

# **Introduction to Medical Terminology**

# أساسيات Medical Term: fundamentals

## مستطمة

- Most medical terms are derived from Greek and Latin language, which means that two different roots may have the same meaning, e.g. dermatos (Greek word) and the cutane (Latin word) both refer to the skin.

## يتكون

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

- Medical roots الجزء الرئيسي  
لا معنى شرط يكون موجودين الأربعة
  - Combining Form
  - Prefix باركاع
  - Suffix لواقعة (لتعريف)
- معظم المصطلحات الطبية مشتقة من اللغة اليونانية واللاتينية ، مما يعني أن جذرين مختلفين قد يكون لهما نفس المعنى ، على سبيل المثال تشير كل من ( dermatos كلمة يونانية (و cutane كلمة لاتينية (إلى الجلد - .تتكون الكلمة الطبية من بعض أو كل العناصر التالية - :جذور طبية -الجمع بين النموذج -بادئة -لاحقة

# 1-Term Root

- It is the main part of the medical term and which carries its primary meaning (Greek roots are used for building up the words that describe a disease, condition, treatment, or diagnosis, while, Latin roots are used to build up words that describe anatomical structures.

*stomatitis* ← *st*

*therapy*

*prefix*

*2*

- It can appear at the beginning of a word, after a prefix, before a suffix, or 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.

- Examples of Medical roots

- “stomat” means mouth (Greek)

- “or” means mouth (Latin)

- “dermat” means skin (Greek)

- “cutane” means skin (Latin)

- “neph” means kidney (Greek)

- “ren” means kidney (Latin)

## 2-Combining Form

Word root +  
Combining  
vowel (o, i)

- A **combining form** is the combination of the word root and the combining vowel which could be an o, but sometimes it is an i to make the word roots pronunciation easier.
- The combining vowel has no meaning of its own, but enables two word elements to be connected.
- A combining form is presented as word root/vowel (such as gastr/o).

Combining

Gastr enter itis  
Stomach i.e. intestinal inflammation  
((2 word root (بعضوي))  
((التهاب المعدة بالاعصاب))

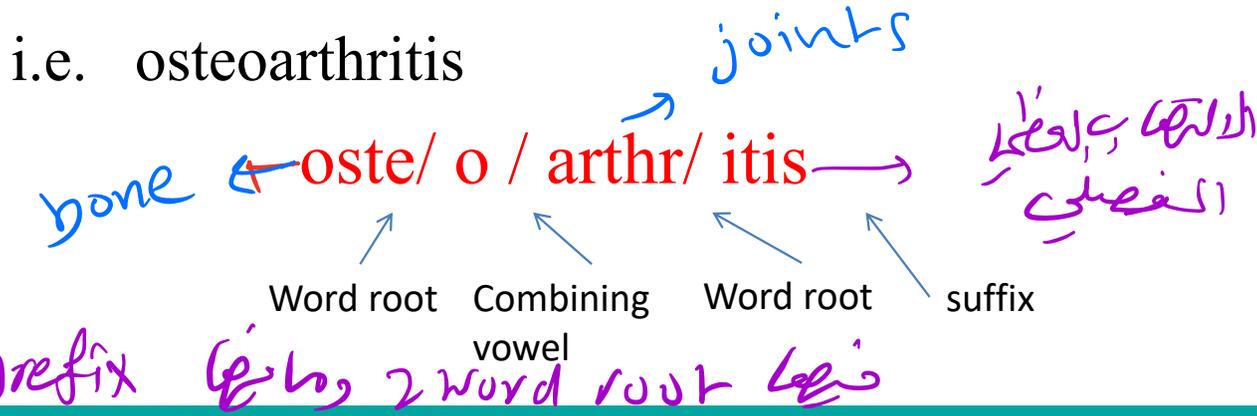
gastr / o pronounced GASTRO.

المعدة

Word root

Combining vowel

- When a word has more than one root, a combining vowel is used to link the root to each other.



## Examples of Combining Forms

*This table illustrates how word roots and vowels create combining forms. Learning combining forms rather than word roots makes pronunciation a little easier because of the terminal vowel. For example, in the table below, the word roots gastr and nephr are difficult to pronounce, whereas their combining forms gastr/o and nephr/o are easier to pronounce.*

Word Root	+	Vowel	=	Combining Form	Meaning
erythr/	+	o	=	erythr/o	red cells
gastr/	+	o	=	gastr/o	stomach
hepat/	+	o	=	hepat/o	liver كبد
immun/	+	o	=	immun/o	immune, immunity, safe
neph/	+	o	=	neph/o	kidney كلى
oste/	+	o	=	oste/o	bone

# 3-Suffix

- A suffix (derived from Greek or Latin words) is composed of one or more letters added to the END of a word root or combining form to <sup>تصريف</sup> modify its meaning, it describes a pathology (disease or abnormality), symptom, surgical or diagnostic procedure, or part of speech.

