

Prefixes And Terminology

Prefixes can be Divided into functional categories. There are four logical divisions:

- Prefixes of time or speed
- Prefixes of direction
- Prefixes of position
- Prefixes of size or number

a-, an- (no, not, without)

apnea: Not (A-) able to breathe (-PNEA); temporary stoppage of breathing .

In this term, the root (PNE, meaning breathing) is embedded in the suffix (-PNEA). Sleep apnea occurs when breathing stops suddenly during sleep. . In sleep apnea, during sleep, a person is momentarily unable to contract respiratory muscles and maintain air flow through the nose and mouth.

Aphasia: Absence or impairment of communication through speech.

A stroke affecting the language area of the brain can produce this condition.

Atrophy: Decrease in size of cells within an organ.

Disuse of a muscle can result in muscular atrophy. Muscles shrink as cells decrease in size.

Anemia: Deficiency of hemoglobin and/or in number of red blood cells, which results in reduced oxygen to body cells. Literally, anemia means lacking (AN-) in blood (-EMIA).

Anemia is a condition in which there is a lower-than normal number of red blood cells or a decrease in hemoglobin within the cells.

Amenorrhea: Absence of menstrual periods. **Or,** Absence of menstrual flow.

ab- (away from)

Abnormal: Pertaining to being away (AB-) from the norm; irregular.

ad- (toward, near)

adrenal glands: Two endocrine glands, each above a kidney. The adrenal glands produce hormones such as adrenaline (epinephrine) and hydrocortisone (cortisol).

ana- (up, apart)

analysis: Separating a substance into its component parts.

A urinalysis (urine analysis) is the separation of urine to determine its components.

ante- (before, forward)

antepartum: Before birth.

anti- (against)

antibody: A substance that works against (ANTI-) germs (“bodies” of infection). Antibodies are produced by white blood cells when germs (antigens) enter the bloodstream.

An antibody is a protein made by white blood cells—literally, a “body” working “against” foreign substances.

Antigen:

Antigens are foreign substances, such as bacteria and viruses. When antigens enter the body, they stimulate white blood cells to produce antibodies that act against the antigens.

Antibiotic: A chemical substance produced by various microorganisms or fungi (immature plants) that inhibits or destroys bacteria or other small organisms. Examples of antibiotics are penicillin and streptomycin. They are used in the treatment of infectious diseases.

*Antibiotics differ from antibodies. They are produced **outside the body by microorganisms and primitive** plants called molds. Examples are penicillin and erythromycin. As disease-fighting medications, they are taken by mouth or through intravenous injection or applied topically to be absorbed through the skin.*

bi- (two, both)

bilateral: Pertaining to two (both) sides.

brady- (slow)

bradycardia: Slow heartbeat.

con- (with, together)

congenital

A congenital anomaly is an irregularity (anomaly) present at birth. Examples are webbed fingers and toes and heart defects.

dia- (complete, through)

diarrhea: Discharge of watery wastes from the colon.

Feces (stools) are loose and watery. Normal water reabsorption through the walls of the colon is impaired.

dys- (bad, painful, difficult, abnormal)

dyspnea: Painful (DYS-) (labored, difficult) breathing (-PNEA)

dysphagia: Difficult swallowing.

Dysplasia: Abnormality of the development or the formation of cells.

Dysmenorrhea: Painful menstrual flow.

Dysuria: Painful or difficult urination.

Dysuria is often a symptom of a urinary tract infection (UTI).

ec- (out, outside)

Ectopic pregnancy: Pregnancy that is not in the uterus; usually occurring in a fallopian tube. Development of the zygote (early product of conception) in a place outside the uterus. The fallopian tubes are the most common ectopic site.

endo- (within, in, inner)

endoscopy: Process of viewing the inside of hollow organs or cavities with an endoscope.

endocrine glands: Organs that produce (secrete) hormones. CRIN/O means to secrete (to form and give off). Examples of endocrine glands are the thyroid gland, pituitary gland, adrenal glands, ovaries, and testes. All of these glands secrete hormones within the body and into the bloodstream.

epi- (above, upon)

epidural hematoma: Pathologic mass of blood above the dura mater (outermost layer of membranes surrounding the brain and spinal cord).

Epidermis: Outer (EPI-) layer of the skin (-DERMIS).

The three layers of the skin, from outermost to innermost, are the epidermis, dermis, and subcutaneous layer.

ex- (out)

excision: Act of cutting out, removing, or resecting.

extra- (outside of)

extrahepatic: Pertaining to outside the liver.

hemi- (half)

hemigastrectomy: Removal of half of the stomach.

