefixes and stems of Latin origin sometimes a droppable *-i-* is used: e.g. *viv- + -i- + sectio* = *vivisectio*, although the droppable *-o-* is also quite usual: e.g. *nas-+o-+lacrimalis* = *nasolacrimalis*.

Secondly, medical roots of certain origin generally go together: Greek roots combine with Greek prefixes and suffixes and Latin roots combine with Latin prefixes and suffixes. Although it is technically considered acceptable to create hybrid words, it is strongly preferred not to mix different lingual roots. This is why combining Greek and Latin elements is not unusual, but much more rare than combining elements of common origin. Latin elements are most often used as suffixes after Greek root(s). This is explained by the fact that at a very early stage the Greek roots were assimilated in Latin and were not considered as “foreign”.

Linguistic nests

As with all disciplines, learning the specialized vocabulary in medicine can take years, but a great way to get a profound understanding of the vast medical lexicon (which daily gains more and more terms, or neologisms) is learning the Greek (and to a smaller extent – the Latin) roots, prefixes and suffixes that make up most of medical vocabulary.

The productive capacity of Latin and Greek elements is beyond comparison - Latin is much poorer and complex medical terms are mostly artificial. Some typical examples are terms like *cruciformis* <*crux* (cross) + *-i-* + *formis*; *nasolacrimalis* <*nasus*(nose)+*-o-*+*lacrima*(tear)+*-alis*(adj.), etc.

Yet, just a few of the terms based on the Greek stem **oste(o)-** (*Lat.* os, ossis n -bone) are quite an impressive number: osteomalacia, osteoclasia, osteotomia, os-teoectomy,

osteogenesis, osteitis, osteo-ma, osteosynthesis, osteosclerosis, osteo-logia, osteomyelitis, osteonecrosis, osteo-plastica, osteoporosis, osteosarcoma.

How does it work

To show how the word nests develop, let's take as an example a couple of the most popular Greek stems:

1) Gr. haima, haimatos – blood > Lat. – haemo-, haemat(o)-, -aem-, -aemia, Eng. hem(o)-, hemat(o)-, -emia.

So, if one is an(a)emic, or afflicted with **anaemia**, one is etymologically "without blood" (the Greek prefix *a, an* – without). Note as well that the Latin/Greek suffix **-ia** means "an abnormal or pathological condition," e.g. pathological terms as *haemophilia, amnesia, insomnia, anorexia, paranoia, hysteria, pneumonia, hypochondria, aphasia, neuralgia, myalgia, myopia*, etc. **Haemophilia** is a fairly rare pathological condition primarily present among males. Note that the word itself also contains the common Greek root *-philia*, "love." Hence, a *hemophilic* is someone who "loves blood" because they bleed a lot and lose it so readily, and consequently need more and more. **Haemorrhagia** (hemorrhage) arrives via the Greek verb *rheo* – "to flow" (also giving us words such as *diarrhoea, amenorrhoea, and rheumatism*); hence, a hemorrhage is an excessive "flowing of the blood," and refers to blood gushing out of a blood vessel when it should not be, such as a brain hemorrhage. **Haematologia** (hematology) is the study of blood and **haematogenes** (hematogenous) organs that produce the blood, etc. The stem *-logia* comes from the Greek word *logos* – word, speech, study, saying, reason, thought, calculation, ratio – a progenitor of thousands of words for different disciplines – *biology, psychology, nephrology, neurology, zoology*, etc.

The Latin root for blood, *sanguis, sanguinis*, has been largely ignored by the medical community. The most useful word that comes from this root is "sanguine", originating from the medieval concept that abundance of the humor "blood" makes someone sanguine, or "cheerful" and "optimistic".

Another very famous and largely used stem comes from Greek word *tomos* – cutting, section > Lat. *-tomia*, Eng. *-tomy*.

Beginning with physics in relation to the root *tomos*, ancient people believed that an atom (Gr. *atomus* – uncuttable) could "not" (a-) be "cut" (-*tomos*) since it was the smallest known particle of matter. Hence, *anatomia* is "cutting to parts" of the body in order to reveal its complex internal structure. Indeed, in order to study the body, one must "cut up" its parts to reveal them. And, speaking of medical procedures or operations in which parts of the body are cut open or cut away, consider the vast number of terms like *thoracotomia* (thoracotomy), *ulotomia* (gingivotomy), *metrotomia* (metrotomy) or *hysterectomia* (hysterectomy), *prostatectomia* (prostatec-tomy), *nephrectomia* (nephrectomy), in which different organs are cut or "cut away" (note the "ec-" which comes from the Greek preposition *ec, ex* – out of, from).

