

## Singular and plural endings

- Many medical terms come from Greek or Latin words.
- Rules for forming plurals come from these languages.
- Other words use English rules.
- Each medical term must be considered individually when changing from singular to plural.

### Rules for Changing Singular Terms to Plural Terms:

#### 1. Rule (1): Words Ending in -a

- ✓ When the singular form of the word ends with **-a**, **keep** the **-a** and **add** an **-e**.

Axilla	A pyramid-shaped space forming the underside of the shoulder.
Axillae	
Pleura	A delicate serous membrane enclosing the lung.
Pleurae	
Conjunctiva	A mucous membrane lining the inner surface of the eyelid and anterior part of the sclera.
Conjunctivae	
Scapula	One of the pairs of large flat triangular bones that forms the dorsal part of the shoulder.
Scapulae	
Petechia	Numerous tiny purple or red spots appearing on the skin as a result of tiny hemorrhages.
Petechiae	

#### 2. Rule (2): Words Ending in -ax.

- ✓ When the singular form of the word ends with **-ax**, **drop** the **-x** and **add** **-ces**.

Thorax	The upper part of the trunk that contains the rib cage, lungs some of the abdominal organs.
Thoraces	
Pneumothorax	Air in the pleural space which causes the lung to collapse.
Pneumothoraces	

#### 3. Rule (3): Words Ending in -ex

- ✓ When the singular form of the word ends with **-ex**, **drop** the **-ex** and **add** **-ices**

Vortex	A whirlpool effect caused by a spinning mass of fluid.
Vortices	

<u>Apex</u>	The top of the summit.
<u>Apices</u>	
<u>Cortex</u>	
<u>Cortices</u>	The outer layer of an organ.

#### 4. Rule (4): Words ending in -is

- ✓ When the singular form of the word ends with **-is**, **drop** the **-is** and **add -es**

<u>Metastasis</u>	When a tumor cell moves from the primary location and establishes a remote location.
<u>Metastases</u>	
<u>Diagnosis</u>	Identification of a disease or a condition
<u>Diagnoses</u>	
<u>Anastomosis</u>	The connection between two vessels
<u>Anastomoses</u>	
<u>Prosthesis</u>	An artificial device used to replace a missing body part.
<u>Prostheses</u>	

#### 5. Rule (5): Word Ending in -ix.

- ✓ When the singular form of the word ends with **-ix**, **drop** the **-x** and **add -ces**.

<u>Cervix</u>	The part of the uterus that protrudes into the vagina.
<u>Cervices</u>	
<u>Appendix</u>	An accessory part. The vermiform appendix is a process extending from the cecum.
<u>Appendices</u>	

#### 6. Rule (6): Words ending in -ma

- ✓ When the singular form of the word ends with **-ma**, **keep** the **-ma** and **add -ta**.

<u>Sarcoma</u>	A malignant neoplasm of the soft tissue.
<u>Sarcomata</u>	
<u>Fibroma</u>	Benign neoplasm made of connective tissue.
<u>Fibromata</u>	

#### 7. Rule (7): Words ending with -on

- ✓ When a singular form of the word ends with **-on**, **drop** the **-on** and **add -a**.

<u>Ganglion</u>	A knotlike mass of nervous tissue.
<u>Ganglia</u>	
<u>Spermatozoon</u>	A mature male germ cell.
<u>Spermatozoa</u>	

### 8. Rule (8): Words ending with -us.

✓ When a singular form of the word ends with **-us**, **drop** the **-us** and **add -i**

Thromb <u>us</u>	An aggregation of platelets, fibrin and clotting factors. Is also known as a blood clot.
Thromb <u>i</u>	
Bronch <u>us</u>	A air passage in the lung.
Bronch <u>i</u>	
Alveol <u>us</u>	Tiny air sacs of the lung formed in clusters.
Alveol <u>i</u>	
Embol <u>us</u>	A piece of a thrombus that travels in the bloodstream until it becomes lodged in a vessel.
Embol <u>i</u>	
Calcul <u>us</u>	An abnormal stone formed in the body usually found in the urinary tract.
Calcul <u>i</u>	
Bacill <u>us</u>	A rod-shaped bacteria.
Bacill <u>i</u>	

### 9. Rule (9): Word ending with -um

✓ When a singular form of the word ends with **-um**, **drop** the **-um** and **add -a**

Bacteri <u>um</u>	A unicellular micro-organism.
Bacteri <u>a</u>	
Diverticul <u>um</u>	A pouchlike herniation through the muscular wall of an organ like the small intestine.
Diverticul <u>a</u>	
Atri <u>um</u>	A chamber or cavity such as on the right and left side of the heart.
Atri <u>a</u>	
Ovum	An egg.
Ova	

### 10. Rule (10): Words ending with -y

✓ When a singular form of the word ends with **-y**, **drop** the **-y** and **add -ies**.

Therap <u>y</u>	The treatment of a disease or condition.
Therap <u>ies</u>	
Biops <u>y</u>	The removal of a small piece of living tissue for a microscopic examination to confirm or establish a diagnosis.
Biops <u>ies</u>	

### 11. Rules (11): Words ending with -x

✓ When a singular form of the word ends with **-x**, **drop** the **-x** and **add** **-ges**.

