



Faculty of Applied Science
Medical Technical Radiology
Radiographic and Medical
Terminology II
(MTR110)

Lecture one
MUSCULAR SYSTEM
TERMINOLOGY

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Outline



What is muscular system?

Function of the muscular system

Types of Muscles

Word Roots (Combining Forms)

Prefix related to muscle system

Suffix related to muscle system

Clinical Conditions

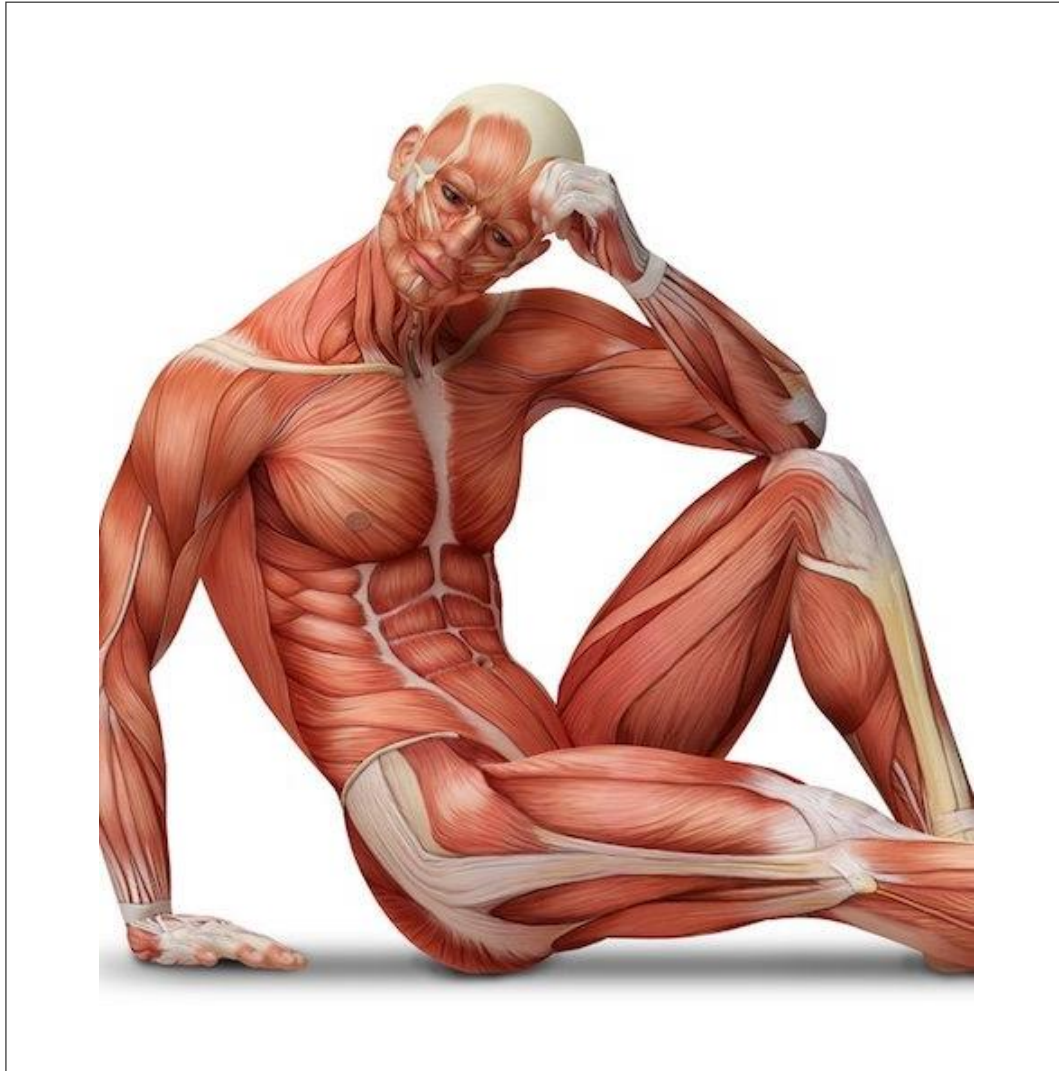
Diagnostic & Procedures related to muscle system