LEGEND

Abbreviations and signs

NB!	pay attention	◆	example for the element above
<>	opposite elements	<	derived from
>	developed into	≠	different
id.	the English word is the same as the Latin one		
syn.	synonymous term(s)		
i.e.	that is		
e.g.	for example		
Gr.	Greek word		
Lat.	Latin word		
-ia	a dash in front of an element means that it is used in final position		
an-	a dash after the element means that it is used in front or middle position		
v.	see, refer to		

Unit 15

Corpus

1. SOM(AT)- = corpus, oris n – body

◆ **macrosomia**, *syn.* gigantismus, megalosomia, somatomegalia – id., abnormally big (giant) body

◆ **nanosomia**, *syn.* nanismus, microsomia – id., dwarfism

Remember!

1. If a Greek element word has a changing stem (i.e. it is imparisyllable) and changes by adding the syllable -at-, the short form (Nom. Sg. stem) is usually used at the end of terms combined with -ia ending, which denotes a state or condition:

macro**somia**, somatomegalia

2. Combining the root of an anatomical term with the suffix -ia attributes to the new element a meaning of some pathological state or condition connected to the referred anatomical object –

e.g. **-som-** + **-ia** = **-somnia**

pathological state of the body

An element defining the type of the process or Greek element for adjective which explains the type of pathological change is put in the beginning: e.g. macro**somia**

3. If **-ia** is attached to an adjective stem, the new term element signifies a type of a pathological process (large > enlargement):

-megal- + **-ia** = **-megalìa**

pathological enlargement

A stem referring to the concerned anatomical part can be found at the beginning of such a term: e.g. somatomegalia

4. The vowel -o- is a typical connection letter between the parts of a word made up of Greek elements.

2. CEPHAL- = caput, itis n – head

◆ **nanocephalia** – id., insufficiently developed upper skull and consequently – small brain, leading to retarded mental development

◆ **cephalalgia** – id., headache

3. CRANI- = cranium, ii n – skull

◆ **hemicrania**, *syn.* migraena – id., pain in half of the head (skull)

<u>Gr.</u>	<u>Lat.</u>	<u>Eng.</u>
hemi-	semi-	1/2, half
mono-	uni-	1, singular
di-	bi-	2, double
tri-	tri-	3, triple
tetra-	quadri-	4, quadruple
poly-	multi-	multiple
oligo-	/	few

◆ **craniotomia**, *syn.* cephalotomia – id., cutting off or perforating the skull (usually of a dead foetus so that to remove it easily)

NB! The term **trepanatio**, **onif** is not used in the same sense.

-tomia = *sectio, onis f*
-ectomia = *amputatio, onis f, extractio, onis f*
-stomia = *fistula, ae f*

4. SKELET- = **skeletum, i n – skeleton**

◆ **skeleton**, *syn. sceletum – id.*

5. OST(E)(O)- = **os, ossis n – bone**

◆ **osteoplastica** – *id.*, plastic surgery of a bone

◆ **osteoplasia** – *id.*, inborn lack of a bone

-plastica – plastic surgery
-plasia – natural formation of structures

◆ **osteopathia** – osteopathy

NB! **-pathia** means 1) disease (*Lat. mor-bus*) , 2) emotion (*Lat. emotio*) which differs from **-aesthesia** – feeling, (*Lat. sensus*), e.g. **sympathia** – sympathy, but: **anaesthesia** – *id.*

6. STETH- = **pectus, oris n – breasts**

◆ **stethoscopium** – stethoscope

7. THORAC- = **thorax, acis m – id., chest**

◆ **thoracocentesis** – *id.*

NB! “-thorax” is used as an end element meaning “pleural cavity”

◆ **haemothorax** – *id.*

-centesis = *punctio, onis f - puncture*

8. RHACHI- = **columna vertebralis – spinal column**

◆ **rhachianaesthesia** – *id.*

◆ **rhachitis**, *syn. morbus anglicus, id., rickets*

9. SPONDYL- = **vertebra, ae f – id.**

◆ **spondylomalacia** – *id.*, softening of the vertebrae

malac- <> **scler-**
soft hard
-malacia <> **-sclerosis**
softening hardening

10. OMPHAL- = **umbilicus, i m – navel**

◆ **omphalotomia** – omphalotomy

11. LAPAR-, COELIA-
= **abdomen, minis n – belly**

◆ plexus **coeliacus**, *syn. plexus solaris, cerebrum abdominale – id.*, solar plexus, abdominal brain

