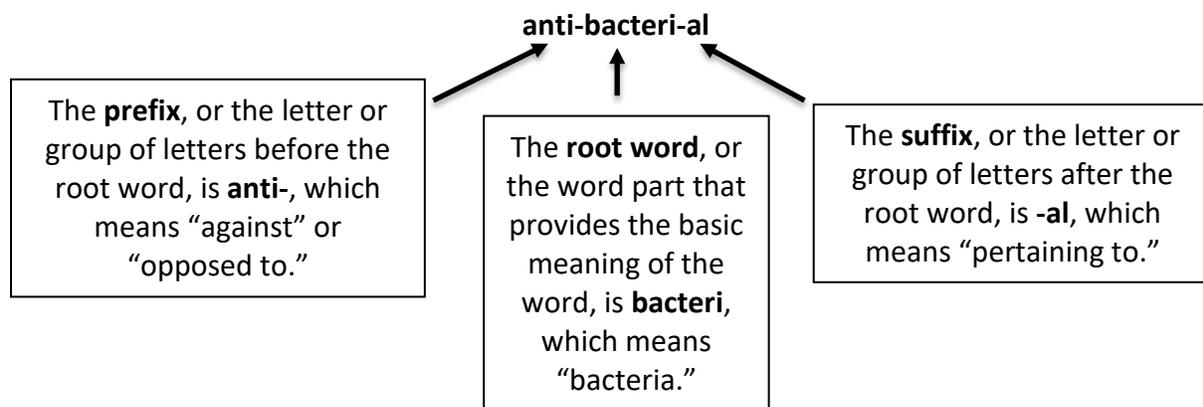


## Guide to Common Medical Terminology

There are some helpful techniques you can use to increase your understanding of medical terminology. Most medical terms contain at least one root, and they may also contain one or more prefixes or suffixes. This handout will describe how word parts create meaning to provide a strategy for decoding medical terminology and unfamiliar words in the English language.

### Word Parts

If all three word parts are present in medical terminology, they will be in the order of prefix → root word → suffix. Look at the following example to understand the function of each word part:



As you can see, even if you have never heard of the word "antibacterial," the word parts provide clues that it is something that protects against bacteria. Therefore, it can be helpful to take into consideration the meaning of word parts, in addition to the context of the sentence or paragraph that the word is in, to decipher an unfamiliar word's meaning. Also, keep in mind that while many medical terms contain all three word parts, others will contain varying combinations such as root/suffix, prefix/root, prefix/suffix, etc. Some words will even contain two roots, such as *osteoarthritis* (**osteo** = bone, **arthr** = joint). Now let's look at some of the most common roots, prefixes, and suffixes used in the different body systems.

### The Body's Organization

The body is organized by cells, tissues, organs, and systems.

Word Part: Root	Meaning
anter/o	front, anterior
cerv/o	neck
chondr/o	cartilage
cyt/o	cell
dors/o	back
gastr/o	stomach
inguin/o	groin
my/o	muscle
myel/o	spinal cord
neur/o	nerve, neuron
poster/o	posterior, back
proxim/o	near
sarc	flesh
super/o	superior

Word Part: Prefix	Meaning
epi-	upon
hypo-	below or deficient
infra-	below
leio-	smooth
trans-	across

Word Part: Suffix	Meaning
-algia	pain
-cyte	cell
-edema	watery fluid in tissues
-ic	pertaining to
-ium	structure or tissue
-oid	resemblance to
-oma	tumor

Note: There are additional roots, prefixes, and suffixes that are not included within the tables throughout this handout; however, the examples will demonstrate how the word parts can be analyzed to determine the meaning of a word.

Example Terms:

$$\text{epigastric} = \frac{\text{epi (upon) + gastr (stomach) + ic (pertaining to)}}{\text{area just above the stomach}}$$

$$\text{hypogastric} = \frac{\text{hypo (below) + gastr (stomach) + ic (pertaining to)}}{\text{pertaining to below the stomach}}$$

### The Integumentary System

This system, which protects the body from various kinds of damage, includes the skin, hair, nails, and sebaceous and sudoriferous glands.

