

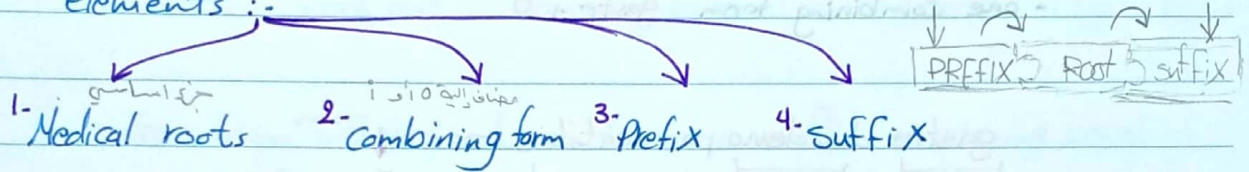
# Chapter 1

## Introduction to Medical Terminology

Most medical terms are derived from Greek and Latin language, which means that two different roots may have the same meaning,

e.g. dermatos<sup>skin</sup> (Greek word) ) Both refer to the skin.  
cutane<sup>skin</sup> (Latin word).

A medical word consists of some or all of the following elements:



Suffix 1-2-3-4 Medical roots 1-2-3-4 Combining form

## 1. 'Term / Medical / Word' Root

Term root :- main part of the medical term and which carries its primary meaning.

[Greek roots]

\* building up the words that describe a disease, condition, treatment, or diagnosis.

[Latin roots]

\* build up words that describe anatomical structures.

\* It can appear 1- at the beginning of a word, 2- after a prefix, 3- before a suffix, or 4- between a prefix and a suffix.

\* All terms have at least one word root.

\* A word root may be used alone or combined with other elements to form a complete word.

♥ Can medical terms contain more than one word root ?!

Yes

[e.g]

gast<sup>أكل</sup>rit<sup>التهاب</sup>is

one word root    suffix

(itis) :- means [inflammation]

gastro<sup>أكل</sup>duodeno<sup>الغدة</sup>ectomy<sup>إزالة</sup>

two word roots    suffix

(ectomy) :- means [removal]

- one combining form gastr + o

gastro<sup>أكل</sup>duodeno<sup>الغدة</sup>pancreat<sup>البنكرياس</sup>itis

three word roots

two combining form

gastr + o

duodent + o

mean

[inflammation of the stomach duodenum and pancreas].

one suffix → itis

Prefix

medical term    Word root    Prefix

	Greek	Latin
- mouth	Stomat	or
- skin	dermat	cutane
- kidney	nephr	ren.

## 2- Combining form

[Word root + combining vowel]

could be an [O], but sometimes it

is an [i] to make the word roots pronunciation easier.

i.e. gastr / o Pronounced GASTRO  
 word root combining vowel c-form

note: when a word has [more than one root], a combining vowel is used to [link the root to each other].

i.e. Osteoarthritis  
 [oste] bone / [arthr] joint / [itis] inflammation  
 word root combining vowel word root suffix  
 mean [inflammation of joints and bone]

Word Root	+ Vowel	=	Combining form	Meaning
erythr/	+ o	=	erythr/o	red [erythrocyte]
gastr/	+ o	=	gastr/o	Stomach
hepat/	+ o	=	hepat/o	liver
immun/	+ o	=	immun/o	immunity, immune, safe
nephr/	+ o	=	nephr/o	Kidney
oste/	+ o	=	oste/o	bone

### 3- Suffix

- word root + suffix or - word root + o + suffix

- A suffix :- derived from greek and latin word is composed of one or more letters added to the END of a word root or combining form to modify its meaning.

- It describes  $\rightarrow$  pathology (disease or abnormality).  
 $\leftarrow$  symptom  $\leftarrow$  surgical  $\leftarrow$  part of speech  $\leftarrow$  diagnostic procedure.

Combining form +	suffix =	Medical word	Meaning
gastr/o	-itis [inflammation]	gastritis	inflammation of the stomach
(stomach)	-megaly [enlargement]	gastromegaly	enlargement of the =
	-oma [tumor]	gastrooma	tumor of the stomach
	-itis [inflammation]	hepatitis	inflammation of the liver.
hepat/o	-megaly [enlargement]	hepatomegaly	enlargement of the liver
(liver)	-oma [tumor]	hepatoma	tumor of the liver

### ~ Building Medical words ~

\* Three basic rules for building medical words.

Rule I	Rule II	Rule III
A word root links a suffix that begins with a vowel. (a, i, o, e, u, y)	A combining form (root + o) links a suffix that begins with a consonant.	A combining form links a root to another root to form a compound word. * This rule holds true even if the next root begins with a vowel. [osteoarthritis]

### Rule I

Word root + suffix = Medical word Meaning.  
hepat + -itis = hepatitis inflammation of the Liver.  
(liver) (inflammation)

### Rule II

Combining form + suffix = Medical word Meaning.  
hepat/o + -cyte = hepatocyte liver cell.  
(liver) (cell)

### Rule III

Combining form + Word Root + suffix = Medical word Meaning.  
oste/o + chondr + -itis = osteochondritis inflammation of bone and cartilage.  
(bone) (cartilage) (inflammation)  
+ arthr + -itis = osteoarthritis inflammation of bone and joints.  
(joint) (inflammation)

### • Meanings of certain suffixes.

- Scope [instrument to view] أداة ابنية نسي → scopy
- rhea [excessive flow or discharge] تدفق زائد
- stenosis [narrowing, stricture] تضييق
- rhexis [rupture] تفتت
- toxic [poison]
- pathy [disease]

{ All begin with a consonant, therefore a combining vowel must be used between the word root and the suffix }

- algia (pain) <sup>ألم</sup>
- uria (urine, urination) <sup>إفراز</sup>
- ectomy (excision) <sup>إزالة</sup>
- edema (swelling)
- osis (abnormal condition) <sup>حالة غير طبيعية</sup>

↓ { These suffixes begin with a vowel, therefore a combining vowel is Not used between the word root and the suffix? }

#### 4- Prefix

APrefix:- is a syllable or syllables attached to the beginning of a word or word root to alter its meaning or create a new word.