◆ **relaparotomia** – reopening of belly

NB! **re-** means repeated action

12. MY(OS)- = **musculus, i m – muscle**

◆ **myoma** – *id.*, muscular tissue tumor

◆ **myositis** – *id.*

◆ **myasthenia** – *id.*, muscular weakness

-sthenia <> -asthenia
potentia (Lat.) <> impotentia (Lat.) power, strength <> weakness

NB! Elements for muscular activity and motion, without element myo- are:

-**dynamia** – power, muscular activity

-**kinesis, -kinesia** - movement

◆**adynamia** – id., muscular weakness

◆**dyskinesis** – id., disturbed motion

13. ACRO-, MEL- = extremitas, atis f – limb, extremity

◆ **melalgia** – id., pains in extremities

NB! **acro-** has the following meanings:

1) limb - *syn.* **membrum, i n**

◆ **acromegalia** – acromegaly, Marie’s disease

2) sharp, high, elongated

◆ **acrocephalia** – acrocephaly

3) high place, topmost

◆ **acrophobia** – id.

14. POD- = pes, pedis m – foot

◆ **podagra**, *syn.* arthritis uratica – id., gout

15. GON- = genu, us n – knee

◆ **gonitis**, *syn.* gonarthritis – id.

NB! The same element has also another meaning – semen, child (v. Unit 23, 6)

16. CH(E)IR- = manus, us f – hand

◆ **chirurgia** – surgery (= “hand-work” –

until 18th c. surgeons were considered craftsmen, not doctors)

17. OM- = humerus, i m – shoulder

◆ **omalgia**, *syn.* omodynia – id.

18. DACTYL- = digitus, i m – finger, toe

◆ **syndactylia** – syndactyly, syndactylism

◆ **dactyloplastica** – id., finger/toe surgery

◆ **polydactylia** – id.

PROTOCOL # 11 / Date.....

CORPUS

Name.....Group.....Fac. #.....

1. Fill in the missing parts to form a single term with the following meaning:

..... ergia – difficult joint action

laparo..... – puncture of the belly

myo..... – disease of the musclesdynamia – lack of muscular activity

.....osis – vertebral illness

osteo..... – softening of the bones

acro..... – big limbs

.....odynia – pains in the muscles of the chest

syn.....osis – connection of bones

.....algia – headache

2. Give synonyms for:

- | | |
|-------------------------|---------------------------|
| nanosomia – | craniotomia – |
| microcephalia – | cephalalgia – |
| rhachitis – | plexus solaris – |
| omodynia – | gigantismus – |
| dorsum rotundum – | arthritis uratica – |
| migraena – | gonarthritus – |

3. Write using one word composed of Greek elements:

- | | |
|-----------------------------|-----------------------------------|
| Pain in the limbs – | Cancer of the bones – |
| Joint action – | Vertebral section – |
| Giant body – | Fusion of the fingers – |
| Bigness of the head – | Shoulder' pain – |
| Gout of the foot – | Inflammation of the navel – |

4. Combine into ONE word made up of elements of Greek origin and translate into English:

Example: caput + dolor (or dolor + caput) = cephalalgia → headache

- | | | |
|------------|-----------------|---------|
| dolor + | musculus | = |
| | thorax | = |
| | manus | = |
| musculus + | inflammation | = |
| | similar | = |
| | tumor | = |
| | weakness | = |
| | spasm | = |
| os + | plastic surgery | = |
| | inflammation | = |
| | tumor | = |
| | section | = |
| | sickness | = |

5. Check the right answer:

- | | | | |
|--|------------------------------------|--------------------------------------|------------------------------------|
| a) Which element is connected to surgery: | <input type="checkbox"/> -plasia | <input type="checkbox"/> -plastica | <input type="checkbox"/> -genesis |
| b) Which term means the same as the element -tomia : | <input type="checkbox"/> amputatio | <input type="checkbox"/> exstirpatio | <input type="checkbox"/> sectio |
| c) Which term does NOT mean dolor : | <input type="checkbox"/> -pathia | <input type="checkbox"/> -odynia | <input type="checkbox"/> -algia |
| d) Which Greek word means the same as the Latin punctio : | <input type="checkbox"/> centesis | <input type="checkbox"/> sclerosis | <input type="checkbox"/> scoliosis |
| e) Which Greek prefix means the same as the Latin re- : | <input type="checkbox"/> di- | <input type="checkbox"/> hemi- | <input type="checkbox"/> neither |

