



**Faculty of Applied Science  
Medical Technical Radiology  
Radiographic and Medical  
Terminology I  
(MTR109)**

# **Lecture. 1**

## **ROOT WORDS IN RADIOGRAPHIC MEDICAL TERMINOLOGY**

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# Outline

- What Are Word Roots?
- Structure of Medical Terms
- Characteristics of Word Roots
- Why Word Roots Are Important in Radiology
- Body Parts and Organs
- Class activity
- Reference
- Next lecture
-

# Learning outcome

- By the end of this session, students will be able to:
  1. Define what a **root word** is in medical terminology
  2. Identify **common radiographic root words**
  - 3.. Understand the **meaning of root words related to imaging and body systems**
  4. Break down simple radiographic terms into **root + suffix/prefix**
  5. Correctly interpret basic radiology terms used in clinical practice

# What Are Word Roots?

- A **word root** is the **core part of a medical term** that carries its **main meaning**.

In medical and radiographic terminology, word roots usually indicate:

- A **body part** (bone, lung, heart)
- An **organ system**
- A **tissue**
- An **imaging or diagnostic concept**

# Structure of Medical Terms

- Most medical terms are built from **three parts**:
- **Prefix + Root Word + Suffix**
- **Root word** → main meaning
  - Prefix** → modifies meaning (location, number, time)
  - Suffix** → procedure, condition, or disease
- **Example:**
- **Radiography**
  - radi/o = X-ray (root)
  - -graphy = process of recording (suffix)

# Characteristics of Word Roots

- **1. Usually Derived from Greek or Latin**

- Greek → imaging, diagnosis (radi/o, tom/o)
- Latin → anatomy, structures (cost/o, pulmon/o)

- **2. Cannot Stand Alone**

- A root word **needs a suffix or prefix**
- Example:
  - cardi/o + -logy = cardiology

- **3. Combine with a Vowel (Combining Form)**

- A **combining vowel** (usually "o") is added for pronunciation
- Example:
  - oste + o + graphy → osteography

# Why Word Roots Are Important in Radiology



Understand imaging requests



Read radiology reports



Communicate with doctors



Reduce memorization



Improve clinical confidence

# Common Student Mistakes



Memorizing full words only  
Ignoring root meanings  
Confusing root with suffix



Correct approach:  
Break the word → Understand  
each part → Combine  
meaning

# Combining Forms

- A **combining form** = **root word + combining vowel**

Root	Combining Form	Meaning
radi	radi/o	X-ray
cardi	cardi/o	heart
oste	oste/o	bone
gastr	gastr/o	stomach
neur	neur/o	nerve

The most common combining vowel is “o”