Laryn <u>x</u>	The organ of voice.
Laryng <u>es</u>	
Menin <u>x</u>	The three membranes that enclose the brain and spinal cord.
Mening <u>es</u>	
Phanln <u>x</u>	Bones of the fingers and toes.
Phalanges	

## Suffixes and Terminology

Suffixes are divided into two groups: those that describe diagnoses and those that describe procedures.

**Diagnostic suffixes** describe disease conditions or their symptoms.

### **-algia**      **condition of pain, pain**

- **Arthralgia:** Pain in a joint.
- **Otalgia:** Pain in an ear.
- **Myalgia:** Pain in a muscle or muscles.
- **Neuralgia:** Nerve pain.

### **-emia**      **blood condition**

**Leukemia:** Increase in malignant (cancerous) white blood cells in blood and bone marrow. [Increase in numbers of leukocytes; cells are malignant (cancerous)].

**Septicemia:** Infection in the blood. Septicemia is commonly called blood poisoning and is associated with the presence of bacteria or their toxins in the blood. Blood infections result when pathogens enter the blood from a wound.

**Ischemia:** Deficiency of blood flow to a part of the body, caused by narrowing or obstruction of blood vessels. Ischemia may lead to necrosis (death of cells). Ischemia of heart muscle caused by blockage of a coronary (heart) artery.

**Uremia:** Abnormal condition of excessive amounts of urea in the bloodstream. *Uremia occurs when the kidneys fail to function and urea (a waste material) accumulates in the blood.*

### **-ia**      **condition**

**Pneumonia:** Abnormal condition of the lungs marked by inflammation and collection of material within the air sacs of the lungs. The lung is inflamed, causing fluid and material to collect in the air sacs of the lung.

### **-itis**      **inflammation**

**Bronchitis:** Inflammation of bronchial tubes. (*Bronchial tubes are inflamed, with hypersecretion of mucus*).

**Esophagitis:** Inflammation of the esophagus.

**Laryngitis:** Inflammation of the LARYNX.

**Meningitis:** Inflammation of the meninges (membranes around the brain and spinal cord). (*The meninges are membranes that surround and protect the brain and spinal cord*).

**Cystitis:** Inflammation of the urinary bladder.

**Phlebitis:** Inflammation of a vein.

**Colitis:** Inflammation of the colon (large intestine).

**-megaly                    enlargement**

**Cardiomegaly:** Enlargement of the heart.

**Hepatomegaly:** Enlargement of the liver.

**-oma                    (tumor, mass)**

**Adenoma:** Benign tumor of glandular cells. This is a benign (noncancerous) tumor.

**Adenocarcinoma:** Cancerous tumor derived from glandular cells. Carcinomas are malignant (cancerous) tumors of epithelial (skin or lining) tissue in the body. Glands and the linings of internal organs are composed of epithelial tissue. (**Cancerous tumor derived from glandular cells.**)

**Myoma:** Tumor (benign) of muscle. This is a benign tumor. **Myomas** commonly occur in the uterus and are known as fibroids.

**Myosarcoma:** Tumor (malignant) of muscle. **SARC-** means flesh, indicating that the tumor is of connective or “fleshy” tissue origin. Sarcomas are cancerous tumors of connective (flesh) tissue. Muscle, bone, cartilage, fibrous tissue, and fat are examples of connective tissues.

**Myeloma:** **MYEL/O** means bone marrow in this term. Also called multiple myeloma, this is a malignant tumor of cells (called plasma cells) in the bone marrow. (Malignant tumor originating in the bone marrow (**MYEL/O-**))

**-osis                    (condition, abnormal condition)**

**Nephrosis:** Abnormal condition of the kidney. Nephrosis is often associated with a deterioration of the kidney tubules.

**Necrosis:** Death of cells.

**Erythrocytosis:** Abnormal condition (slight increase in numbers) of red blood cells. (When **-OSIS** is used with blood cell words, it means a slight increase in numbers of cells).

**Leukocytosis:** Slight increase in the numbers of normal white blood cells as a response to infection.

**-pathy** (disease condition)

**Encephalopathy:** Disease of the brain.

**Cardiomyopathy:** Disease of heart muscle.

**Nephropathy:** Disease of the kidney.

**-rrhea** (flow, discharge)

**Rhinorrhoea:** Discharge from the nose.

**Menorrhoea:** Normal menstrual flow. **Or,** Normal discharge of blood and tissue from the uterine lining during MENSTRUATION.

**-rrhage or -rrhagia** (excessive discharge of blood)

**Hemorrhage:** Bursting forth of blood.

**Menorrhagia:** Excessive bleeding during menstruation. **Or,** Excessive bleeding from the uterus during the time of MENSTRUATION.

**-sclerosis** (hardening)

**Arteriosclerosis:** **Atherosclerosis** is the most common type of arteriosclerosis which is hardening of arteries caused by collection of fatty, cholesterol-like deposits (plaque) in arteries. A fatty plaque (atheroma) collects on the lining of arteries.

