

## 499721 Medical Terminology (NU-2557)

### “Structure of Medical Terms 1”

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## Etymology

- Etymology = the study of the history of words, their origins and meanings that have changed over time
- ศัพทมูลวิทยา หมายถึง น. วิชาว่าด้วยที่มา และประวัติของคำ (อ. etymology)
- นิรุกติศาสตร์ หมายถึง น. วิชาว่าด้วยที่มาและความหมายของคำ (นิรุกติ หมายถึง ภาษา, คำพูด)
- Philology = the study of language in written historical sources (ancient languages: Greek, Latin, Sanskrit, etc.)
- Historical linguistics = ภาษาศาสตร์เชิงประวัติ

## ชนิดของคำศัพท์เฉพาะด้านการแพทย์

- คำศัพท์ที่ **สร้าง** จากส่วนประกอบของคำในภาษากรีก หรือ ภาษาลาติน (Terms built from Greek or Latin word parts)
- คำศัพท์ที่ **ไม่ได้สร้าง** จากส่วนประกอบของคำในภาษากรีก หรือภาษาลาติน (Terms **NOT** built from Greek or Latin word parts)

## Terms built from Greek or Latin word parts

- คำอุปสรรค หรือ คำเสริมหน้า (prefixes)
- คำปัจจัย หรือ อากศ หรือ คำต่อท้าย (suffixes)
- รากศัพท์ (word roots)
- สระเชื่อมคำ (combining vowels)
- Combining forms = รากศัพท์/สระเชื่อมคำ

### ตัวอย่าง

**Hypercholesterolemia** (Dorland's pocket, p. 370)

= an excess of cholesterol in the blood

- ประกอบขึ้นจาก
  1. **hyper-** [Gr.] : above, beyond, extreme
  2. **cholesterol** : chol/e [Gr.] = bile  
sterol = steroid group structure  
ster/o (solid) + -ol (oil)
  3. **-em-** [Gr.] : blood, **-emia** : condition in blood

### Terms **NOT** built from Greek or Latin word parts

- Eponyms
- Acronyms
- General English language
- Other languages (FR, DE, IT, ancient, myth, etc.)

### ส่วนประกอบของคำศัพท์ (word parts)

- Terms built from Greek or Latin word parts
  - คำอุปสรรค หรือ คำเสริมหน้า (prefixes)
  - คำปัจจัย หรือ อากม หรือ คำต่อท้าย (suffixes)
  - Combining forms = รากศัพท์/สระเชื่อมคำ

### Characteristics of a Prefix

- A single letter or group of letters that ends with a hyphen
- Appear at the beginning of a word
- Modify or clarify the meaning of the combining form
- Optional word part
- More than one prefix can be combined

### Some common prefixes

- Prefixes for Location or Direction
- Prefixes for Amount, Number, or Speed
- Prefixes for Degree, Size or Quality

### Some common prefixes

- Prefixes for Location or Direction

ab-, ad-	abduction, adduction
endo-, exo-, ec-, ecto-	endothelium, exogenous, ectoderm
epi-, super-, supra-, infra-, sub-	epidermis, subcutaneous
intra-, extra-, inter-	intravenous, intercostal
peri-, para-, juxta-	pericardial, parathyroid, juxtaglomerular
trans-, dia-, per-	translocation, diapedesis, percutaneous
pre-, post-, pro-, retro-	prenatal, postnatal, retrograde
ante-, post-	antemortem, postpartum

### Some common prefixes

- Prefixes for Amount, Number, or Speed

hyper- hypo-	hypertension, hyponatremia
hemi-	hemiplegia, hemiparesis
uni-, bi-, tri-, tetra-,	unilateral, bilateral, trisomy,
quadri-, poly-	tetraploidy, quadriplegia, polyarthritis
brady-, tachy-	bradycardia, tachypnia

### Some common prefixes

- Prefixes for Degree, Size or Quality

a-, an-	aphasia, anesthesia
anti-, contra-, counter-	antibiotic, contraceptive, counterstain
de-	dementia
dys- mal-	dysphagia, malnutrition
eu-	euthyroidism, euthyroid
neo-	neoplasm
re-	respiration
macro-, micro-	macrocephaly, microscope

## Characteristics of a Suffix

- A single letter or group of letters that begins with a hyphen
- Appear at the end of a word
- Modify or clarify the meaning of the combining form
- Most medical words contain a suffix
- More than one suffix can be combined

## Some common suffixes

- Suffixes for Adjectives
- Suffixes for Processes
- Suffixes for Diseases
- Suffixes for Diagnostic, Medical, and Surgical Procedures
- Suffixes for Medical Specialties and Specialists

## Some common suffixes

- Suffixes for Adjectives, “pertaining to”

-ac	cardiac
-al	intestinal
-ar	muscular
-ary	urinary
-ic	pelvic
-ine	uterine
-ive	digestive
-ous	venous
-eal	pharyngeal

## Some common suffixes

- Suffixes for Processes

-ation	urination
-ion	digestion
-genesis	organogenesis
-lysis	glycolysis
-stasis	hemostasis, hemostasis
-therapy	radiotherapy

## Some common suffixes

- Suffixes for Diseases

-ia	pneumonia
-emia	hypoxemia
-ism	hyperthyroidism
-itis	pharyngitis
-megaly	hepatomegaly
-oma	lipoma* (ลิว, โล)
-osis	psychosis
-pathy	neuropathy
-algia	myalgia
-phobia	photophobia