6. Fill in the tables splitting the given terms in parts:

Cheiragra		
Greek element		
Latin relevant		
English meaning		

Acrodynia		
Greek element		
Latin relevant		
English meaning		

Osteopathia		
Greek element		
Latin relevant		
English meaning		

Rhachitis		
Greek element		
Latin relevant		
English meaning		

Polydactylia			
Greek element			
Latin relevant			
English meaning			

Spondylomalacia			
Greek element			
Latin relevant			
English meaning			

Nanocephalia			
Greek element			
Latin relevant			
English meaning			

Somatomegalia			
Greek element			
Latin relevant			
English meaning			

Apathia		
Greek element		
Latin synonyms		
English meaning		

Hyperaesthesia		
Greek element		
Latin synonyms		
English meaning		

7. Translate into English:

1. Omphalotomia neonatorum
2. Status post spondylocentesim.....
3. Osteoplastica post fracturam fibulae sinistrae.....
4. Dyskinesia post therapiam medicamentosam.....
5. Laparotomia pro operatione myomatis uteri.....

8. Translate into Latin (the underlined words should be translated using one term only!):

1. Second plastic surgery of the fingers of the right hand.....
2. Amputation of the feet after multiple traumas.....
3. State after opening of the chest.....
4. Second section of the belly due to paralytic ileus.....
5. Excision of the navel due to tumor.....

Unit 16

Structura corporis

In terms referring to essential body structures, stems for colours play an important part. This is why we start with them.

COLORES

CHROM(AT)- = color, oris m – colour

◆ **heterochromia** – id., different colour of twin anatomical structures which are usually of the same colour

◆ **achromatopsia** – id., colour-blindness

NB! 1) Similar to chrom(at)- is **poikilo-** – colourfull, different, etc. which is usually used in the sense of “irregular”

◆ **poikilocytus** – id. (erythrocyte with irregular form)

2) Quite often the stem **chrom(at)-** means some kind of skin discoloration, without the stem for “skin” (**derm/at-**):

◆ **dyschromia** - id., skin decoloration

ERYTH(R)- = ruber, bra, brum – red

1) **red colour**

◆ **erythema** – id., redness of skin

2) **red blood cells (erythrocytes)**

◆ **erythropoiesis** – id.

LEUC-, LEUK- = albus,a,um – white, pale

1) **white, pale colour**

◆ **leucotomia** – id., section of the white brain substance during lobotomy

2) **white blood cells (leucocytes)**

◆ **leucopenia** – id., *syn.* hypoleucocytosis

<p>hypo- <> hyper- under <> above hypo...ia/osis <> hyper...ia/osis micro...ia <> megal...ia -penia <> -auxis decrease <> increase</p>
--

MELAN- = niger, gra, grum – black, dark

◆ **melanopathia**, *syn.* nigrities cutis, melan-ismus, melanosis – id.

POLIO- = griseus, a, um – gray

♦ **poliomyelitis** – id.

CYAN- = lividus, a, um / purpureus, a, um – blue, purple

♦ **acrocyanosis** – id., acrocyanose, bluish limbs

CHLOR- = viridis, e – green

♦ **chloroma**, *syn.* chloroleucosarcomatosis – id., malignant tumor with green colour

XANTH- = luteus, a, um – yellow

♦ **xanthochromia**, *syn.* xanthodermia – id.

CIRRH- = flavus, a, um – red/brown-yellow

♦ **cirrhosis** – id.

STRUCTURA

1. CYT- = cellula, ae f – cell

♦ **cytoscopia**, *syn.* cytodiagnosis – cytосcopy

<p>-metria – measuring -scopia – instrumental check -gramma – graphic presentation of the organ's activity -graphia – photo/image presentation of an organ or its activity</p>
--

2. HIST- = tela, ae f – tissue

♦ **histogenesis** – id.

3. ORGAN- = organum, i n – organ

♦ **organotherapia** – id., organotherapy

4. SARC- = caro, carnis f – flesh

♦ **sarcoma** – id.

