

Medical terminology

By

Dr. Sali Jabrou

Objectives of studying medical language:

- 1). To analyze words structurally
- 2). To correlate an understanding of words elements with the basic anatomy, physiology, and disease processes of the human body
- 3). To be aware of spelling and pronunciation problems

About 90 % of medical words are of Ancient Greek and Latin origin. It is not difficult to understand them.

Combining forms which can be used at the beginning or in the middle of the word:

cardio - heart

hepato – liver

gastro - stomach

entero - intestine

ophthalmo - eye

oto - ear

dermato - skin

stomato - mouth

neuro - nervous system

uro - urinary system

gyneco - woman

histo – tissue

radio - rays

onco - tumor

bio – life

WORD ROOTS

The main part or stem of a word is called a word root (WR)

A (**WR**) is usually derived from the Greek or Latin language and frequently indicates a body part. Most medical words have one or two roots.

IE: SPEAK (word root) + ER (suffix) = SPEAKER (complete word)

Examples of Word Roots

Greek Word

kardia (heart)

gaster (stomach)

hepat (liver)

nephros(kidney)

osteon(bone)

Word Root

cardi

gastr

hepat

nephr

oste

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

Greek or Latin Word	Word Root	Meaning	Word Analysis
dermatos (Gr*)	derm	skin	dermat/itis (dĕr-mă-TĪ-tĭs): inflammation of the skin <i>A term that describes a skin disease</i>
nephros (Gr)	nephr	kidney	nephr/oma (nĕ-FRŌ-mă): tumor of the kidney <i>A term that describes a kidney disease</i>
stoma (Gr)	stomat	mouth	stomat/o/pathy (stŏ-mă-TŎP-ă-thĕ): any disease of the mouth <i>A term that describes a mouth disease</i>
cutis (L)	cutane	skin	sub/cutane/ous (sŭb-kŭ-TĀ-nĕ-ŭs): beneath the skin <i>A term that describes the anatomic tissue layer beneath the skin</i>
oris (L)	or	mouth	or/al (OR-ăl): pertaining to the mouth <i>A term that describes an anatomic structure</i>
renes (L)	ren	kidney	ren/al (RĒ-năl): pertains to the kidney <i>A term that describes an anatomic structure</i>

Example of word root

G or L	Word Root	Meaning	Word Analysis
Dermatos (Gr)	Dermat or Derm	Skin	A term that describe skin disease
Nephros (Gr)	Nephr	Kidney	A term that describe Kidney disease
Stoma (Gr)	Stomat	Mouth	A term that describe mouth disease
Cutis (L)	Cutane	Skin	A term that describe anatomic tissue layer
Oris (L)	Or	Mouth	A term that describe anatomic structure
Renes (L)	Ren	Kidney	A term that describe anatomic structure

COMBINING FORMS

The combining form (CF) is a WR plus a vowel, usually an « o ». Like the WR, the CF usually indicates a body part. In this text, a CF will be listed as word root/vowel (e.g. cardi/o)

Examples of Combining Forms

Word Root	+	Combining Vowel	=	Combining Form	Meaning
cardi		o		cardi/o	heart
gastr		o		gastr/o	stomach
arthr		o		arthr/o	joint
derm		o		derm/o	skin
cyt		o		cyt/o	cell
cephal		o		cephal/o	head
cerebr		o		cerebr/o	brain

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.

Word Root	+	Vowel	=	Combining Form	Meaning
erythr/	+	<i>o</i>	=	erythr/o	red
gastr/	+	<i>o</i>	=	gastr/o	stomach
hepat/	+	<i>o</i>	=	hepat/o	liver
immun/	+	<i>o</i>	=	immun/o	immune, immunity, safe
nephr/	+	<i>o</i>	=	nephr/o	kidney
oste/	+	<i>o</i>	=	oste/o	bone

SUFFIXES

- A suffix is a word ending.
- In medical terminology a suffix usually indicates a procedure, condition, disease, or part of speech.
- Changing a suffix gives medical words a new meaning.
- Many suffixes are derived from Greek and Latin words.