اجزاء

## Examples of Suffixes

*This table lists examples of pathological suffixes as well as their phonetic pronunciations. Begin learning the pronunciations as you review the information below.*

Combining Form	+	Suffix	=	Medical Word	Meaning
gastr/o (stomach)	+	-itis (inflammation)	=	gastritis gās-TRĪ-tīs	inflammation of the stomach
	+	-megaly (enlargement)	=	gastromegaly gās-trō-MĒG-ă-lē	enlargement of the stomach
	+	-oma (tumor)	=	gastroma gās-TRŌ-mă	tumor of the stomach
	+	-itis (inflammation)	=	hepatitis hĕp-ă-TĪ-tīs	inflammation of the liver
hepat/o (liver)	+	-megaly (enlargement)	=	hepatomegaly hĕp-ă-tō-MĒG-ă-lē	enlargement of the liver
	+	-oma (tumor)	=	hepatoma hĕp-ă-TŌ-mă	tumor of the liver

# Building Medical Words

There are three basic rules for building medical words.

## Rule I

A word root links a suffix that begins with a vowel.

## Rule II

A combining form (root + o) links a suffix that begins with a consonant.

## Rule III

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, as in osteoarthritis.

انه لـصـتـوـسـ 2 word root  
دبربط بيـلـم

Keep in mind that the rules for linking multiple roots to each other are slightly different from the rules for linking roots and combining forms to suffixes.

## Rule 1

Word Root	+	Suffix	=	Medical Word	Meaning
hepat liver	+	-itis inflammation	=	hepatitis hĕp-ă-TĪ-tĭs	inflammation of the liver Combining <i>he</i> to

prehepatitis <sup>ألمى</sup> prefix *he* CBs *CBs*

## Rule 2

Combining Form	+	Suffix	=	Medical Word	Meaning
hepat/o liver	+	-cyte cell	=	hepatocyte HĒP-ă-tō-sīt	liver cell

erythrocyte → red blood cell ← احمر

## Rule 3

Combining Form	+	Word Root	+	Suffix	=	Medical Word	Meaning
oste/o (bone)	+	chondr cartilage	+	-itis inflammation	=	osteochondritis ōs-tĕ-ō-kŏn-DRĪ-tĭs	inflammation of bone and cartilage
		arthr joint	+	-itis inflammation	=	osteoarthritis ōs-tĕ-ō-ăr-THRĪ-tĭs	inflammation of bone and joint

الكلى الكوصولة  
بالقوة ريف

# Meanings of certain suffixes

- scope (instrument to view) ارادة
- rrhexis (rupture) تمزق
- rhea (excessive flow or discharge) nose ← Rhinorrhoea (excessive flow from nose)
- toxic (poison) اسهل
- stenosis (narrowing, stricture) تضييق
- pathy (disease)

(All begin with a consonant, therefore a combining vowel must be used between the word root and the suffix).

- algia (pain)
- edema (swelling) تورم
- uria (urine, urination)
- osis (abnormal condition)
- ectomy (excision) cholecystectomy استئصال المرارة
- hysterectomy استئصال الرحم + excision of uterus

(These suffixes begin with a vowel, therefore a combining vowel is NOT used between the word root and the suffix).



## Examples of Prefixes

*This table lists examples of prefixes as well as their phonetic pronunciations. Begin learning the pronunciations as you review the information below.*

Prefix	+	Word Root	+	Suffix	=	Medical Word	Meaning
<b>an-</b> (without, not)	+	<b>esthes</b> (feeling)	+	<b>-ia</b> (condition)	=	<b>anesthesia</b> ān-ēs-THĒ-zē-ă	condition of not feeling
<b>hyper-</b> (excessive, above normal)	+	<b>therm</b> (heat)	+	<b>-ia</b> (condition)	=	<b>hyperthermia</b> hī-pēr-THĒR-mē-ă	condition of excessive heat
<b>intra-</b> (in, within)	+	<b>muscul</b> (muscle)	+	<b>-ar</b> (pertaining to)	=	<b>intramuscular</b> īn-tră-MŪS-kŭ-lār	pertaining to within the muscle
<b>para-</b> (near, beside; beyond)	+	<b>nas</b> (nose)	+	<b>-al</b> (pertaining to)	=	<b>paranasal</b> pār-ă-NĀ-sāl	pertaining to (area) near the nose
<b>poly-</b> many, much	+	<b>ur</b> (urine)	+	<b>-ia</b> (condition)	=	<b>polyuria</b> pōl-ē-Ū-rē-ă	<u>condition of much urine</u>

5

inside  
inter  
↓  
between

## Changing Prefixes and Meanings

*In this table, each word has the same root, nat (birth) and suffix, -al (pertaining to). By substituting different prefixes, new words with different meanings are formed.*

Prefix	+	Word Root	+	Suffix	=	Medical Word	Meaning
pre- (before)	+				=	prenatal prē-NĀ-tāl	pertaining to (the period) before birth
peri (around)	+	nat (birth)	+	-al (pertaining to)	=	perinatal pēr-Ī-NĀ-tāl	pertaining to (the period) around birth
post (after)	+				=	postnatal pōst-NĀ-tāl	pertaining to (the period) after birth

# Medical term Interpretation

It can be done by defining the term components (1- suffix, or last part of the word, 2- the first part of the word (which may be a word root, combining form, or prefix), 3- the middle parts of the word).