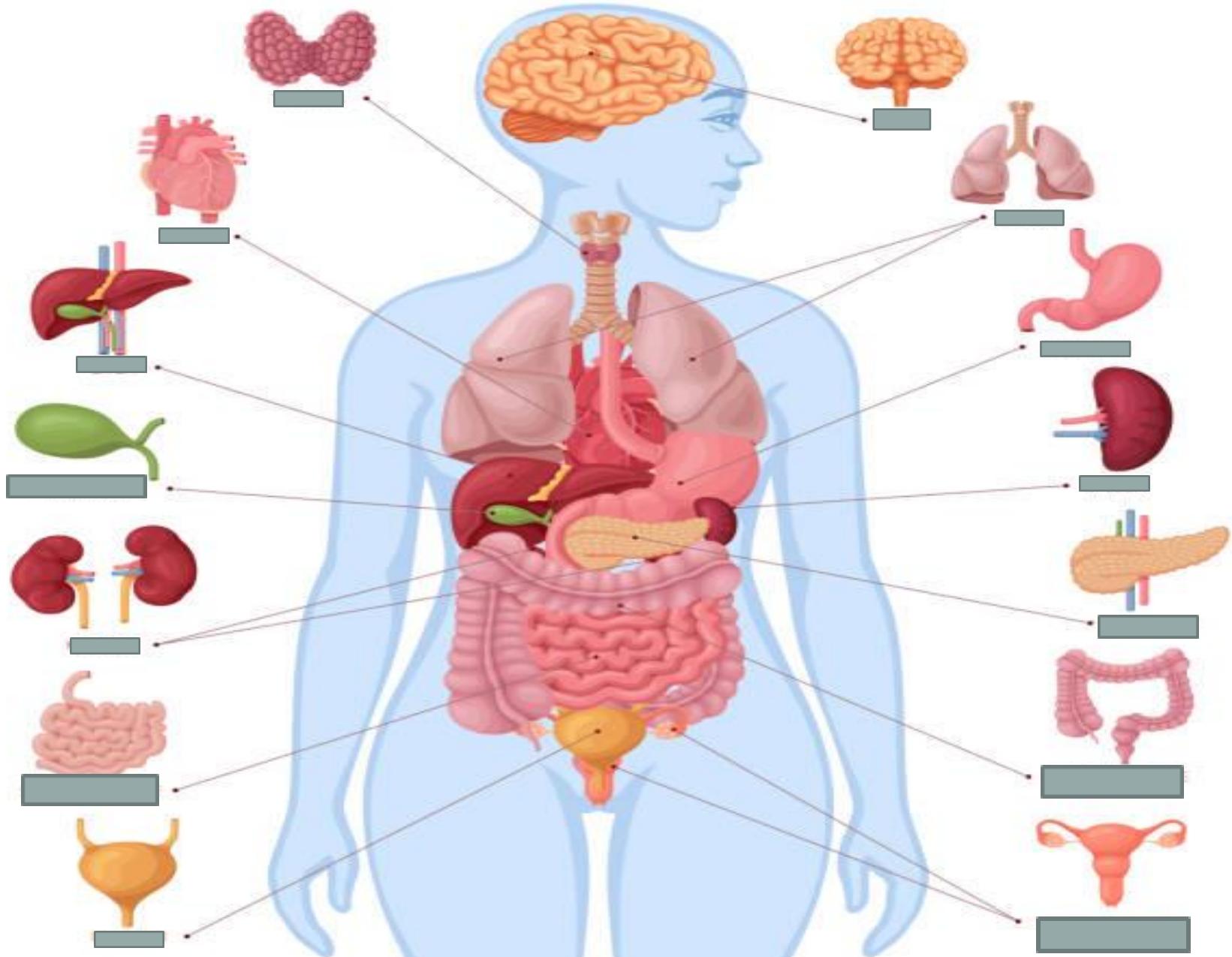
# Body Parts and Organs

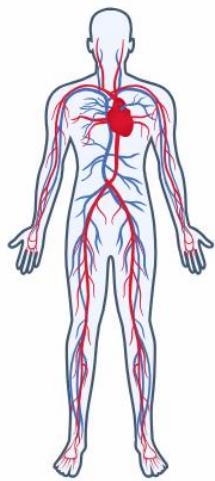
Word Root	Meaning	Example
<b>Cardi /o</b>	heart	cardiology
<b>Pulmon /o</b>	lung	pulmonary
<b>oste/ o</b>	bone	osteitis
<b>Arthr /o</b>	joint	arthritis
<b>My /o</b>	muscle	myopathy
<b>Neur /o</b>	nerve	neurology
<b>Crani /o</b>	skull	craniotomy
<b>Cephal /o</b>	head	cephalic
<b>Gastr /o</b>	stomach	gastritis

# Body Parts & Organs

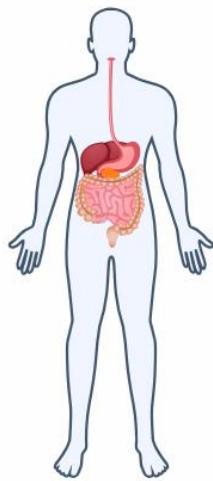
enter/o	intestine	enteritis
<b>Hepat/o</b>	liver	hepatitis
<b>Splen/o</b>	spleen	splenomegaly
<b>Nephro, ren/o</b>	kidney	nephritis
<b>Cyst/o</b>	bladder	cystoscopy
<b>Urethr/o</b>	urethra	urethritis
<b>Uter/o, hyster/o</b>	uterus	hysterectomy
<b>Salping/o</b>	fallopian tube	salpingitis
<b>Mamm/o</b>	breast	mammography
<b>Prostat/o</b>	prostate	prostatitis

