

# Human Anatomy & Physiology: Latin and Greek Word-Part List (prefixes, suffixes, roots)

Students of any biology course should learn to recognize the meaning of word parts as they often give clues to the meaning of a scientific term, function, or process. Science terminology is predominately based in the Latin and Greek languages.

The following list of prefixes, suffixes, and roots will be used in this and most Biology (bio = life, logy = study of) courses.

To help with pronunciation, word parts need to be linked together. The linkage for many word parts is “o”. For example, linking the root “cardi” with the suffix “-pathy” would make the word difficult to pronounce; therefore an “o” is used to link the root with the suffix. The completed word is written “cardiopathy” and pronounced kar-de-op-ah-the (heart disease).

Accurate spelling of each work is also important. Changing one letter may change the word part and its meaning. Examples include: “ileum” is a part of the small intestine & “ilium” is a bone in the hips, “ped” refers to the foot & “pedia” refers to children, “ab” means away & “ad” means toward. Finding a word in a dictionary, glossary, or index requires a knowledge of spelling – at least the beginning of a word. For example, pneumonia and psychology have a silent “p”.

By the end of this course you should be able to: (1) Understand the importance of medical terminology and how it can be incorporated into the study of the human body, (2) Differentiate between a prefix, suffix, word root, and a compound term, (3) Link word parts to form medical terms, (4) Differentiate between singular and plural endings of medical terms, (5) Dissect (cut) compound medical terms into parts to analyze their meaning, and (6) Recognize and pronounce commonly used prefixes, suffixes, and root words used in medical terminology. The last page of this “Word Part” packet has a list of singular and plurals word forms.

## Word Part #1

Word Part	Meaning	Example(s)	Meaning of Example(s)
a-, an, non	Without, Not	Apnea, Anuria, Nonstriated	Not breathing, Without urine, Muscle not striated
ab-, ef-	Away	Abductor muscle, Efferent Neuron	Muscle pulling away from midline (deltoid), Carrying info away from brain
ad-, af-	Toward	Afferent neuron, Adductor muscle	Carry info toward brain, Muscle pulling toward midline (groin)
adi-, lip(o)-	Fat	Adipose, Liposuction	Fat tissue, Removing (by suction) fat from the body
-alg	Pain	Neuralgia, Fibromyalgia	Nerve pain, Muscle pain
ana-	Up	Anabolic reaction	Building up molecules (bonding amino acids together to make proteins)
ang(i)-	Vessel	Angiogenesis, Vasodialator	Making of a new blood vessel, Medicines that widen a vessel
ante-, pre-, pro-	Before	Prenatal, Antebrachial, Promonocyte	Before birth, Before the upper arm, Before the monocyte is mature
anti-, contra-	Against, Resisting	Antibody, Contraception	Resisting a foreign body (pathogen), Against conception (egg + sperm)
aqua(e)-, hydr	Water	Aqueous, hydrocephalus	Water solution, Water (cerebral spinal fluid – CSF) on the brain
arthr(o), artic-	Joint	Arthritis, Articulation	Joint inflammation, Joint (where two bones meet)
-ase	Enzyme	Maltase, Lipase	Enzyme breaking down maltose, Enzyme breaking down lipids/fats
audi-	Hear	Auditory nerve	Nerve connecting the ear to the brain
aut(o)-	Self	Autoimmunity	Self-immunity (when a persons antibodies attack its own cells/tissues)
bi-, di-, diplo-	Two	Bicuspid, Diencephalon, Diplococcus	2 pointed (tooth or heart valve), 2 parts within the brain, 2 round bacteria
brachy-, brev(i)-	Short	Brachydactyly, Fibularis brevis	Short digits (toes or fingers), Short muscle in the lower leg
brady-	Slow	Bradycardia	Slower than normal heart rate
bronch-	Airway	Bronchitis	Airway (bronchus – tube entering lungs) inflammation

card-	Heart	Cardiology	Study of the heart
cat-	Down	Catabolic reaction	Breaking down molecules (protein bonds being broken to form amino acids)

