

# Terminology: Lectures 5

## General Roots

by

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## Introduction

*Normal range:* acceptable limit

*Pathologic:* A condition involving a disease process.

*Diagnosis:* naming a disease or condition based on scientific evaluation.

*Prognosis:* anticipated outcome of a disease

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## I- Common roots pertaining to the different body organs

1. **Nephro-**: Kidneys;
  - e.g., **Nephropathy**: Disease of the kidneys.
2. **Hepato-**: liver
  - e.g., **Hepatotoxic**: agents that cause liver toxicity.
3. **Pulmo-**: Lung
  - e.g., **Pulmonary** edema: is fluid accumulation in the air spaces and parenchyma of the lungs.
4. **Cardio-**: Heart
  - e.g., **Microcardia**: small sized heart.
5. **Cyto-**: cell
  - **Thrombocytopenia**: decrease in platelet cells.
6. **Rhino-**: Nose
  - **Rhinorrhea**: the free discharge of a thin nasal mucus.
7. **Naso-**: Nose
  - **Nasal sinusitis**: Inflammation of the sinus of the nose
  - 3 – **Nasoplasty**: surgical repair of the nose.

### • Common roots pertaining to the different body organs Cont.

#### 8) Derm: skin

- e.g., **Dermatologist**: a specialist in the skin and its diseases.
- e.g., **Dermoscope**: an instrument use a light from a led bulbs used to examine suspicious skin lesions.

#### 9) Costo: rib

- **Costovertebral** (*adj*): relating the ribs to thoracic vertebrae.

#### 10) Carp: wrist

- Carpal tunnel syndrome: pain, numbness, weakness and other problems in hand because of pressure on the median nerve of the wrist.

#### 11) Cerv: neck

- **Cervix**: The neck of the womb (uterus).

#### 12) Arthro: Joint

- 4 – **Arthropathy**: disease of the joint

## Common roots pertaining to the different body organs Cont

### 13) Vena: Veins

- e.g., Superior **vena** cava: a large vein carrying deoxygenated blood into the heart.

### 14) Gastro: Stomach

- e.g., **Gastro**enteritis: Inflammation in the stomach and intestine

### 15) Oste: Bone

- e.g., **Osteo**sarcoma : Cancer of the bone

### 16) Neur: Neuro or nerves.

- e.g., **Neuro**logist : a specialist in neurological diseases.

### 17) My: Muscle

- e.g., Card/io/**myo**/pathy: Disease of cardiac muscles

### 18) Cholecyst: relating Gallbladder

- e.g., **Cholecyst**itis: Inflammation of gallbladder.

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## Common roots pertaining to the different body organs Cont.

### 19- Aden: Gland

- e.g., **aden**oma: tumor of the gland

### 20- Cerebr: Brain

- **Cerebr**ospinal fluid (CSF): Fluid around brain and spinal cord

### 21- Chondr: Cartilage

- **Chondr**olysis: Destruction of the cartilage

### 22- Cyst: bladder or sac

- e.g., **Cyst**itis: Inflammation of gall bladder
- Ovarian **cyst**: sac around ovary
- **Cholecyst**: gall bladder.

### 23- Lip: fat

- **Lip**oma: lipid tumor

### 24- Ophthalm/o/occul: eye

- **Ophthalm**ologist: specialist in eye disease.

### 25- Thromb: Blood clot

- 6 – e.g., **Thromb**olytics: agents that dissolve blood clot.

## II- Roots pertaining to chemistry

Roots	Meaning	Example	Defenition
a) Azot/o	Nitrogen	Azoturia Azotemia	Increase N <sub>2</sub> in urine. Increase N <sub>2</sub> in blood
b) Kal/I	Potassium	Hypokalemia	Decreased potassium level in the blood
c) Natr/i	Sodium	Hypонатremia	- Decreased sodium in the blood
d) Calc/i	Calcium	Hypercalcemia	- increased Ca in the blood
e) Hydr/o	Water	Dehydration	- Loss of water
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## III- Roots pertaining to physical factors

1. Aer/o
2. Bar/o
3. Chrom/o
4. Electr/o
5. Kine/kinesi
6. Phot/o
7. Rad/o
8. Son/o
9. Therm/o

**1. Aer/o:** combining form related to air or gas.

e.g., **Aerobe:** an organism lives and grows in oxygen or air.

e.g., **Aerosol:** a liquid solution dispersed in air under pressure.

**2. bar/o:** combining form related to pressure.

e.g., **Hyperbaric oxygen:** oxygen under pressure higher than normal atmospheric pressure.

e.g., **Hyperbaric solution:** solution more dense than a solvent or diluent or medium e.g., in spinal anesthesia, hyperbaric solution with a specific gravity more than CSF.

**3. Chrom/o:** color or stain

e.g., **Chromocyte:** any pigmented cell.

e.g., **Chromatic:** pertaining to the color.

**V- Electr/o: Electric or electricity**

- **Electro**cardiogram (**ECG** or **EKG**): the graphic record of electricity of the heart.
- **Electro**cardiograph: An instrument used for recording the electricity of the heart.
- **Electro**convulsive therapy (**ECT**): therapy of some disease by inducing convulsion via electric shock.
- **Electro**encephalograph: instrument used for recording electric potential of the brain derived from electrodes attached to the scalp.