Examples:

Acrocyanosis

الطرفان الأزرقان

Acr (word root = extremities)

cyan (word root = blue)

/ o / = combining vowel

- osis (suffix = condition)

So, Acrocyanosis = a condition characterized by blue extremities

حالة فيها الطرفان الأزرقان

\* اول انبي بنسوة ال suffix  
بعدين بنسوة اذا بي prefix  
بعدين ال word root اذا كانت  
alone او معها combining

# Hypoinsulinemia

نقصان انسولين

**Hypo / insulin / emia**

number

↑  
Prefix  
Low

↑  
Word root  
Insulin

↑  
suffix  
Blood

In this example, there is no combining vowel in this word because the prefix ends with a vowel and the suffix begins with a vowel.

## Plural words

Are formed by adding or substituting another vowel or syllable at the end of a word (i.e. suffix).

### Examples

- macula – the plural is maculae
- adenoma – the plural is adenomata  
*نوع من انواع السرطان الحميدة*
- glomerulus – the plural is glomeruli →  
*الكبيبة* *الجزء الرئيسي من الكلى kidney*
- ovum – the plural is ova  
*بويضة*
- spermatozoon – the plural is spermatozoa

## Rules for Singular and Plural Suffixes

This table presents common singular suffixes, the rules for forming plurals, and examples of each.

Rule		Example	
Singular	Plural	Singular	Plural
-a	Retain <i>a</i> and add <i>e</i> .	pleura	pleurae
-ax	Drop <i>x</i> and add <i>ces</i> .	thorax	thoraces
-en	Drop <i>en</i> and add <i>ina</i> .	lumen	lumina
-is	Drop <i>is</i> and add <i>es</i> .	diagnosis	diagnoses
-ix	Drop <i>ix</i> and add <i>ices</i> .	appendix	appendices
-ex	Drop <i>ex</i> and add <i>ices</i> .	apex	apices
-ma	Retain <i>ma</i> and add <i>ta</i> .	carcinoma	carcinomata
-on	Drop <i>on</i> and add <i>a</i> .	ganglion	ganglia
-um	Drop <i>um</i> and add <i>a</i> .	bacterium	bacteria
-us	Drop <i>us</i> and add <i>i</i> .	bronchus	bronchi
-y	Drop <i>y</i> and add <i>ies</i> .	deformity	deformities

# المترادفات Eponyms

التي اكتسبت ادارتها من اسماء الاشياء

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

Examples of diseases;

مرض من أمراض الغدة فوق كلوية

- Addison's disease

low function of the

adrenal glands

suprarenal glands

- Alzheimer's disease

- Cushing's disease

(excessive) زيادة في كل الغدة

- Parkinson's disease

- Stokes-Adam's syndrome

((أمراض كثيرة يظهر خلالها نفس الوقت في ما لا يقل عن ثلاثة أعضاء))

many conditions taken place in the same organ or in the different

Examples of body parts;

- Bowman capsules

موجودة بالكلية

- Wernicke's center or area

- Cowper's glands

Examples of tools;

- Foleys catheter

القسطرة البولية

- Hegar dilators

موسعات عنق الرحم

# Acronyms الافتحها راجع

Acronyms are medical abbreviations. They are used very frequently in medicine. They boost efficiency as long as they are used intelligently. تعزيز

Examples;

- ACE (angiotensin converting enzyme)
- ACTH (adrenocorticotrophic hormone)
- AIDS (acquired immune deficiency syndrome)
- HDL (high density lipoprotein) lipid  
بالج الكثيفة
- Hx (history)
- MI (myocardial infarction)
- RBC (red blood cells) كريات احمر  
لحمية حمراء كريات احمر
- RBBB (right bundle branch block) تقوأة اليمين
- TB (tuberculosis)
- ADH (anti-diuretic hormone)

الغدة الكظرية  
Anterior lobe of the pituitary gland  
الغدة الكظرية هي الغدة التي يفرزها الغدة الكظرية  
من الغدة الكظرية

ملازمة نقص  
بعضات الكبد

الغدة الكظرية  
posterior lobe of the pituitary gland  
الغدة الكظرية هي الغدة التي يفرزها الغدة الكظرية  
من الغدة الكظرية

الانفصلي  
red blood corpus cells  
لا كرات حمراء خضراء