Medical Terminology

Surgical Suffixes, Hematology, and Diagnostic Imaging

Suffix for “Cutting”

Tomas = Cutting (Greek)
Tom = word root for cut
- tome = cutting instrument
- tomy = to cut into (incise)
  - Tom/e = cut
  - /-y is a noun suffix
- ectomy = to cut out (excise)
  - Ect/o = outside
- ostomy = to form a new opening (surgical)
  - Os = mouth, opening

Example:

Derm/a/tome
Gastr/o/tomy
Duoden/ectomy

-ectomy vs. -ostomy

- Gastr/ectomy: Excision (removal) of all or part of the stomach
  - Ect/o = combining form meaning “outside”
  - Tom/e = combining form meaning “cut”
  - /-y = noun suffix
  - One “t” is dropped when tome is preceded by “ect”.
- Gastr/ostomy: New opening made in stomach by cutting
  - Os = combining form for “mouth, opening”
  - Tom/e = combining form meaning “cut”
  - /-y = noun suffix

-ostomy = Forming a New Opening

- Gastr/o/duoden/o/ostomy:
  - Forming a new opening between the stomach and duodenum. Surgical procedure where natural connection between the duodenum and stomach is removed and new connection is formed.

-tomy = Incision Into

- Duoden/o/tomy: Incision into the duodenum
Derm/a/tome = An instrument that cuts skin
Tom/o/graphy = A process that makes images of slices (planes) of the body

Gastr/o = Stomach
- Excision of the stomach
- Incision into the stomach
- Make a surgical opening in the stomach (i.e. to insert a feeding tube)
- Gastr/oectomy
- Gastr/o/tomy
- Gastr/o/ostomy

Note: The combining form is not used when the suffix begins with a vowel

Gaster = Stomach (Greek)
Gastr/o/megaly: Enlargement of the stomach
Megal/o/gastr/ia: Enlargement of the stomach
-ia = Condition

Gastritis
White blood cells causing inflammation

Duoden/o = Duodenum
- Duoden/um (noun) = First part of the small intestine that connects with the stomach
- Gastr/o/duoden/ostomy = Forming a new opening between the stomach and duodenum
  - Used to bypass obstruction in between stomach and duodenum
- Duoden/o/tomy = incision into the duodenum
- Duoden/ostomy = Forming a new opening into the duodenum
- Duoden/itis = Inflammation of duodenum

-al = Pertaining to (Adjective Suffix)
- Duoden/al: (Adj.) Pertaining to duodenum
  - Examples: duodenal ulcer, duodenal lesion
-**al** or **-ic** = (adjective) pertaining to

- Duoden/o
  - Duodenal ulcer
- Gastr/o
  - Gastric lesion

-**graph** = To Write or Record

- From Greek verb *graphein*, meaning to write or record
- Refers to an instrument used to record data
- Tom/o/graph is an x-ray instrument used to show tissue or organs in one plane or slice

-**gram** = Record or Picture

- *Gramma* = something written or drawn
- **-gram** = suffix for “something written or drawn”. Used in medical terms to refer to a record or picture made by an instrument.
- Tom/o/gram: An X-ray picture made by a tomograph

-**algia** = Pain

- Cardi/alga: Heart pain
- Gastr/alga: Pain in the stomach
  - Since **-algia** starts with a vowel, word root is used rather than the combining form.

Tomography

- A radiographic procedure that uses X-rays to produce images of a slice or plane of the body.
  - MRI: Magnetic Resonance Imaging
  - CT: Computed Tomography
  - PET: Positron Emission Tomography
  - SPECT: Single Photon Emission Computed Tomography
Cardi/o (card/o) = Heart
- Cardi/o/megaly: Enlarged heart
- Megal/o/cardia also means enlargement or overdevelopment of the heart. (not used often)
- Cardiac enlargement (CE)
- Card/i/tis: Inflammation of the heart
- Cardi/o/logist: A specialist in the study of disease of the heart
- Cardi/o/logy: The study of heart

Cardi/o (card/o) = Heart
- Cardiac (or Coronary) Care Unit (CCU)
- Electr/o/cardi/o/gram (EKG or ECG): Record of electrical waves given off by the heart
- Electr/o/cardi/o/graph: The instrument used to record electrocardiogram
- Electr/o/cardi/o/graphy: The process of making a recording of EKG/ECG using electricity

Son/o = Sound
- Sonus = Sound (Latin)
- Son/o/gram: A picture made using sound waves (ultrasound) with sonograph
- Son/o/graphy: The process of obtaining the sonogram. Also called Ultrasonography.
- Son/o/graph/er: The person who performs sonography (technician).
  - Sonogram is officially READ by a radiologist.