## **VI- Phot/o:** combining form related to the light.

- **Photalgia** (syn. photodynia): pain caused by light.
- **Photoallergy** (syn. photosensitization): sensitization of the skin to the light, usually due to the action of certain drugs.
- **Phototherapy** (lucotherapy): treatment of disease by means of light rays.

## **VII- Sone/:** sound (a unit of loudness)

- **Sonic:** pertaining to sound.
- **Sonication:** the process of mixing biologic materials or solutes by the use of sound wave energy.
- **Ultrasonography:** an instrument used to view an image of internal tissues using ultrasound as fetus.

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## **VIII- Therm/o:** Roots pertaining to the heat.

- **Thermocautery:** the use of heat produced by cautery.
- **Thermometer:** an instrument used to measure the temperature of any substance including human beings.
- **Thermotherapy** (heat therapy): treatment of disease by the application of heat in any way.
- **Diathermy:** Electrically-induced heat used in surgical procedures or physiotherapy.

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IX) Roots pertaining to disease.			
Roots	Meaning	Example	Definition
a) Carcino	Cancer or malignancy	Carcinogen	Substance that produces cancer
b) Lith	Calculus/ Stone	Lithiases Cholecystolithiases Urolithiases	Stone formation
c) Onc/o	Tumor	Oncolysis	Destruction of the tumour
d) Path/o	Disease	- Pathogenic - Pathology	- Producing disease - Science of diseases
e) Py	Pus	- Pyuria	-The presence of pus in the urine.

- 1. ae or oe only e is pronounced:**
  - Oedema: pronounced **a**edema (a silent)
  - Aerobic: pronounced **a**erobic (a silent)
  - Algae: pronounced **al**gae (a silent)
- 2. Ch is pronounced K sometimes:**
  - Chromosomes - Cholesterol - Cholera - Bronchial asthma
  - Stomach - Mitochondria - Mercurochrome - Bronchi
- 3. Pn at the beginning of the term, only N is pronounced and P silent:**
  - Pneumonia (only N is pronounced)
  - Pneumococci (Only N is pronounced)
- 4. Ps at the beginning of the term, only s is pronounced:**
  - Psoriasis (P silent)
  - Psychosis (P silent)
  - Pseudomonas (P silent)
- 5. If -pn- in the middle of the word, both p and n are pronounced:**
  - Apnea (both p and n are pronounced)
  - Hyperpnea (both p and n are pronounced)

## Important Rules In Abnormal plural & Pronunciations

6. The terms end by **-us**, in pleural it is converted into **i**:

### Single

- Bronch**us**
- Fung**us**
- Nucle**us**
- Alveol**us**
- Focus**us**
- Calcul**us**
- Canalicul**us**
- Stimul**us**
- Vill**us**

### Pleural

Bronch**i**  
Fung**i**  
Nucle**i**  
Alveol**i**  
Foci**i**  
Calcul**i**  
Canalicul**i**  
Stimul**i**  
Villi**i**

7. Some terms its pleural is achieved by adding **e** to the end:

### Single

Vertebra  
Papilla  
Trabecula

### pleural

vertebra**e**  
Papillae**e**  
Trabeculae**e**

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## ABBREVIATIONS

- ▶ CNS: central nervous system
- ▶ CVS: cardiovascular system
- ▶ GIT: gastrointestinal tract
- ▶ ATP: adenosine triphosphate
- ▶ NSAID: non-steroidal anti-inflammatory drugs



## Collective Roots & Uses

Combining Form	Meaning	Medical Specialty	Medical Specialist
cardi/o	heart	cardiology	cardiologist
dermat/o	skin	dermatology	dermatologist
esthesi/o	feeling or sensation	anesthesiology	anesthesiologist
gynec/o	female	gynecology	gynecologist
immune/o	immune	immunology	immunologist
ne/o, nat/o	new, birth	neonatology	neonatologist
ophthalm/o	eye	ophthalmology	ophthalmologist
path/o	disease	pathology	pathologist
radi/o	radiation or radius	radiology	radiologist
ur/o	urinary tract or urine	urology	urologist

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## MCQ EXercises

**1. Visceral or involuntary muscle is termed:**

- a) Cardiac muscle
- b) Smooth muscle.
- c) Skeletal muscle
- d) Attached to the bones

**2. The root card is referred to:**

- a) Heart.
- b) Lung
- c) Diaphragm
- d) Intestine

**3. Inflammation of more than one joint is called**

- a. arthritis
- b. hemiplegia
- c. polyarthritis.
- d. quadriplegia

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## Cont. Exercise

4. Surgical repair of the skull is called:

- a. cephaloplasty.
- b. cephalotomy.
- c. *cranioplasty*.
- d. craniotomy.

5. Visualization of the interior of a joint is called

- a. *arthroscope*.
- b. arthroscopy.
- c. chondroscopy.
- d. endoscope.

6. Inflammation of a joint is

- a. arthritis.
- b. chondritis.
- c. osteoarthritis.
- d. osteochondritis.

7. Osteoid means \_\_\_\_\_ bone.

- a. growth of
- b. inflammation of
- c. *resembling*
- d. softening of