### Word Quiz #2

Word Part	Meaning	Example(s)	Meaning of Example(s)
cent-	100, 100th	Century, Centigram	100 years, 1/100 <sup>th</sup> of a gram
-centesis	Puncture	Amniocentesis	Puncture to aspirate (remove) amniotic fluid from amniotic sac
cephal-, -ceps	Head	Hydrocephalus, Biceps femoris	Water in brain (in the head), 2-headed (2 tendons) muscle by femur
chol-, cystic	Gallbladder	Cholecystokinin, Cystic duct	Hormone causing gallbladder contraction, Tube (for bile) from gallbladder
chondr-	Cartilage	Chondrocyte	Cartilage cell
-cide	Kill	Spermicide	Sperm killer
circ-, peri-	Around	Circumcision, Periodontal	Cut around (ex. male foreskin), Around the teeth
-clast	Break, Destroy	Osteoclast	Bone breaker (cells that destroy cells, thus shaping a bone)
co-, con-, sym-, syn-, sys-	Together, With	Congenital, Synthesis, System	Born with, Put together, Organs working together
coel-, sinu-	Cavity, Space	Coelom, Frontal sinus	Body cavity, Space in the frontal bone

### Word Part #3

Word Part	Meaning	Example(s)	Meaning of Example(s)
corp-, soma-	Body	Corpus luteum, Somatic cell	Yellow body (former follicle in ovary), Body cell (all non-sex cells)
-crine	Secrete, Release	Endocrine gland	Glands that secrete hormones into the bloodstream
cut, derm	Skin	Subcutaneous, Dermatitis	Below the skin, Skin inflammation
cyan-	Blue	Cyanosis	Condition causing skin to turn blue (due to low oxygen levels)
-cyte	Cell	Leukocyte	White blood cell
dactyl, digit	Finger or Toe	Syndactyly	Fingers or Toes that are together (webbed)
dec(k)	10, 1/10 <sup>th</sup>	Decade, Dekagram, Deciliter	10 years, 10 grams, 1/10 <sup>th</sup> of a liter
dent, dont	Tooth/Teeth	Dentalgia, Orthodontist	Tooth pain, Doctor that straightens teeth
dia-, per-, trans-	Through, Separate, Across	Diarrhea, Permeable, Transcutaneous	Flow through (intestines), Across a membrane, Across skin
dys-, mal-	Bad, Painful, Difficult	Dyspnea, Malnutrition, Malabsorption	Difficult breathing, Bad nutrition/diet, Poor nutrient absorption

### Word Part #4

Word Part	Meaning	Example(s)	Meaning of Example(s)
-ectomy, -tom, -sect	Cut, Cut out	Appendectomy, Lobotomy, Dissect	Cut out appendix, Cut out cerebral (brain) lobe, Cut in two
ectop-	Displaced	Ectopic pregnancy	Displaced pregnancy (embryo implant outside uterus – usually oviduct)
edem-	Swelling	Lymphedema	Swelling of tissues due to the accumulation of lymph
-emesis	Vomiting	Hyperemesis	Excessive vomiting
-emia	Blood condition	Hypoglycemia	Low blood sugar
en, endo-, intra-	Inside, Within	Endosteum, Intraocular	Cavity/space inside a bone, Inside the orbit or eye socket
epi-	Upon, Over, Above	Epidermis, Epididymis	Layer of skin over the dermis, Coiled tubes above the testes

equi-, homo-, iso-	Same, Equal, Balanced	Homeostasis, Isotonic	Constant internal balance (of body functions), Equal solute (ICF & ECF)
erythr-	Red	Erythrocyte	Red blood cell
-esthe	Sensation	Anesthesia	With sensation or feeling