Ech/o
- Ech/o means sound made by reflected sound waves.
- Ech/o/cardi/o/gram: A record of sound waves reflected through the heart
- Ech/o/cardi/o/graphy: The process of making the echocardiogram using sound waves

Radi/o = Radiation
- Radius = Ray coming from a central point (Latin)
- Radi/o/gram: A picture made by using X-rays (XR)
  - Note: In practice, this is usually called a radiograph.
- Radi/o/graph: Instrument used to produce the radiogram or the X-ray film
- Radi/o/graph/er: One who takes X-rays

Radi/o = Radiation
- Radi/o/logist: A physician specialist who studies (interprets) X-rays
- Radiation Therapists (RATx) use X-rays to irradiate a cancerous area
- Registered Radiologic Technologists (RT[R]) use ionizing radiation (X-rays) to create images for diagnostic interpretation by radiologists.
Path/o = Disease

- Path/o/logy: The study of disease or the cause of disease
- Path/o/logist: A physician specializing in diagnosing (discovering) diseases
- -pathy = Disease
- Dermat/o/pathy: Disease condition of the skin
- Eti/o/logy = The study of the cause of the disease

Jaundice

- Jaundice is a yellow appearance of a skin caused by a reflection of bright yellow color through the blood plasma. Plasma gets a bright yellow color when a person has a high blood bilirubin level.
  - Examples:
    - Viral hepatitis A, B, or C
    - Neonatal jaundice
    - Cirrhosis of the liver

Colors

- Leuk/o
  - White
- Melan/o
  - Black (dark pigment)
- Erythr/o
  - Red
- Cyan/o
  - Blue
- Chlor/o
  - Green
- Xanth/o
  - Yellow

-osis = Condition

- -osis means disease, condition, status, or process
- Cyan/osis = condition of blueness
- Dermat/osis = condition of the skin
- Dermat/o/cyan/osis or Cyan/o/derma = condition of blueness of the skin

Colors

- Blue skin
- Red skin
- White skin (vitiligo)
- Yellow skin (discolored skin)
- Black (discolored skin)
- Cyan/o/derma
- Erythr/o/derma
- Leuk/o/derma
- Xanth/o/derma
- Melan/o/derma

-tic = pertaining to

- -osis (noun)
- Cyan/osis
- Acr/o/cyan/osis
- -tic (adjective)
- Cyan/o/tic
- Acr/o/cyan/o/tic
-cyte = Cell
- Chlor/o/cyte: A green cell (in plants)
- Melan/o/cyte: Black cell (dark pigmented)
- Leuk/o/cyte: White (blood) cell
- Erythr/o/cyte: Red (blood) cell. Contains a red substance called hemoglobin.

-blast = Embryonic, Immature Cell
- Leuk/o/blast: An embryonic white cell
- Melan/o/blast: An embryonic black (dark pigment) cell
- Erythr/o/blast: An embryonic red cell
- Blast/o = (combining form) embryonic or immature cell
- Blast/o/cyte: An embryonic cell
- Blast: A cell in its embryonic stage
  - Note: An embryonic white cell is NOT leukoblastocyte. You choose either blast or cyte when has another combining form in front.