Word Part: Root	Meaning
albin/o	white
cirrh/o, jaund/o, xanth/o	yellow
cutane/o	skin
cyan/o	blue
cyt/o	cell
derm/o/at/ato	skin
erythr/o	red
fero	to carry
ichthy/o	dry, scaly (fishlike)
kerat/o	hornlike
melan/o	black
myc/o	fungus
onych/o	nail
pil/o	hair
scler/o	hardening
seb/o	sebum (oil; fat)
sudor/i/	sweat
xer/o	dry

Word Part: Prefix	Meaning
an-	without
anti-	against
de-	removal
epi-	upon
hyper-	above normal
para-	alongside of or abnormal
sub-	below or under

Word Part: Suffix	Meaning
-cyte	cell
-derma	skin
-ia	condition
-ism	condition
-logist	practitioner
-logy	study
-malacia	softening
-oma	tumor
-osis	abnormal condition

Example Term:

$$\text{scleroderma} = \frac{\text{sclero (hardening) + derma (skin)}}{\text{chronic hardening and thickening of the skin}}$$

### The Skeletal System

The skeleton, which includes all the bones and joints, is the basic structure of our body.

Word Part: Root	Meaning
ankyl/o	stiff, fused, closed
arthr/o	joint
brachi/o	arm
cervic/o	neck
cheir/o	hand
chondr/o	cartilage
cost/o	rib
dactyl/o	finger, toe
lumb/o	lower back
myel/o	bone marrow
orth/o	correct, straight
os/te/o	bone
ped/o	foot, child
scoli/o	twisted
thorac/o	thorax, chest

Word Part: Prefix	Meaning
amphi-	both sides
syn-	joined together
zygo-	joined (yoked) together

Word Part: Suffix	Meaning
-algia	pain
-gram	written record of
-itis	inflammation
-kinesia	movement
-malacia	softening
-osis	condition
-plasty	surgical repair
-porosis	porous
-scopy	to visually examine
-sis	condition

Example Terms:

$$\text{osteoarthritis} = \frac{\text{osteo (bone) + arthr (joint) + itis (inflammation)}}{\text{degeneration of joint cartilage and the underlying bone}}$$

$$\text{scoliosis} = \frac{\text{scolio (twisted) + sis (condition)}}{\text{lateral curvature of the spine}}$$

### The Muscular System

This system, which is responsible for movement, posture, and control of certain circulatory functions, is made up of skeletal, smooth, and cardiac muscles.

Word Part: Root	Meaning
cardi/o	heart
fasci/o	fibrous membrane
fibr/o	fiber
kinesi/o	movement
muscul/o	muscle
my/o	muscle
orth/o	straight
oste/o	bone
pedics	child
scler/o	hard
sthen/o	strength
tend/o, tendin/o	tendon
ton/o	tone

Word Part: Prefix	Meaning
a-	deficient
epi-	around
hemi-	half
para-	beside, beyond, near
quadri-	four

Word Part: Suffix	Meaning
-algia	pain
-dynia	pain
-oma	tumor
-osis	abnormal condition
-paresis	partial paralysis
-plegia	paralysis

Example Terms:

fibromyalgia =  $\frac{\text{fibro (fiber) + my (muscle) + algia (pain)}}{\text{a disorder that causes widespread pain and tenderness to touch}}$

hemiplegia =  $\frac{\text{hemi (half) + plegia (paralysis)}}{\text{paralysis of one side of the body}}$

### The Nervous System

This system, which is made up of the central and peripheral nervous system, coordinates the body's involuntary and voluntary actions.