## Some common suffixes

- Suffixes for Diagnostic, Medical, and Surgical Procedures

-tomy, -ectomy,	phlebotomy, appendectomy
-graph, -graphy, -gram,	EKG
-meter, -metry,	thermometer, spirometry
-scope, -scopy,	microscope, sigmoidoscopy
-stomy	colostomy
-plasty	rhinoplasty
-centesis	pericardiocentesis

## Some common suffixes

- Suffixes for Medical Specialties and Specialists

-iatry	psychiatry
-ics	pediatrics
-ist	pathologist
-logy	pathology
-ian	pediatrician

## Plural Endings

- Some plural endings:

carcinoma – carcinomata	ganglion – ganglia
larynx – larynges	biopsy – biopsies
vertebra – vertebrae	thorax – thoraces
testis – testes	appendix – appendices
ovum – Ova	fungus – fungi

## Characteristics of a Combining Form

- A word root and a combining vowel separated by a forward slash
- Foundation of a word
- Contain the principal meaning of a word
- Most medical words contain a combining form
- More than one combining form can be placed one right after the other

## Some Combining Forms

- **Color**

chlor/o, chrom/o, cyan/o, erythr/o, leuk/o, melan/o, xanth/o

- **Body as a whole**

cephal/o, crani/o, cervic/o, thorac/o, abdomin/o, lumb/o, pelv/i, viscer/o, dors/o, ventr/o, anter/o, poster/o, medi/o, later/o, proxim/o, dist/o, hist/o, cyt/o, kary/o, nucle/o

## Some Combining Forms

- **Skin:** derm/o, dermat/o, cutane/o, melan/o, onych/o
- **Lung:** pulmon/o, pneum/o, pneumon/o, pneumat/o
- **KUB:** nephr/o, ren/o, ureter/o, cyst/o, urethr/o
- **GI:** gastr/o, duoden/o, col/o, colon/o, proct/o, an/o
- **CVS:** cardi/o, vas/o, arteri/o, phleb/o, ven/o
- **EENT:** ophthalm/o, ot/o, nas/o, rhin/o, pharyng/o
- **Bone:** oste/o, chondr/o, arthr/o, my/o, ten/o, tendin/o
- **CNS:** encephal/o, mening/o, neur/o, myel/o, psych/o
- **Repro:** oophor/o, salping/o, hyster/o, orchi/o, prostat/o

## Analyzing Terms

- adenocarcinoma = aden/o + carcin/o + -oma
- choledocholithiasis = choledoch/o + lith/o + -iasis
- erythrocyte = erythr/o + -cyte
- pathology = path/o + -logy
- pediatrics, pediatrician = ped/o + -iatrics  
= ped/o + -ian
- podiatry, podiatric medicine, podiatrist  
= pod/o + -iatry ; -ic ; -ist

## Terms **NOT** built from Greek or Latin word parts

- Eponyms
- Acronyms
- General English language
- Other languages (FR, DE, IT, JP, ancient, myth, etc.)

## Eponyms

- **Down syndrome**  
— John Langdon Down, English physician
- **Parkinson syndrome**  
— James Parkinson, English physician
- **Alzheimer's disease**  
— Alois Alzheimer, German psychiatrist & neuropathologist
- **Babinski sign**  
— Joseph Babinski, French neurologist of Polish origin
- Possessive form ending with 's is becoming less common

## Acronyms, Abbreviations

- Appear both with and without periods
- AIDS = acquired immunodeficiency syndrome
- AML = acute myelogenous leukemia
- CT = computed tomography
- ERCP = endoscopic retrograde cholangiopancreatography
- PTCA = percutaneous transluminal coronary angioplasty
- In prescription: Rx  
— Vitamin B 1 tab. p.o. t.i.d p.c. & h.s.  
=*Recipe 1 tabella per os, ter in die, post cibos et hora somni*  
=Take 1 tablet of Vitamin B by mouth three times per day after meals and at bedtime.

## General English Language

- Complete blood count (CBC)
- Posttraumatic stress disorder (PTSD)
- nuclear scanner
- pregnancy test
- Terms generated from the advancement of technologies and innovations

### Other Languages

- petit mal, grand mal, curette, migraine, bruit, cul de sac, milieu
- Antikörper = antibody
- Minamata, Itai-itai, *Orientia tsutsugamushi*
- pellagra, influenza, petechia, malaria  
etc.

### Ancient languages

• thorax	Greek	θώραξ ( <i>thorax</i> )
• nucleus	Latin	<i>nucleus</i>
• pelvis	Latin	<i>pelvis</i>
• phobia	Greek	φόβος ( <i>phobos</i> )
• artery	Latin	<i>arteria</i>
• muscle	Latin	<i>musculus</i>
• bladder	English	<i>blaedre</i>
• heart	English	<i>heorte</i>
• drug	Dutch	<i>droog</i>
• physician	French	<i>physicien</i>

### Greek and Roman Mythology

- กลุ่ม 1 hermaphrodite, echocardiography
- กลุ่ม 2 narcissism, Achilles tendon
- กลุ่ม 3 caput medusa, cyclopia
- กลุ่ม 4 Adam's apple, hygiene

### Homework

- ให้นักศึกษาหาข้อมูลคำศัพท์ทั้ง 50 คำ ทำในรูปแบบฟอร์มรายงานกลุ่ม โดยกรอกข้อมูลให้ครบถ้วน ส่งเป็นรายงานฉบับสมบูรณ์สัปดาห์ถัดไป (11 ก.ย. 57)
- เตรียมตัว Quiz คำศัพท์ 50 คำ
- Eponyms from Greek and Roman mythology (ความหมายปัจจุบัน, ที่มาจากรื่องเล่าหรือตำนาน)  
— เขียนเพิ่มเติมทั้ง 2 คำในรูปแบบฟอร์มรายงาน