♦ **anasarca** – id. (v. Humores, 4)

5. DERM(AT)- = cutis, is f – skin

♦ **dermatitis** – id.

♦ **dermatophytia**, *syn.* dermatomycosis – id.

NB! **-phytia = -mycosis**, but

phyt- – plant, herb ≠ **myc-** – fungus

e.g. **phytotherapia** – id., phytotherapy

6. NEUR- = nervus, i m – nerve

♦ **neurotonia**, *syn.* neurectasia – id.

NB! In the example **-tonia** is used as a stem synonymous to **-ectasia**, i.e. *dilatation*, but it means “pressure, force” and is well known as part of terms associated to blood pressure:

hypertonia – id., high blood pressure

hypotonia – id., low blood pressure

7. PHLEB- = vena, ae f – vein

♦ **phlebectasia**, *syn.* varices – id.

<p>-ectasia <> -stenosis dilatatio (Lat.) <> strictura (Lat.) widening <> narrowing</p>

♦ **phleborrhexis** – id., rupture of the vein

<p>-rrhesis = ruptura (Lat.) – rupture</p>

NB! Combining the same elements but changing their places may sometimes re-sult in change of the term's meaning:

- ◆ **phlebothrombosis** – id., formation of a thromb in a vein which leads to obstruction
- ◆ **thrombophlebitis** – id., formation of a thromb as a result of an inflamed vein's wall

8. ANGI- = vas, is n – (blood) vessel

- ◆ **angiorrhexis** – id.

9. ARTHR- = articulatio, onis f – joint, articulation

- ◆ **panarthritis** - 1) inflammation of a whole joint; 2) (rarely) inflammation of all joints, *syn.* polyarthritis, multiarthritis

10. (SYN)DESM- = ligamentum, i n – ligament

- ◆ **syndesmologia** – id., syndesmology

11. TEN- = tendo, dinis m – tendon, sinew

- ◆ **tenalgia**, *syn.* tendodynia – id.

NB! Latin stem forms *tendo-* and *tendin-* are also used as word-building elements:

- ◆ **tendovaginitis** – id.
- ◆ **tendinitis**, *syn.* tenitis – id.

12. CHONDR- = cartilago, ginis f – cartilage

- ◆ **achondroplasia**, *syn.* chondrodystrophia – id.

- ◆ **hypochondria** – id., symptomatic com-plex of psychic disturbance – according to ancient ideas that the area of false ribs (*hy-pochondrium*) was the center of human fears

- ◆ **chondritis** – id.

13. ADEN- = glandula, ae f – gland

- ◆ **adenomyoma** – id.

- ◆ **adenopathia** – id.

NB! The meaning of *aden-* was originally connected to lymphatic nodes, as the ancient doctors mistook them for glands:

- ◆ **adenopathia** – id., adenopathy

- ◆ **adenitis** – id., *syn.* lymphadenitis

When the stem is used in the sense of “gland”, the element specifying which exactly gland the term refers to, is attached in front of *-aden-*:

- ◆ **dacryoadenitis** – id.

14. KERAT- = cornu, us n – keratin

- ◆ **dyskeratosis**, *syn.* ichthyosis – id., “fish skin”, v. *keratoma palmare et plantare*

NB! *Kerat-* is also used for the cornea of the eye:

- ◆ **keratitis** – id., (v. *Caput*, 6)

15. ONYCH- = unguis, is m – nail

- ◆ **onychophagia** – onychophagy, nail-biting

-phagia ≠ -trophia eating, biting organic process

16. TRICH- = pilus, i m – hair

- ◆ **atrachosis** – id., *syn.* alopecia congenita

- ◆ **hypertrichosis**, *syn.* trichauxis, polytri-chia, hirsuties – id.

STRUCTURA CORPORIS

Name..... Group..... Fac. #.....

1. Fill in the missing parts to form a single term with the following meaning:

- ectasia – dilatation of a vein
-therapia – medication with herbs
- dys..... – (skin) decoloration
- acro.....osis – blue limbs
- angio..... – rupture of a blood vessel
- leuco..... – decrease in the number of leucocytes
-lysis – dissolution of erythrocytes
-genesis – formation of tissues
-plastica – plastic repair of a sinew
-itis – inflammation of all joints

2. Give synonyms for:

- varices –
- onychauxis –
- neurectasia –
- chondrodystrophia –
- tenalgia –
- cytodiagnosis –
- xanthochromia –
- multiarthritis –
- dermatomycosis –
- polytrichia –

3. Write using one word composed of Greek elements:

- Low blood pressure –
- Skin decoloration –
- Green tumour –
- Dark coloration of the skin –
- Nail biting –
- Formation of red blood cells –

4. Write the diagnoses indicating inflammation of:

- cutis cartilago vena
- vertebra..... tendo..... nervus.....
- articulatio..... glandula..... cornea.....