Word Part: Root	Meaning
cephal/o	head
cerebell/o	the cerebellum
cerebr/o	the cerebrum; the brain
cortic/o	outer layer or covering
encephal/o	brain
esthesi/o	sensation
gli/o	glue
hydr/o	water
iatr/o	physician; to treat
meningi/o	a membrane
ment/o	referring to the mind
schiz/o	to split
psych/o	referring to the mind

Word Part: Prefix	Meaning
an-	without
di-	two
hemi-	half
myel/o-	bone marrow; spinal cord

Word Part: Suffix	Meaning
-ia	condition of
-itis	inflammation
-mnesia	memory
-oid	like
-paresis	weakness, loss of movement
-phasia	speech
-plegia	paralysis

Example Terms:

anesthesia =  $\frac{\text{an (without) + esthesi (sensation) + ia (condition of)}}{\text{a condition of absence of sensation}}$

encephalitis =  $\frac{\text{encephal (brain) + itis (inflammation)}}{\text{inflammation of the brain}}$

### The Endocrine System

This system, which consists of glands that produce hormones, works with the nervous system to maintain the body's homeostasis.

Word Part: Root	Meaning
acr/o	extremities
aden/o	gland
adren/o, adrenal/o	adrenal glands
calc/i	calcium
crin/o	to separate or secrete
endocrin/o	endocrine
gluc/o, glyc/o/s	sugar, glucose, glycogen
hypophys/o	pituitary gland
pancreat/o	pancreas
parathyr/o, parathyroid/o	parathyroid gland
thyr/o, thyroid/o	thyroid gland

Word Part: Prefix	Meaning
anti-	against or opposed to
epi-	upon
hypo-	below or deficient
para-	alongside of or abnormal

Word Part: Suffix	Meaning
-itis	inflammation
-megaly	enlargement
-oma	tumor
-tropin	nourishment; stimulation
-uria	urine

Example Terms:

$$\text{glycosuria} = \frac{\text{glycos (sugar) + uria (urine)}}{\text{sugar in the urine}}$$

$$\text{thyroiditis} = \frac{\text{thyroid (thyroid gland) + itis (inflammation)}}{\text{inflammation of the thyroid gland}}$$

### The Cardiovascular System

This system, which carries oxygen and nutrients through the blood, includes the heart, blood, and blood vessels.

Word Part: Root	Meaning
angi/o	vessel
arteri/o	artery
ather/o	fatty
atri/o	atrium
cardi/o	heart
coron/o	crown; encircling
hem/o, hemat/o	blood
isch	restricted, narrowed
my/o	muscle
ox/o	oxygen
phleb/o	vein
thromb/o	clot
varic/o	dilated
vas/o	vessel
ven/o	vein

Word Part: Prefix	Meaning
bi-	two
brady-	slow
endo-	inner, inside
epi-	upon
hypo-	below or deficient
peri-	around, surrounding
tachy-	fast
tri-	three

Word Part: Suffix	Meaning
-ectasis	dilation
-emia	blood condition
-ia	condition
-pathy	disease
-stenosis	a narrowing

Example Terms:

$$\text{bradycardia} = \frac{\text{brady (slow) + cardi (heart) + ia (condition)}}{\text{abnormally slow heartbeat}}$$

$$\text{hypoxemia} = \frac{\text{hypo (below or deficient) + ox (oxygen) + emia (blood condition)}}{\text{low level of oxygen in blood}}$$

### The Lymphatic System and Immunity

The lymphatic system is responsible for protecting the body from infection, maintaining a balance of fluids, and absorbing fats. It also consists of organs, tissues, and vessels.

Word Part: Root	Meaning
aden/o	gland
hem/o	blood
immun/o	immune system
leuk/o	white
lymphaden/o	lymph nodes
lymphangi/o	lymph vessels
lymph/o, lymphat/o	lymph or lymphatic system
path/o	disease
phag/o	ingest or engulf
splen/o	spleen
thym/o	thymus
tonsill/o	lymph node, usually palatine tonsil

Word Part: Prefix	Meaning
anti-	against or opposed to
auto-	self
mono-	single
macro-	large
micro-	small

Word Part: Suffix	Meaning
-edema	swelling
-itis	inflammation
-megaly	enlargement
-osis	condition of
-pathy	disease

Example Terms:

$$\text{lymphedema} = \frac{\text{lymph (lymph or lymphatic system) + edema (swelling)}}{\text{lymph tissue swelling}}$$

$$\text{tonsillitis} = \frac{\text{tonsill (tonsils) + itis (inflammation)}}{\text{inflammation of a tonsil}}$$

### The Respiratory System

This system, which supplies oxygen to the cells and removes carbon dioxide, consists of the nose, pharynx, larynx, bronchi, bronchioles, alveoli, and lungs.