### Word Part #5

Word Part	Meaning	Example(s)	Meaning of Example(s)
ex-, ecto-	Outside	Extracellular fluid	Solute/fluid located outside of cells
fasci-	Bundle	Muscle or nerve fascicle	A bundle or grouping of muscle or nerve cells
foram-	Opening	Infraorbital foramen	An opening in the bone below the eye for nerves & vessels to pass
gastr-	Stomach	Gastric bypass surgery	Surgery for obese patients to dramatically reduce stomach size
-gen, poie-, blast	Create, Form	Oogenesis, Hemopoiesis, Osteoblast	Create an egg, Form new blood cells, Make new bone cells
ger (o, i) -	Aging, Old	Gerontology, Geriatrics	Study of aging, Branch of medicine dealing with older patients
glom-	Ball	Glomerulus	A ball of capillaries in the kidney where metabolic waste is filtered
gloss/tt, lingu	Tongue	Hypoglossal, Sublingual	Cranial nerve connected under the tongue, Salivary gland under tongue
gluc-, gly, -ose	Sugar	Glucose, Glycogen	Monosaccharide of carbohydrates (sugars), Big molecule made of glucose
gyn	Woman	Gynecologist	Doctor specializing in the treatment of females & their repro system

### Word Part #6

Word Part	Meaning	Example(s)	Meaning of Example(s)
-gram	Something written	Electrocardiogram (ECG)	Print out of the electrical activity of the heart
-graph	Writing apparatus	Electrocardiograph	Apparatus/machine used to make an electrocardiogram
-graphy	Use of writing apparatus	Electrocardiography	The use of the electrocardiograph
hem-	Blood	Hemothorax	Blood that has leaked into the chest cavity
hemi-, semi-	Half	Cerebral hemisphere	One half of the brain (left or right cerebral hemisphere)
hepat-	Liver	Hepatitis	Inflammation of the liver (usually caused by viral infection)
hex-	Six	Hexose	A sugar containing 6 carbons (glucose = C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> )
hist-	Tissue	Histology	Study of tissues
hyper-	Over, Excessive	Hypertonic, Hyperesthesia	Greater solute concentration, Excessive/over sensitivity
hypo-, infra-, infer-, sub-	Under, Below, Less	Hypotonic, Infraorbital, Inferior, submandibular	Lesser solute concentration, below eye, under the jaw

### Word Part #7

Word Part	Meaning	Example(s)	Meaning of Example(s)
hyster-, metr-	Uterus	Hysterectomy, Endometrium	Cutting out of uterus, Inner lining of uterus (lost each month in females)
-iasis, -osis	Condition of	Cholelithiasis, Nephrosis	Having gallstones, Kidney disorder
-itis	Inflammation of	Appendicitis	Inflammation (swelling, redness, warmth, & pain) of the appendix
inter-	Between	Interstitial Fluid	An extracellular fluid found between cells
kilo-, milli-	1000, 1000 <sup>th</sup>	Kilogram, Milligram	1000 grams, 1000 <sup>th</sup> of a gram
kin-	To move, Divide	Kinesiology, Cytokinesis	Study of body movement (mechanics of muscles), Cell Division
lact-	Milk	Lactose	Milk sugar

lapar-	Abdomen	Laparscopy	Abdomen viewed (small holes in abdomen replace large surgical incisions)
leuk(c)-	White	Leucopoeisis	The making of white blood cells (wbc's)
lig-	Connect, Bind	Ligaments, Ligase	Connective tissue joining bone to bone, Enzyme that forms bonds