# Class activities

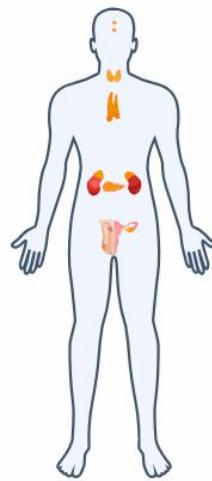




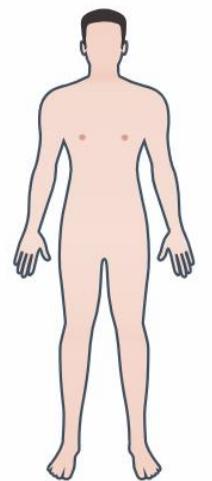
Cardiovascular



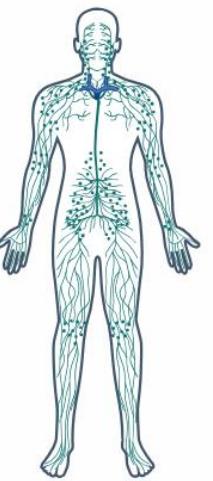
Digestive



Endocrine



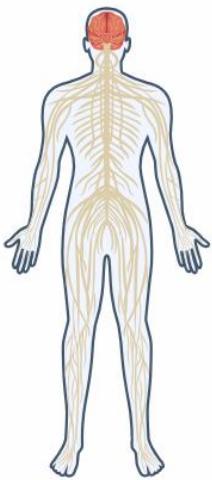
Integumentary



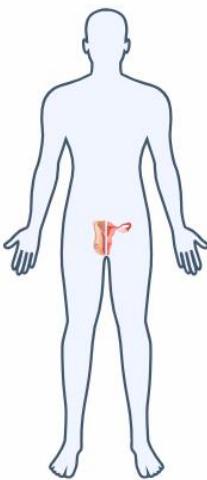
Lymphatic



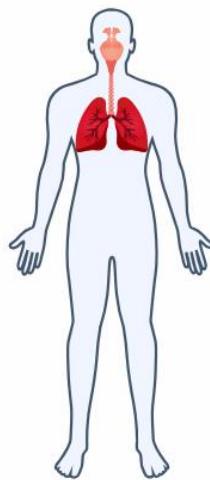
Muscular



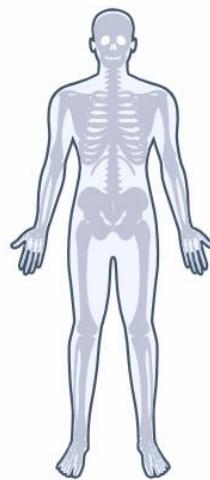
Nervous



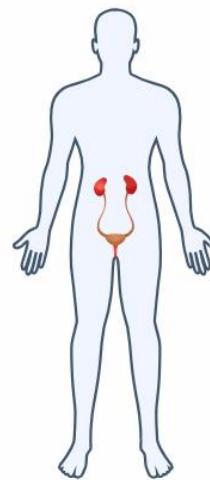
Reproductive



Respiratory



Skeletal



Urinary

# Next lecture

Group presentation on the human system terminology