Examples of Suffixes

Combining Form	+	Suffix	=	Medical Word	Meaning
arthr/o (joint)		-centesis (puncture)		arthrocentesis	puncture of a joint
thorac/o (chest)		-tomy (incision)		thoracotomy	incision of the chest
gastr/o (stomach)		-megaly (enlargement)		gastromegaly	enlargement of the stomach
erythr/o (red)		-cyte (cell)		erythrocyte	red blood cell
cyt/o (cell)		-logy (study)		cytology	study of a cell

This table lists examples of 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)	+	<i>-itis</i> (inflammation)	=	gastritis gās-TRĪ-tīs	inflammation of the stomach
	+	<i>-megaly</i> (enlargement)	=	gastromegaly gās-trō-MĒG-ă-lē	enlargement of the stomach
	+	<i>-oma</i> (tumor)	=	gastroma gās-TRŌ-mă	tumor of the stomach
hepat/o (liver)	+	<i>-itis</i> (inflammation)	=	hepatitis hĕp-ă-TĪ-tīs	inflammation of the liver
	+	<i>-megaly</i> (enlargement)	=	hepatomegaly hĕp-ă-tō-MĒG-ă-lē	enlargement of the liver
	+	<i>-oma</i> (tumor)	=	hepatoma hĕp-ă-TŌ-mă	tumor of the liver

PREFIXES

- A prefix is a word element located at the beginning of a word.
- The prefix usually indicates a number, time, position, direction, color, or negation,
- When a medical word contains a prefix, the meaning of the word is changed.

Examples of Prefixes

Prefix	+	Word Root	+	Suffix	=	Medical Word	Meaning
hyper (excessive)		therm (heat)		-ia (condition)		hyperthermia	condition of excessive heat
Intra (in, within)		muscul (muscle)		-ar (relating to)		intramuscular	within the muscles
macro (large)		gloss (tongue)		-ia (condition)		macroglossia	condition of a large tongue
micro		card		-ia		microcardia	of a small heart

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
a- (without)	+	<i>mast</i> (breast)	+	<i>-ia</i> (condition)	=	amastia ă-MĂS-tē-ă	without a breast
hyper- (excessive, above normal)	+	<i>therm</i> (heat)	+	<i>-ia</i> (condition)	=	hyperthermia hi-pěr-THĚR-mē-ă	condition of excessive heat
intra- (in, within)	+	<i>muscul</i> (muscle)	+	<i>-ar</i> (relating to)	=	intramuscular ĭn-tră-MŪS-kŭ-lăr	within the muscle
macro- (large)	+	<i>card</i> (heart)	+	<i>-ia</i> (condition)	=	macrocardia măk-rō-KĂR-dē-ă	condition of a large heart
micro- (small)	+	<i>card</i> (heart)	+	<i>-ia</i> (condition)	=	microcardia mī-krō-KĂR-dē-ă	condition of a small heart

BASIC RULES FOR BUILDING AND DEFINING MEDICAL WORDS

There are two basic rules for building medical words.

□ **Rule 1 :** A WR is used before a suffix that begins with a vowel

Word Root		Suffix	Medical Word	Meaning
scler/ (hardening)	+	osis (abnormal condition)	sclerosis	abnormal condition of hardening

□ **Rule 2:** a combining vowel is used to link a WR to a suffix that begins with a consonant and to link a word root to another word root

colon/o (colon)	+	scope (instrument to view)	=	colonoscope instrument to view the colon
--------------------	---	--------------------------------	---	--

Words with more than one root are Compound Words

oste/ (bone)	o/	chondr/ (cartilage)	o/	+	itis (inflammation)	=	osteochondritis	inflammation of bone and cartilage
oste/ (joint)	o/	arthr/		+	itis	=	osteoarthritis	inflammation of bone and joint

Defining Medical Words

There are three basic steps for defining medical words:

- 1) First, define the suffix, or last part of the word.
- 2) Second, define the prefix, or first part of the word
- 3) Last, define the middle of the word

gastr/o	enter/	itis
Stomach	intestin	inflammation
(2)	(3)	(1)

Read as follows:

1. Inflammation (of)) (suffix)
2. Stomach (and) (first part of the word)
3. Intestine (middle)