### Word Part #8

Word Part	Meaning	Example(s)	Meaning of Example(s)
-logy, -ist, -ician	Study of, Specialist	Cardiology, Pharmacist, Dietician	Study of heart, Drug/medicinal specialist, Nutrition specialist
lys, lyze	Break apart, Dissolve	Hydrolysis, Lysosome	Breaking down macromolecules, Organelle that digests/dissolves
macr-, mega, magn-	Large	Macrophage, Magnum foramen	Big WBC that eats/digests, Large opening in skull for spinal cord
mamm-, mass-, pect-	Breast, Chest	Mammary, Masectomy, Pectoralis	Breast tissue, Breast removal, Chest muscle
-mania	Obsession, Compulsion	Kleptomania	Compulsion to steal
med-, meso-, meta-	Middle	Mediastinum, Mesoderm, Metaphase	Middle space of chest cavity, Middle germ layer, Chromosomes in middle
-megaly	Enlargement	Splenomegaly	Enlargement of the spleen (usually due to infection)
melano-	Black	Melanocyte	Black pigmented cells of the skin
mens-	Month	Menstrual cycle	The ≈28 day cycle involving the endometrium of the uterus
-metric, -meter	Measurement, Length	Isometric, Spirometer	Using skeletal muscle w/o movement, Breathing/air measurement

### Word Part #9

Word Part	Meaning	Example(s)	Meaning of Example(s)
micro-, -ole, -ule	Small	Microscope, Arteriole, Venule	Apparatus used to view small objects, Small artery, Small vein
mnem-	Memory	Amnesia	Loss of memory
mono-, uni-	One	Monozygotic, Unicellular	Twins coming from the same zygote (identical), 1-celled organism
morph, -plasty	Shape	Morphology, Rhinoplasty	Differentiating/distinguishing by shape, Nose shaping (surgical repair)
mort, necr-	Death	Post mortem, Necrotic tissue	After death, dead tissue
multi-, poly-	Many	Multinucleate, Polysaccharide	Many nuclei (ex. Skeletal muscle), Many monosaccharides
mut-	Change	Mutation	Any change in the sequence of DNA
myo-	Muscle	Myopathy, Myofibril	Muscle disease, Skeletal muscle cell
nas-, rhin	Nose	Nasal septum, Rhinovirus	Division/wall in the nasal cavity, Virus frequently infecting the nose
nat-	Birth	Prenatal	Before birth

### Word Part #10

Word Part	Meaning	Example(s)	Meaning of Example(s)
neo-	New	Neonatal	Newborn
nephr-, ren	Kidney	Nephrosclerosis, Renal vein	Hardening of the kidney, Vessel carrying blood away from kidney
o(o), ovi	Egg	Oophorectomy, Oviduct	Removal of ovary (egg maker), Tube transporting egg to uterus
oct	Eight	Octet rule	Atoms' desire to fill its outer shell with 8 electrons (allows bonding)
ocu, ophth, opt, orbit	Eye	Orbicularis oculi, Ophthalmologist	Muscle around eye (allows winking), Eye doctor
-oid	Resembling, Shape of	Sigmoid colon	S-shaped (end of colon, connects to rectum)

olig-	Little, Few	Oliguria	Very little urine produced
-oma, onco	Tumor	Melanoma, Oncologist	Tumor in the melanocytes of the skin, Tumor specialist
-opia	Vision	Hyperopia	Farsightedness (can see distance well, vision is blurry up close)
or(a)	Mouth	Orbicularis oris	Muscle around the mouth (allows puckering)

### Word Part #11

Word Part	Meaning	Example(s)	Meaning of Example(s)
-scopy	To view, See	Arthroscopic surgery	Inserting a camera into a joint to aid in surgery
ost-	Bone	Osteoblast, Osteomyelitis	Maker of new bone cells, Bone infection
-ostomy	Make an opening	Tracheostomy	Make an opening in the trachea/windpipe – due to blocked pharynx/throat)
ot	Ear	Otoscope	Instrument used to view the ear
palp, tact	Touch, Feel	Palpate, Tactile	Feeling for physical abnormalities (bumps, hardness, swelling, etc.)
para	Beside	Parathyroid glands	Small glands imbedded into the sides of the thyroid gland (in neck)
path	Disease	Pathogenic bacteria	Disease causing bacteria (tetanus, E. coli, streptococcus, etc.)
ped, pod	Foot, Feet	Pedal, Podiatrist	Involving the foot, Foot specialist
pent	Five	Pentose	5 carbon sugar (deoxyribose, ribose)
phago	Eat, Feed	Phagocyte	Eating cell (ex. – WBC's engulfing bacteria & dead cells)