Group 1: Digestive System

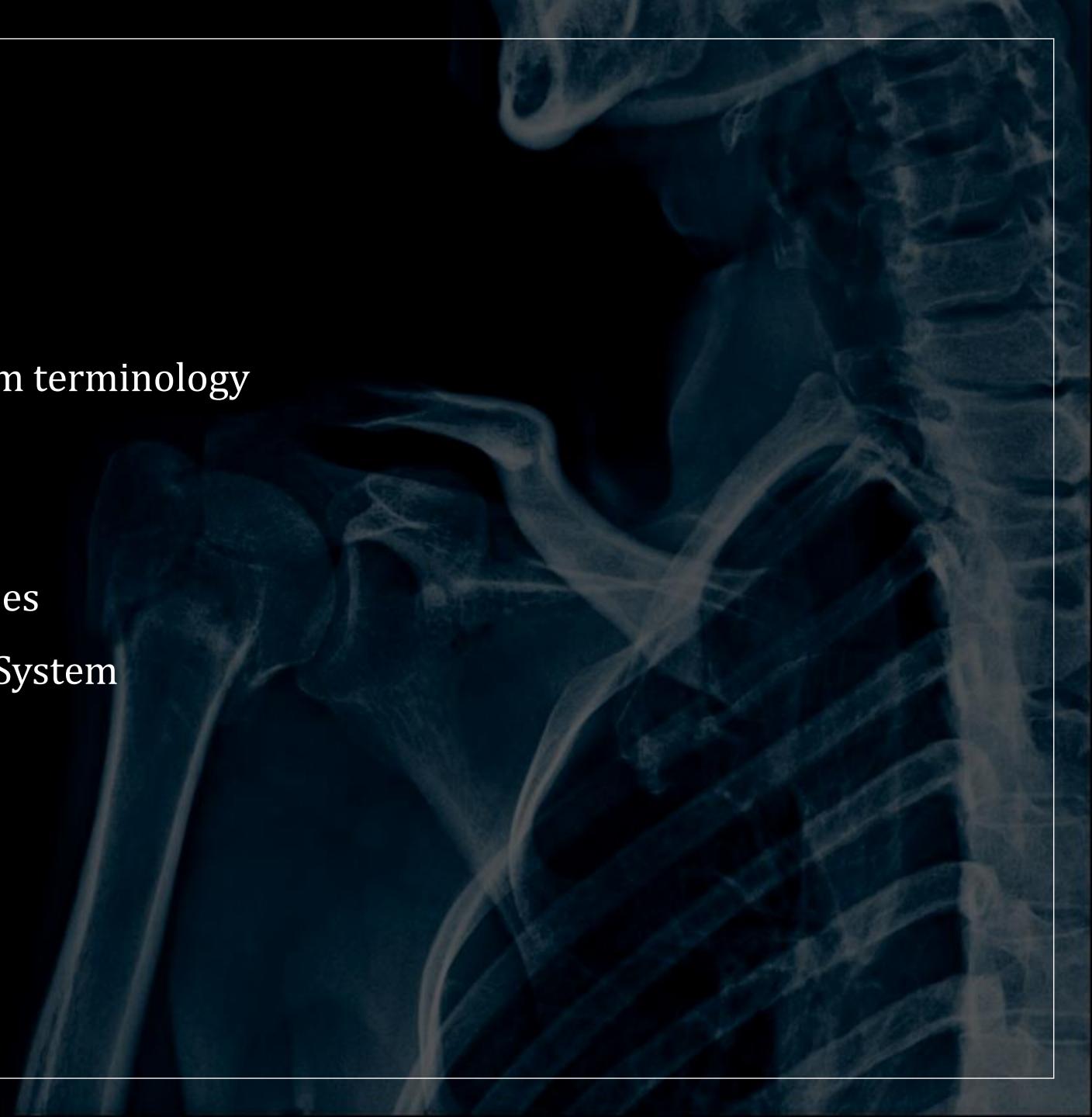
Group 2: Skeletal & Muscular System

Group 3: Nervous System & Special Senses

Group 4: Cardiovascular & Respiratory System

Date: 28-1-2026

Time : 10:00 am



# References

- Chabner, D. E. (2020). *Medical terminology: A short course* (8th ed.). Elsevier.
- Gylys, B. A., & Wedding, M. E. (2021). *Medical terminology systems: A body systems approach* (9th ed.). F.A. Davis.
- Bontrager, K. L., & Lampignano, J. P. (2020). *Textbook of radiographic positioning and related anatomy* (9th ed.). Elsevier.