Word Part: Root	Meaning
bronch/o, bronchi/o	bronchus
laryng/o	larynx
nas/o, rhin/o	nose
or/o	mouth, opening
ox/o	oxygen
phren/o	diaphragm
pleur/o	pleura
pneum/o, pneumon/o	air, lung
pulmon/o	lung
sinus/o	sinus cavity
thorac/o, thorac/i, thoracic/o	thorax, chest
trache/o	trachea

Word Part: Prefix	Meaning
a-	without
brady-	slow
bronch/o-, bronch/i-	bronchus
dys-	difficult
hypo-	below or deficient
super-, supra-	above or excessive

Word Part: Suffix	Meaning
-ia	condition of
-oxia	oxygen
-phonia	voice
-pnea	breathing

Example Terms:

$$\text{apnea} = \frac{\text{a (without) + pnea (breathing)}}{\text{absence of breathing}}$$

$$\text{hypoxia} = \frac{\text{hypo (below or deficient) + ox (oxygen) + ia (condition of)}}{\text{low level of oxygen in tissue}}$$

### The Digestive System

This system, which allows the body to absorb nutrients from food and fluids, consists of the tract from the oral cavity to the anus.

Word Part: Root	Meaning
bucc/o	cheek
cheil/o	lip
cholecyst/o	gallbladder
dent/i, dent/o	teeth
enter/o	intestine
gastr/o	stomach
gingiv/o	gums
gloss/o	tongue
hepat/o	liver
phag/o	eating, swallowing
proct/o	anus and rectum
sial/o	salivary glands
stomat/o	mouth

Word Part: Prefix	Meaning
anti-	against
dys-	difficulty
hyper-	excessive

Word Part: Suffix	Meaning
-cele	hernia
-emesis	vomit
-ia	condition of
-lith	stone
-pepsia	digestion
-phagia	eat or swallow
-scope	device for visual examination
-scopy	visual examination

Example Terms:

dysphagia =  $\frac{\text{dys (difficulty) + phag (eating, swallowing) + ia (condition of)}}{\text{excessive vomiting}}$

hyperemesis =  $\frac{\text{hyper (excessive) + emesis (vomit)}}{\text{excessive vomiting}}$

### The Urinary System

This system, which removes wastes and toxins from the body, consists of the kidneys, ureters, urinary bladder, and urethra.

Word Part: Root	Meaning
cyst/o	bladder
glomerul/o	glomerulus
lith/o	stone
nephr/o, ren/o	kidney
noct/o	night
olig/o	little, few
py/o	pus
pyel/o	pelvis
ur/o, urin/o	urine
ureter/o	ureter
urethr/o	urethra

Word Part: Prefix	Meaning
an-	without
dys-	difficult
peri-	around
poly-	much, many
retro-	backward, behind

Word Part: Suffix	Meaning
-algia	pain
-ectomy	removal
-ia	condition
-lith	stone
-megaly	enlargement

Example Terms:

$$\text{dysuria} = \frac{\text{dys (difficult) + ur (urine) + ia (condition)}}{\text{difficult or painful urination}}$$

$$\text{nephrectomy} = \frac{\text{nephr (kidney) + ectomy (removal)}}{\text{surgical removal of a kidney}}$$

### The Reproductive System

This system, which allows us to perpetuate life, includes the reproductive organs.