### Word Part #12

Word Part	Meaning	Example(s)	Meaning of Example(s)
pharm	Drug	Psychopharmac	Drugs that affect the mind
-phasia	Speech	Dysphagia	Difficulty speaking
phleb	Vein	Phlebotomist	One who specializes in drawing blood
photo, lumen	Light	Photoreceptor, Gastric lumen	Light sensitive cells of the eye, Space where digested food travels
phobia, phobe	Fear	Hydrophobia	Fear of water (HAPoexaminophobe – One who fears HAP tests)
phys	Function	Physiology	Study of how something functions
-plasia	Growth, Formation	Hyperplasia	Excessive growth (tumor)
plegia	Paralysis	Quadriplegia	Paralysis of all four limbs
pnea, spir	Breathing	Apnea, Inspire	Moments of breathing cessation (usually during sleep), Breathing in
pneum, pulmon	Lungs, Air	Pneumothorax, Pulmonary embolus	Air seeping into chest cavity, A blood clot stuck in the lungs

### Word Part #13

Word Part	Meaning	Example(s)	Meaning of Example(s)
post	After	Post natal	After birth
prim	First	Primary bronchus	First branching of the airway beyond the trachea
proct	Rectum, Anus	Proctoscope, Proctologist	Apparatus used to view the rectum, Colon-Rectum-Anus specialist
pseudo	False	Pseudounipolar neuron	Neuron common in the eye
psych, phren, -noia	Mind	Psychosis, Scizzizophrenia	General term for conditions affecting the brain, Split mind

quad, tetra	Four	Quadriceps, Tetralogy of Fallot	The 4 large muscles (of the ventral thigh), 4 conditions of “blue babies”
re-, retro	Back, Again, Past	Reinfect, Retrograde amnesia	To become infected again, Inability to remember events of the recent past
-rrhea	Flow, Discharge	Diarrhea, Otorrhea	Flow through (feces through intestines), Ear discharge
schlero	Hard (ening)	Arteriosclerosis, Scleroderma	Hardening of the arteries, Hardening of the skin (and other tissues)
sept, tox	Poison, Contaminate	Antiseptic, Cytotoxin	Against poison (germ killer – lysol), Cell poison

### Word Part #14

Word Part	Meaning	Example(s)	Meaning of Example(s)
sten	Narrowing	Pyloric stenosis	Narrowing of the distal stomach where it feeds into the small intestine
strat	Layer	Stratified squamous epithelia	Many layers of flat cells (the skin is an example)
super, supra	Above, Over	Superior vena cava, Supraorbital	Veins bringing blood from above the heart, Over the eye
tachy	Fast	Tachycardia	Faster than normal heart rate
-tension	Pressure	Hypertension	High blood pressure (pressure exerted on artery walls)
therm	Heat	Thermoreceptor	Nerve receptors that detect changes in temperature
thromb	Clot	Thrombocyte	Clotting cell (also called a platelet)
-tonic	Strength	Isotonic	Equal concentration of solute between ICF and ECF
tri-, tert-	Three, Third	Triglyceride, Tertiary bronchus	Lipid containing a glycerol & 3 fatty acids, 3 <sup>rd</sup> division off trachea (airway)
zyg	Union	Zygote	Union of egg and sperm

☺ The following information will be helpful to you but **will not** be on any of the weekly word part quizzes.

#### Singular

-us (thrombus, nucleus)  
 -a (ampulla)  
 -ix, -ex (appendix, cortex)  
 -ax (thorax)  
 -ur (femur)  
 -on (mitochondrion), -um (flagellum)  
 -en (lumen, foramen)  
 -is (neurosis)

#### Plural

-i (thrombi, nuclei)  
 -ae (ampullae)  
 -ices (appendices, cortices)  
 -aces (thoraces)  
 -ora (femora)  
 -a (mitochondria, flagella)  
 -ena or -ina (lumina, foramina)  
 -es (neuroses)