-emia = Blood Condition
- Hema = Blood (Greek)
- An/emia: Lack of blood
- Xanth/emia: Yellow blood condition (jaundice)
- Erythr/emia: Red blood condition (polycythemia)
- Chlor/emia: Green blood condition (increased chlorine in the blood)
  - Chlorosis is a condition in which the skin takes on a greenish tinge due to anemia

-meter, -metry
- meter = An instrument used to measure or count something
- Cyt/o/meter: The instrument used to count cells
- metry = The process of measuring or counting something
- Cyt/o/metry: The process of counting cells
Blood Cells and Platelets

- **Red Blood Cells (RBC): Erythrocytes**
- **White Blood Cells (WBC): Leukocytes**
  - Granular leukocytes
    - Eosinophils
    - Neutrophils
    - Basophils
  - Agranular leukocytes
    - Monocytes
    - Lymphocytes: T cells, B cells, Plasma cells
- **Thrombocytes (Platelets): Thromb/o = blood clot**
- **Wandering macrophages (Phagocytes)**

-penia = Decrease, Not Enough

- Means poverty
- Leuk/o/cyt/o/penia (leukopenia): Decrease in or not enough white blood cells
- Thromb/o/cyt/o/penia: Abnormal decrease in the number of clot-forming cells (thrombocytes)
- Erythr/o/cyt/o/penia: Decrease in red blood cells

-osis = Condition of increased number

-osis may be used to indicate an increase in numbers of blood cells.
- Leuk/o/cytosis: Increase in white blood cells
- Erythr/o/cytosis: Increase in red blood cells
- Thromb/o/cytosis: Increase in number of platelets

Leukemia

- Leukemia, a “blood cancer”, literally means “a condition of white blood”.
  - Leuk/o = White
  - em = blood
  - -ia = condition

- In Leukemia, the blood is not really white. There are too many immature white cells (leukocytes) in the blood. This finding was used to name the disease “Leukemia”.

Lymph/o = Lymphatic System

- Lymph/o = Water or liquid (Latin)
- Lymph/o/cyte: A type of WBC produced by the lymphatic system
- Acute Lymphocytic Leukemia (ALL) is a disease involving the lymphocytes

Hist/o = Tissue

- Hist/o/blast: Immature tissue
- Hist/o/logy: The study of tissues
- Hist/o/logist: One who studies tissues
- Hist/o/cyte: A tissue cell
Hist/o = Tissue
- Hist/o/lysis: Destruction of tissue
- Hist/o/genous: A substance that is made by tissue
- Hist/o/logy: The study of tissue
- Hist/o/logist: One who studies tissues
- Hist/o/blast: An embryonic tissue
- Hist/o/cyte: A tissue cell
- Hist/o/id: Resembling tissue

Mania = Madness
- Mania = Madness (Greek)
- Man/ia means a condition of madness or excessive preoccupation
- Many mental disorders end with this word.
- Megal/o/mania: Symptom of a mental disorder in which the patient has delusions of grandeur (greatly enlarged opinions of themselves).

-ic, -ac = Pertaining to

Examples:
- Leukemic
- Dermal
- Manic
- Gastric
- Cardiac

Abbreviation
- CT, CAT scan
- DMS
- ECHO
- EKG, ECG
- ER
- GA
- Gl
- Computed Tomography (Scan)
- Diagnostic Medical Sonography
- Echocardiogram
- Electrocardiogram
- Emergency Room
- Gastric Analysis
- Gastrointestinal
- Acute Cardiovascular Disease
- ALL
- ARRT
- American Registry of Radiologic Technologists
- ARDMS
- American Registry of Diagnostic Medical Sonography
- ASRT
- American Society of Radiologic Technologist
- CBC
- CCU
- CE
- CPK
- Complete Blood Count
- Cardiac (Coronary) Care Unit
- Cardiac Enlargement
- Creatine Phosphokinase (Cardiac Enzyme)

Abbreviation
- Hb, HxG
- LDH
- MRI
- Ra
- RTx (RT)
- RBC
- RDMS
- Registered Diagnostic Cardiac Sonographer
- RT(R)
- Registered Radiologic Technologist
- RVT
- Registered Vascular Technologist
- WBC
- XR
- Hemoglobin
- Lactic Dehydrogenase (Cardiac Enzyme)
- Magnetic Resonance Imaging
- Radium
- Radiation Therapy
- Red Blood Cell (Count)
- White Blood Cell (Count)
- X-ray