5. Combine into ONE word made up of elements of Greek origin and translate into English:

Example: musculus + tumor = myoma → tumor of muscle

vena	+ ruptura	=
unguis		=
pilus		=
vas		=
blue	+dermia=	=
yellow		=
red		=
black		=
cutis	+ tumor	=
vas		=
cartilago		=
caro		=
glandula		=

6. Check the right answer:

- a) In which term the element **phyt-** means **herb**: trichophytia phytotherapia onychophytia
 b) Which term refers to colour change of the skin: heterochromia anisochromia dyschromia
 c) Which term does NOT relate to **dwarfism**: achondroplasia hypochondria chondrodystrophia
 d) Which term means **baldness**: hirsuties atrichosis trichauxis
 e) Which Greek element means the opposite of **-axis**: hyper- -megalia -penia

7. Fill in the tables splitting the given terms in parts:

Melanopathia		
Greek element		
Latin relevant		
English meaning		

Chloroma		
Greek element		
Latin relevant		
English meaning		

Cyanodermia		
Greek element		
Latin relevant		
English meaning		

Chondrodystrophia		
Greek element		
Latin relevant		
English meaning		

Erythromelalgia		
Greek element		
Latin relevant		
English meaning		

Polyneuritis		
Greek element		
Latin relevant		
English meaning		

Angioneurosis		
Greek element		
Latin relevant		
English meaning		

Neurasthenia		
Greek element		
Latin relevant		
English meaning		

Dermatophytia		
Greek element		
Latin relevant		
English meaning		

Phlebothrombosis		
Greek element		
Latin relevant		
English meaning		

8. Translate into English:

1. Angiorrhaxis arteriae coronariae cordis.....
2. Nanosomia post achondroplasia.....
3. Keratoma palmare et plantare.....
4. Phlebectasia iugularis externa infantium.....
5. Hypertrichosis acquisita propter anorexiam.....

9. Translate into Latin (the underlined words should be translated using one term only!):

1. State after incision of a vein.....
2. Pains in the fingers of the hands after nail biting.....
3. Obstruction of a vein after formation of a blood clot in the vein.....
4. Difference in the colour of the irises due to eye injury.....
5. Bluish skin of the limbs after freezing.....

Unit 17

Humores, Secretiones et Excretiones

In terms related to secretion and excretion the Latin word *secretio, onis f* is presented by two different term-elements:

1) **crin(o)-** relates to secretion – mainly that of glands of internal secretion:

◆ **endocrinologia** – endocrinology, study of endocrine glands and the hormones they excrete

◆ **endocrinogenes** – arising from or derived from the endocrine glands

◆ **apocrinia** – id., secretion accompanied with destruction of cell's upper part

2) **-rrh-, -rrhoea** relate to secretion of humours or digested substances (usually from the inside to outside of the body):

◆ **catarrhus** – id., inflammation of mucosa accompanied with secretion

◆ **diarrhoea** – id., excretion of digested substances out of the body - abnormally frequent discharge or flow of fluid fecal matter from the bowel

apo- <> cata-

up(per) down(wards)

NB! **-rrhagia** is used only in terms related to blood:

◆ **haemorrhagia** – haemorrhage

◆ **enterorrhagia** – id., intestinal bleeding

Remember!

Along with the rich inheritance of Ancient Greek medicine, the essential part of Hippocratic legacy has reached us through the ages under the name of "Humoral theory". Based on the concept of the four body humours - **haema, chole, melanchole, lympa (phlegma)**, the theory claims that they ensure our health when in equal proportions and with equal strength – the prevalence of one humour brings the development of the corresponding disease. The Greek names of the four body humours are still used in a great number of terms as well as in the words denoting the four psychological types: sanguine (from Latin), chole-ric, melancholic, phlegmatic. In Ancient philosophy the four humours were associated to the four elements and later to the four directions.