- ✓ Not all medical terms have a prefix.
- ✓ indicates <sup>يشير</sup>
  - number
  - time
  - position
  - direction
  - negation <sup>نفي</sup>
  - absence <sup>غياب</sup>

ألفاظ

Anti- (against) <sup>عند</sup>	Epi- (above)	inter- (between)
Hyper- (excessive) <sup>زائدة</sup>	hemi- (half)	retro- (behind)
pre- (before)	bi- (two)	macro- (large)
post- (after)	tri- (three)	micro- (small)
Homo- (same)	mono- (one)	multi- (much)
Hypo- (under) <sup>أعضاء</sup>	Hypo- (under)	ab- (away from)
Hetero- (different)	para- (beside)	ad- (within)
Eu- (normal)	Intra- (within)	Endo- (toward) <sup>إلى</sup>
Dys- (painful)	Endo- (within)	cicum- (around)
Brady- (slow)	Ecto- (outside)	

## Examples of Prefixes

Prefix	Word Root	Suffix	Medical Word	Meaning
an- (without, not)	esthes (feeling)	-ia (condition)	anesthesia	condition of not feeling.
hyper- (excessive, above normal)	therm (heat)	-ia (condition)	hyperthermia	condition of excessive heat.
intra- (in, within)	muscul (muscle)	-ar (pertaining to)	intramuscular	pertaining to within the muscle.
para- (near, beside; beyond)	nas (nose)	-al (pertaining to)	paranasal	pertaining to (area) near the nose.
poly- (many, much)	ur (urine)	-ia (condition)	polyuria	condition of much urine.
pre- (before)	nat (birth)	-al (pertaining to)	prenatal	pertaining to (the period before birth).
peri- (around)	nat (birth)	-al (pertaining to)	perinatal	pertaining to (the period around birth).
post- (after)	nat (birth)	-al (pertaining to)	postnatal	pertaining to (the period after birth).

Word root with Prefix

## 'Medical term Interpretation'

- 1- suffix, or last part of the word.
- 2- the first part of the word [word root, combining form, prefix].
- 3- the middle parts of the word.

Example:-

### Acrocyanosis

Acr [word root = extremities]

cyan [word root = blue]

o/ = Combining vowel

-osis [suffix = condition]

So, Acrocyanosis = a condition characterized by blue extremities.

### Hypoinsulinemia

Hypo / insulin / emia  
Prefix / word root / suffix

(low) (insulin) (Blood)

X No combining vowel?! because the prefix ends with a vowel and the suffix begins with a vowel

### Plural words

• **formed**: by adding or substituting another vowel or syllable at the end of word [i.e. suffix].

Ex:

- macula - the plural is maculae
- adenoma - the plural is adenomata
- glomerulus - the plural is glomeruli



- ovum - the plural is ova

- spermatozoon - the plural is spermatozoa

لجوف

## RULE

## EXAMPLE

Singular	Plural	Singular	Plural
-a	<sup>لجوف</sup> Retain <b>a</b> and add <b>e</b>	pleura	pleur <b>ae</b>
-ax	<sup>لجوف</sup> Drop <b>x</b> and add <b>ces</b>	thor <b>ax</b>	thor <b>aces</b>
-en	Drop <b>en</b> and add <b>ina</b>	lumen	lum <b>ina</b>
-is	Drop <b>is</b> and add <b>es</b>	diagnosis	diagnos <b>es</b>
-ix	= <b>ix</b> = = <b>ices</b>	append <b>ix</b>	append <b>ices</b>
-ex	= <b>ex</b> = = <b>ices</b>	ap <b>ex</b>	ap <b>ices</b>
-ma	Retain <b>ma</b> = = <b>ta</b>	carcin <b>oma</b>	carcin <b>omata</b>
-on	Drop <b>on</b> = = <b>a</b>	gangl <b>ion</b>	gangl <b>ia</b>
-um	= <b>um</b> = = <b>a</b>	bacter <b>ium</b>	bacter <b>ia</b>
-us	= <b>us</b> = = <b>i</b>	bronch <b>us</b>	bronch <b>i</b>
-y	= <b>y</b> = = <b>ies</b>	deformit <b>y</b>	deformit <b>ies</b>

## Eponyms

medical terms derived from the [name of a person]. Many procedures and tests are also named after the person who invented or perfected them.

'Ex of diseases' 'Ex of body parts' 'Ex of tools' <sup>أدوات</sup>

- Addison's diseases	- Bowman capsules	- foleys catheter
- Cushing's diseases <sup>زيادة في إفراز الكورتيزون</sup>	- Cowper's glands	- Hegar dilators
- Stokes-Adam's syndrome	- Wernicke's center	
- Alzheimer's diseases	or area	
- Parkinson's diseases		

# Acronyms

[medical abbreviations]

Examples:

- ACE :- angiotensin converting enzyme
- ACTH :- adrencorticortropic hormone
- AIDS :- acquired immune deficiency sndrome.
- HDL :- high density lipoprotein.
- HX :- history
- MI :- myocardial infarction.
- RBC :- red blood cells
- RBBB :- right bundle branch block
- TB :- tuberculosis
- ADH :- Anti-diuretic hormone