Hemiplegia: Paralysis of one side of the body. Paralysis (-PLEGIA) affects the right or the left half of the body.

One side of the body is paralyzed; usually caused by a cerebrovascular accident or brain lesion, such as a tumor. The resulting paralysis occurs on the side opposite the brain disorder.

hyper- (excessive, too much, above)

hyperthyroidism: Excessive activity of the thyroid gland. Overactivity of the thyroid gland; also called Graves disease or exophthalmic (eyeballs bulge outward) goiter.

Hypertrophy: Enlargement or overgrowth of an organ or part of the body as a result of an increase in size of individual cells.

*Cells increase in size, not in number. The opposite of hypertrophy is **atrophy** (cells shrink in size).*

Hypertension: High blood pressure. Essential hypertension has no known cause, but contributing factors are age, obesity, smoking, and heredity. Secondary hypertension is a sign of other disorders such as kidney disease.

Risk factors that contribute to high blood pressure are increasing age, smoking, obesity, heredity, and a stressful lifestyle.

Hyperglycemia: Higher-than-normal levels of sugar in the blood.

*May also be a sign of **diabetes mellitus**. **Insulin either** is not secreted or is improperly utilized so that sugar accumulates in the bloodstream and spills over into the urine (glycosuria).*

hypo- (deficient, too little, below)

hypoglycemia: Blood condition of decreased sugar (lower-than-normal levels).

Overproduction of insulin or an overdose (from outside the body—exogenously) of insulin can lead to hypoglycemia, as glucose is removed from the blood at an increased rate.

Symptoms are weakness, headache, and hunger.

in- (in, into)

incision: Cutting into the body or into an organ.

inter- (between)

intervertebral: Pertaining to lying between two backbones.

An intervertebral disk lies between any two vertebrae.

intra- (within)

intrauterine: Pertaining to within the uterus.

Intravenous: Pertaining to within a vein.

The abbreviation for intravenous is IV.

mal- (bad)

malignant: Tending to become progressively worse. The term malignant describes cancerous tumors that invade and spread to distant organs.

meta- (change, beyond)

metastasis: Spread of a cancerous tumor to a distant organ or location. Metastasis literally means change (META-) of place (-STASIS). Metastatic means pertaining to a metastasis.

This term literally means a “change of place” (-STASIS). It is the spread of a cancerous tumor from its original place to a secondary location in the body.

Metacarpals: Bones of the hand between the wrist bones (carpals) and the finger bones (phalanges).

The carpal bones are the wrist bones, and the metacarpals are the hand bones, which are beyond the wrist.

neo- (new)

neoplasm: Any new growth of tissue; a tumor.

Neoplastic: Pertaining to a new growth, or neoplasm.

Neonatal: Pertaining to new birth; the first 4 weeks after birth.

Neonates who are born prematurely are often cared for in the neonatal intensive care unit (NICU).

para- (beside, near, along the side of)

parathyroid glands: Four endocrine glands behind the thyroid gland. These glands are concerned with maintaining the proper levels of calcium in the blood and bones.

The position of the parathyroid glands is on the back side of the thyroid gland. The parathyroid glands are endocrine glands that regulate the amount of calcium in bones and in the blood.

Paralysis: Loss or impairment of movement in a part of the body.

This term came from the Greek paralytikos, meaning “one whose side was loose or weak,” as after a stroke. Now it means a loss of movement in any part of the body caused by a break in the connection between nerve and muscle.

Paraplegia: Impairment or loss of movement in the lower part of the body, primarily the legs and in some cases bowel and bladder function.

-PLEGIA means paralysis, and this term originally meant paralysis of any limb or side of the body. Since the nineteenth century, however, it has indicated paralysis of the lower half of the body.

peri- (surrounding)

periosteum: Membrane that surrounds bone.

Perianal: Pertaining to surrounding the anus .

poly- (many, much)

polyuria: Excessive urination

polyneuropathy: Disease of many nerves.

Polydipsia: Excessive thirst.

Symptoms of diabetes mellitus are polyuria and polydipsia.

post- (after, behind)

postpartum: After birth.

Postmortem: After death.

pre- (before)

precancerous: Pertaining to a condition that may come before a cancer; a condition that tends to become malignant.

*An example of a precancerous lesion is **polyps (benign growths)**, commonly found in the colon. These neoplasms are often removed via colonoscopy, because they may eventually become malignant.*

Prenatal: Pertaining to before birth.

pro- (before, forward)

prolapse: Falling down or drooping of a part of the body. Prolapse literally means sliding (-LAPSE) forward (PRO-).