1. (H)AEM(AT)- = sanguis, inis m – blood

- ◆ **haemoptoë**, *syn.* haemoptysis – blood-spitting
- ◆ **ischaemia** - id., areal bloodlessness
- ◆ **haematemesis** – id., blood vomit

isch- ≠ ischi- stop hip-joint
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2. CHOL(E)- = bilis, is f – bile

- ◆ **cholera** – id.; cholera Asiatica sive epide-mica – according to Hippocrates the word comes from *chole* (bile) and *rrheo* (flow), but according to other authors it is a Jewish word meaning “bad disease”
- ◆ **cholaemia** – id., bile in blood (opposite to **haemobilia** – id., blood in bile)
- ◆ **melancholia** (melan+chol+ia – black bile condition) – melancholy, depressive synd-rome

3. LYMPH(AT)- = lympha, ae f – lymph

The word **lympa** literally means “**clean water**” and is used with two meanings:

1) **liquid** (*transparent or white opaque*) in the lymphatic vessels

- ◆ **lymphagoga** – id., medicines which help increase lymphatic liquor
- ◆ **lymphaticus, a, um** – lymphatic, e.g.:

diathesis lymphatica, *syn.* lymphatismus – lymphatic disposition

2) **lymphocyte**

- ◆ **lymphopenia** – id., decrease in number of lymphatic cells

NB! Synonymous to “lympa” in classical medical literature is the term **phlegma** coming from the Greek verb *phlegein* (to burn). **Phleg(m)-** is used as an element for presence of hot, temperature, fever or inflammation:

- ◆ **phlegmasia** – id., inflammation with fever
- ◆ **phlegmone** – phlegmon

pyr(et)-, therm- <> cryo-, psychro- hot <> cold -----
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Elements associated to “hot” are

pyr(et)- – fever, hot, fire, temperature
therm- – hot, warm, temperature

- ◆ **pyrexia** – pyrexia, *syn.* status febrilis
- ◆ **diathermia** – cure through heating

Elements associated to “cold” are

cryo- – cold, freezing
psychr- – cold

- ◆ **cryotherapia**, *syn.* psychrotherapia – cure through freezing

4. HYDR- =

aqua, ae f – water; liquor, oris m – id.

- ◆ **hydromphalus** – id.
- ◆ **hydrargyrum** – quicksilver (“water silver”)
- ◆ **hydrops** – (hy)dropsy

Types of dropsy

hydro + the organ's stem = “dropsy of...”: **hydrocephalia** = hydrops cavi cranii

hydrarthrosis = hydrops articularis **hydrothorax** = hydrops pleurae **hydropericardium** = hydrops pericardii

hydrocele = hydrops testis **hydroperitoneum** = hydrops abdominis – *syn.* ascites

but: **anasarca** = hydrops ana sacra – hyposarca, general dropsy

NB! hydr- = liquor ≠ hygr- = liquid, e.g.: **hygroma** – id.

hygr- <> xer- liquid, wet <> dry
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5. HIDR- = sudor, oris m – sweat

- ♦ **hidrorrhoea**, *syn.* hidrosis – id., excessive sweating
- ♦ **hidradenitis** – id.

6. SIAL-, PTYAL- = saliva, ae f – id.

- ♦ **sialorrhoea** – ptyalism, the excessive production of saliva
- ♦ **oligosialia**, *syn.* aptyalismus, xerostomia – id.

NB! sial- is also **glandula salivalis** – sali-vary gland

- ♦ **sialographia** – sialography

7. DACRY- = lacrima, ae f – tear

- ♦ **dacryorrhoea**, *syn.* epiphora – id., excessive production of tears

8. CHYL- = chylus, i m – id.

- ♦ **chylothorax** – id.

9. GALACT- = lac, lactis n – milk

- ♦ **galactagoga**, *syn.* lactagoga – medicines which help lactation
- ♦ **galactorrhoea** – id.

lactatio – lactation

lactans, ntis f – suckling mother

lactens, ntis mf – suckling baby

10. STEAT- = sebum, i n – fat, oil

- ♦ **steatoma** – id. 1) fatty cyst; 2) lipoma
- ♦ **steatorrhoea** – id., fatty stools

NB! Latin stem **seb-** is combined with Greek stems in specific combinations:

- ♦ **seborrhoea sicca capitis**, *syn.* pytiriasis – dandruff

11. LIP- = adeps, ipis m – fat

- ♦ **lipomatosis**, *syn.* adipositas – id.