Word Part: Root	Meaning
balan/o	glans penis
cervic/o	cervix
circum/o	around
colp/o, vagin/o	vagina
gonad/o	gonads, sex glands
gynec/o	woman, female
lact/o	milk
mast/o, mamm/o	breast
men/o	menstruation
nat/o	birth
oophor/o, oo	ovary, egg
ovari/o	ovary
prostat/o	prostate gland
salping/o	tube, fallopian tube
uter/o, hyster/o, metr/o	uterus
vas/o	vessel, vas deferens

Word Part: Prefix	Meaning
a-	without
dys-	painful, difficult
hydro-	water
neo-	new
pre-, pro-	before
re-	again

Word Part: Suffix	Meaning
-cele	hernia
-ectomy	excision
-genesis	production
-osis	process
-pathy	disease
-plasty	surgical repair
-rrhea	flowing, discharge
-sterone	steroid hormone

Example Terms:

$$\text{dysmenorrhea} = \frac{\text{dys (painful)} + \text{meno (menstruation)} + \text{rrhea (discharge)}}{\text{painful menstruation}}$$

$$\text{hysterectomy} = \frac{\text{hyster (uterus)} + \text{ectomy (excision)}}{\text{removal of the uterus}}$$

### Sense of Sight and Hearing

Certain root words are associated with the organs that process sight and sound.

Sense of Sight	
Word Part: Root	Meaning
blephar/o	eyelid
dacry/o	tears, lacrima
dipl/o	two, double
ocul/o	eye
opt/o	light, eye, vision
retin/o	retina

Word Part: Prefix	Meaning
a-	without
auri-	ear
extra-	outside
hyper-	above normal
presby-	old
sensor-	sensory

Sense of Hearing	
Word Part: Root	Meaning
acous/o, acus/o, acoust/o	hearing
audi/o	sound
aur/o	ear
auricul/o	ear
ot/o	ear
tympan/o	eardrum

Word Part: Suffix	Meaning
-cele	hernia
-ectomy	excision or removal
-itis	inflammation
-lith	stone
-opia	eye, vision
-plegia	paralysis
-ptosis	falling or downward displacement
-rrhea	discharge

Example Terms:

$$\text{diplopia} = \frac{\text{dipl (double) + opia (vision)}}{\text{double vision}}$$

$$\text{retinitis} = \frac{\text{retin (retina) + itis (inflammation)}}{\text{inflammation of the retina}}$$

### Additional Resources

To provide you with additional practice to learn medical terminology, the Academic Center for Excellence suggests using the following resources:

- **Nursing Root Words Flashcards**  
<https://www.studystack.com/flashcard-689838>  
This site can help you learn nursing terminology root words using a variety of methods including flashcards, matching games, hangman, crossword puzzles, and quizzes.
- **Pronunciation Guide for Medical Terminology**  
<https://www.merckmanuals.com/home/pronunciations>  
Students can click on selected medical terminology to hear the correct pronunciation.
- **The PenguinProf Medical Terminology Video**  
<https://www.youtube.com/watch?v=3fiEszFPRE8>  
This video simplifies breaking down medical terminology by prefixes, roots, and suffixes and provides visual aids, along with the explanations.
- **OchsNurse Medical Terminology Video**  
<https://www.youtube.com/watch?v=UJ2IRQGuhwc>  
In this video, you will learn how to break down common medical terminology with simple, straightforward explanations.
- ***The Language of Medicine* by Davi-Ellen Chabner and Evolve Study Resources**  
<https://evolve.elsevier.com/cs/product/9780323370813?role=student>  
This book includes colorful illustrations, practical exercises, pronunciation guides, and content reviews. The chapters are organized by body systems, and words are broken down into simple explanations by prefixes, roots, and suffixes. The Evolve Study Resource that accompanies the book can be used online to do interactive activities, games, quizzes, and flash cards.

- **Medical Terminology: A Short Course by Davi-Ellen Chabner and Evolve Study Resource**

<https://evolve.elsevier.com/cs/product/9780323444927?role=student>

In this book, you will be guided through the process of learning the most common prefixes, roots, and suffixes by labeling diagrams, practicing pronunciation, and completing reviews. Case studies demonstrate how the medical terms are used in practice. There is also an English to Spanish glossary to help Spanish-speaking students translate common medical terms. This book provides access to the Evolve website, which includes word games, learning exercises, audio pronunciations, animations, an anatomy coloring book, and electronic flash cards.

Charts adapted from Collins, C. E. (2014) *A short course in medical terminology* (3rd ed.). Wolters Kluwer Health/Lippincott Williams & Wilkins.