-LAPSE means to slide.

pros- (before, forward)

prosthesis: Artificial substitute for a missing part of the body. Prosthesis literally means to place (-THESIS) before (PROS-).

An artificial limb is a prosthesis (literally meaning “placed” or “put”).

quadri- (four)

quadriplegia: Paralysis of all four limbs. Paralysis of all four extremities and usually the trunk of the body caused by injury to the spinal cord in the cervical region of the spine.

re- (back, behind)

relapse: Return of disease after its apparent termination.

*Symptoms of disease return when a patient has a relapse. **Exacerbation is an increase in the severity of a disease or any of its symptoms.***

Remission: Lessening or absence of signs and symptoms of a disease.

Symptoms of disease lessen when the disease goes into remission.

Resection: Removal (excision) of an organ or a structure.

retro- (back, behind)

retroperitoneal: Pertaining to behind the peritoneum.

The kidneys and adrenal glands are retroperitoneal organs.

sub- (under, less than)

subcostal: Pertaining to below the ribs.

Subcutaneous: Lower layer of the skin composed of fatty tissue.

Subtotal: Less than total; often just under the total amount.

A subtotal gastrectomy is a partial resection of the stomach.

Subscapular: Pertaining to under the shoulder bone.

The scapula is the shoulder bone.

syn- (with, together)

syndrome: Set of symptoms and signs that occur together to indicate a disease condition.

-DROME means running or occurring. Syndromes are groups of symptoms or signs of illness that occur together.

Down syndrome

Mental retardation, flat face with a short nose, slanted eyes, broad hands and feet, stubby fingers, and protruding lower lip. The syndrome occurs when an extra chromosome is present in each cell of the body.

tachy- (fast)

tachycardia: Condition of fast, rapid heartbeat.

Tachypnea: Condition of rapid breathing.

trans- (across, through)

transabdominal: Pertaining to across the abdomen.

Transurethral: Pertaining to across (through) the urethra. TURP is transurethral resection of the prostate by surgery through the urethra.

*A transurethral resection of the prostate gland is a TURP. Pieces of the prostate gland are removed through the urethra to relieve symptoms of **benign prostatic hypertrophy (BPH)**.*

tri- (three)

tricuspid valve: Fold of tissue between the upper and lower chambers on the right side of the heart. It has three cusps or points and prevents backflow of blood into the right atrium when the heart is pumping blood.

-CUSPID means “pointed end,” as of a spear. The tricuspid valve is on the right side of the heart, while the mitral (bicuspid) valve is on the left side of the heart.

ultra- (beyond)

ultrasonography: Recording of internal body structures with sound waves.

uni- (one)

unilateral: Pertaining to one side.

Prefixes of Time or Speed		
Prefix	Refers to	Examples
ante-, pre-	before	antepartum, premature
brady-	abnormally slow rate of speed	bradycardia
neo-	new	neoplasm
post-	after	postsynaptic
tachy-	rapid, abnormally high rate of speed	tachycardia

Prefixes of Direction		
Prefix	Refers to	Examples
ab-	away from, outside of, beyond	abnormal
ad-	toward, near to	addiction
con-, sym-, syn-	with	congenital, sympathetic, synarthrosis
contra-	against	contraindicate
dia-	across, through	diarrhea

Prefixes of Position		
Prefix	Refers to	Examples
ec-, ecto-, ex-, exo-	outside	Ectopy
en-	inside	Encephalopathy
endo-	within	Endoscopy
epi-	upon, subsequent to	Epigastric
extra-	beyond	Extrasystole
hyper-	above, beyond normal	Hypergastric
hypo-	below, below normal	Hypogastric
infra-	inside or below	Infrastructure
inter-	between	Intercostal
intra-	inside, within	Intracerebral
meso-	middle	Mesothelium
meta-	beyond	Metacarpal
pan-	all or everywhere	Pancarditis
para-	alongside, like	Paraplegia
retro-	backward, behind	Retroperitoneal

Prefixes of Size and Number		
Prefix	Refers to	Examples
bi-	two	biannual
di-, dipl-	two, twice	diplopia
hemi-, semi-	half	hemiplegia
macro-	big	macrocyte
micro-	small	microscope
mono-	one	monocyte

olig-, oligo-	a few	oliguria
pan-	all or everywhere	pancarditis
poly-	many	polydactyly
quadri-	four	quadriplegia
semi-	half, partial	semiannual
tetra-	four	tetradactyl
tri-	three	triceps
uni-	one	unicellular