12. MYX- = mucus, i m – id.

- ♦ **myxoedema** – id., dry firm waxy swelling of the skin and subcutaneous tissues

13. BLENNO- = pituita, ae f– mucus+pus

- ♦ **blennorrhoea** – id., excessive secretion of mucus and pus from the mucosa:
 - 1) mainly of the ocular conjunctiva
 - 2) in sexual infection, *syn.* gonorrhoea

14. PYO- = pus, puris n – pus, matter

- ♦ **pyothorax** – id., *syn.* empyema pleurae

15. UR- = urina, ae f – urine

- ♦ **haematuria** – id., blood in the urine
- ♦ **uraemia** – id., “urine” in blood

16. COPRO- = faeces, ium f/pl. – stools

- ♦ **coprostasis**, *syn.* obstipatio – obstipation
- ♦ **coprolalia** – id., speaking bad words

1. Fill in the missing parts to form a single term with the following meaning:

- | | |
|---------------------------------------|---|
| haemat..... – blood vomit |aden..... – inflammation of the sweat glands |
|aemia – bile in blood | endo.....logia – study of the endocrine glands |
|agoga – medicines for lactation | chromat..... – coloration of the urine |
|rrhoea – excessive flow of tears |ptysis – pus in the spit |
|peritoneum – dropsy of the belly |oma – fatty cyst |

2. Give synonyms for:

- | | |
|---------------------|-------------------------|
| aptyalismus – | lipoma – |
| epiphora – | psychrotherapia – |
| obstipatio – | gonorrhoea – |
| haemoptysis – | hidrosis – |
| ascites – | urostasis – |

3. Write using one word composed of Greek elements:

- | | |
|-----------------------------|----------------------------------|
| Retentio urinae – | Diathesis lymphatica – |
| Hydrops cavi cranii – | Seborrhoea sicca capitis – |
| Empyema pleurae – | Hydrops abdominis – |
| Status febrilis – | Adenitis lymphonodorum – |
| Hydrops testis – | Hydrops articularis – |

4. Combine into ONE word made up of elements of Greek origin and translate into English:

- | | | | | |
|-------------------------|-----------------|--------------|------------------|---------|
| hidr | + aden + | itis → | os | = |
| | | → | cutis | = |
| lymph | | → | unguis + fungi | = |
| | | oma → | pilus | = |
| saliva | = | | isch- | = |
| lacrima | = | | an- | = |
| pus + secretion | = | | leuk- + blood | = |
| pituita | = | | hyper- | = |
| sebum | = | | hydr- | = |
| | abdomen = | | dys- | = |
| | testis = | | an- | = |
| liquor (aqua) + cranium | = | | isch- + urine | = |
| thorax | = | | haemat- = | |
| umbilicus | = | | chromat- = | |

5. Check the right answer:

- a) Which is the element for **water**: hydro- hygro- hidro-
 b) **Phlegma** means the same as: haema lympho chole
 c) **Bleeding** is indicated by: -rrh- -rrhoea -rrhagia
 d) **Cold** is NOT indicated by: pyr- psych- cryo-
 e) Hip-joint is indicated by: isch- ischi- angi-

6. Fill in the tables splitting the given terms in parts:

Sialorrhoea		
Greek element		
Latin relevant		
English meaning		

Cryaesthesia		
Greek element		
Latin relevant		
English meaning		

Dyshidrosis		
Greek element		
Latin relevant		
English meaning		

Melancholia		
Greek element		
Latin relevant		
English meaning		

Adenomyoma		
Greek element		
Latin relevant		
English meaning		

Hydrocephalia		
Greek element		
Latin relevant		
English meaning		

Hidradenitis		
Greek element		
Latin relevant		
English meaning		

Haematuria		
Greek element		
Latin relevant		
English meaning		

Aptyalismus		
Greek element		
Latin relevant		
English meaning		

Ischaemia		
Greek element		
Latin relevant		
English meaning		

7. Translate into English:

1. Dermatitis a calore.....
2. Chondrodysplasia foetalis.....
3. Leukaemia lymphatica acuta.....
4. Hyperkeratosis tunicae mucosae oris.....
5. Neuralgia nervi trigemini et migraena.....

8. Translate into Latin (the underlined words should be translated using one term only!):

1. Mycotic disease of the epidermis of the feet and the hands.....
2. Profuse discharge of watery fluid in pregnant women.....
3. Acute blood flow after child-birth.....
4. Profuse sweating during the menopause.....
5. Big head due to inborn dropsy of the cranial cavity.....