**-uria** (condition of urine)

**Hematuria:** Abnormal condition of blood in the urine. Bleeding into the urinary tract can cause this sign of kidney disease or of disorders of the urinary and genital tracts.

**adjective suffixes** (-al, -eal, -ar, -ary, or -ic): mean pertaining to and describe a part of the body, process, or condition.

**-al or -eal** (pertaining to)

**Peritoneal:** Pertaining to the PERITONEUM (Membrane that surrounds bone).

**Inguinal:** Pertaining to the groin, or the area where the legs meet the body. Inguinal lymph nodes are located in the groin.

**Renal:** Pertaining to the kidney.

**Myocardial:** Pertaining to the muscle of the heart. Don't forget that a heart attack is a myocardial infarction (MI). An infarction is an area of dead tissue caused by ischemia (a condition in which blood supply is held back from a part of the body).

**Vascular:** Pertaining to blood vessels. A cerebrovascular accident (CVA) is a stroke.

**Axillary:** Pertaining to the armpit or underarm.

**Mammary:** Pertaining to the breast.

**Pulmonary:** Pertaining to the lungs.

**-ic** pertaining to

**Chronic:** Lasting a long time. Chronic conditions occur over a long period of time, as opposed to acute conditions, which are sharp, sudden, and brief.

**Pelvic:** Pertaining to the bones of the hip area.

COMBINING FORM	MEANING	COMBINING FORM	MEANING
aden/o	gland	leuk/o	white
amni/o	amnion (sac of fluid surrounding the embryo)	mamm/o	breast (use with -ARY, -GRAPHY, -GRAM, and -PLASTY)
angi/o	vessel (usually a blood vessel)	mast/o	breast (use with -ECTOMY and -ITIS)
arteri/o	artery	men/o	menses (menstruation); month
arthr/o	joint	mening/o	meninges (membranes around the brain and spinal cord)
ather/o	plaque (a yellow, fatty material)	my/o	muscle
axill/o	armpit (underarm)	myel/o	spinal cord (nervous tissue connected to the brain, located within the spinal column. MYEL/O can also mean bone marrow (soft, inner part of bones, where blood cells are made))
bronch/o	bronchial tube	necr/o	death (of cells)



bronchi/o	bronchial tube	nephro/o	kidney (use with all suffixes, except -AL and -GRAM; use REN/O with -AL and -GRAM)
carcin/o	cancerous	neur/o	nerve
cardi/o	heart	oophor/o	ovary
chem/o	drug; also chemical	oste/o	bone
cholecyst/o	gallbladder	ot/o	ear
chron/o	time	pelv/o	hip area
col/o	colon (large intestine or bowel)	peritone/o	peritoneum (membrane surrounding organs in the abdomen)
crani/o	skull	phleb/o	vein
cry/o	cold	pneumon/o	lung
cyst/o	urinary bladder; also a sac of fluid or a cyst	pulmon/o	lung
electr/o	electricity	radi/o	x-rays
encephal/o	brain	ren/o	kidney (use with -AL and -GRAM)
erythr/o	red	rhin/o	nose
esophag/o	esophagus (tube leading from the throat to the stomach)	salping/o	fallopian (uterine) tube
hem/o	blood	sarc/o	flesh
hemat/o	blood	septic/o	pertaining to infection
hepat/o	liver	thorac/o	chest
hyster/o	uterus	tonsill/o	tonsil
inguin/o	groin (area in which the thigh meets the trunk of the body)	trache/o	windpipe; trachea
isch/o	to hold back	ur/o	urine or urea (a waste material); urinary tract
lapar/o	abdomen (abdominal wall)	vascul/o	blood vessel
laryng/o	voice box (larynx)		

INFLAMMATIONS	
appendicitis	Inflammation of the appendix (hangs from the colon in the lower right abdomen)
bursitis	Inflammation of a small sac of fluid (bursa) near a joint
cellulitis	Inflammation of soft tissue under the skin
dermatitis	Inflammation of the skin
endocarditis	Inflammation of the inner lining of the heart (endocardium)
epiglottitis	Inflammation of the epiglottis (cartilage at the upper part of the windpipe)
gastritis	Inflammation of the stomach
hepatitis	Inflammation of the liver
myositis	Inflammation of muscle (MYOS/O means muscle)
nephritis	Inflammation of the kidney
osteomyelitis	Inflammation of bone and bone marrow
otitis	Inflammation of the ear
peritonitis	Inflammation of the peritoneum
pharyngitis	Inflammation of the throat
thrombophlebitis	Inflammation of a vein with formation of clots

DISEASE CONDITIONS (-PATHIES)	
adenopathy	Disease condition of lymph nodes ("glands"); lymphadenopathy
adrenopathy	Disease condition of the adrenal glands
hepatopathy	Disease condition of the liver
lymphadenopathy	Disease condition of the lymph nodes (previously called glands)
myopathy	Disease condition of muscles
neuropathy	Disease condition of nerves
osteopathy	Disease condition of bones
retinopathy	Disease condition of the retina of the eye