Class activity

References

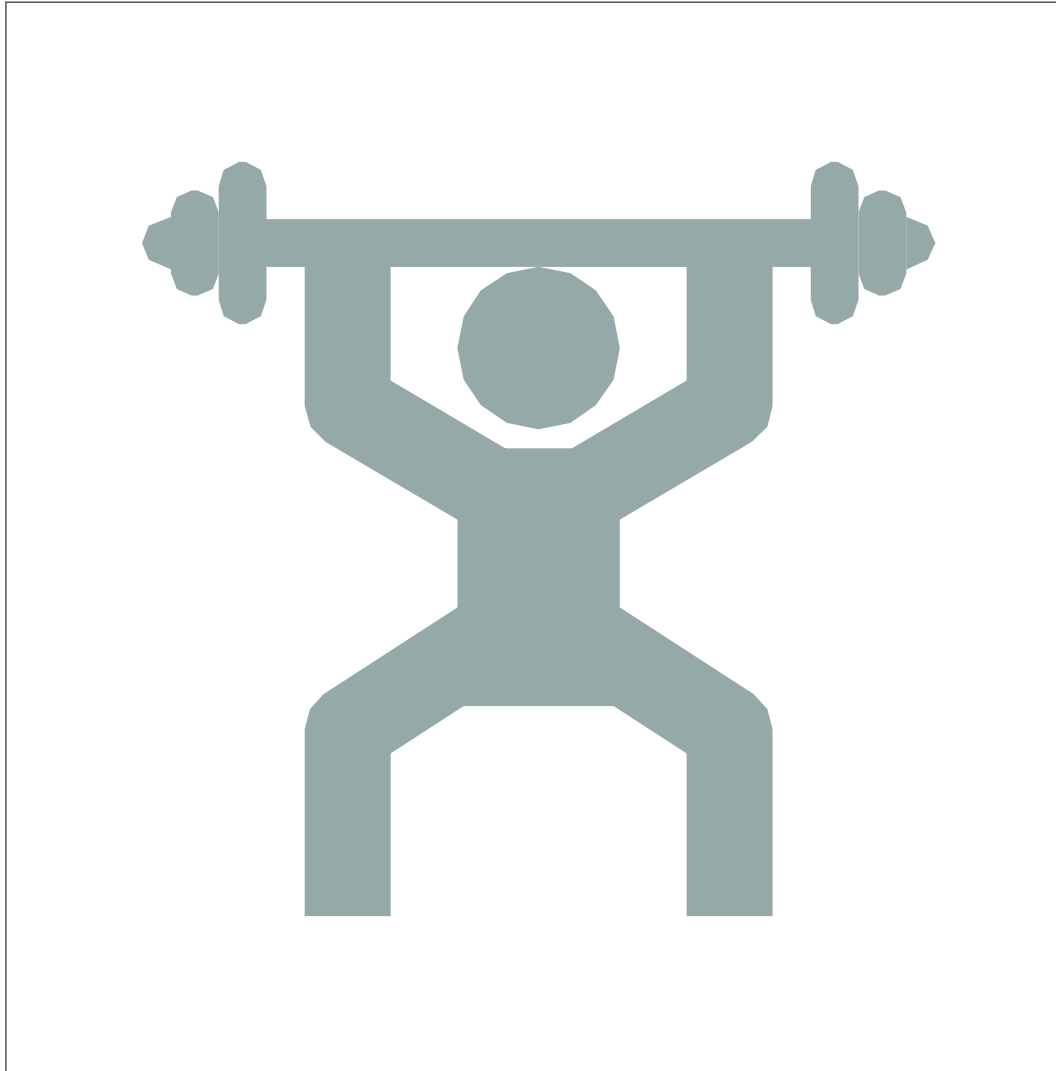
Learning outcomes

- By the end of this lesson, students will be able to:
 - ❖ **Define** basic muscular system terminology
 - ❖ **Identify** word roots, prefixes, and suffixes
 - ❖ **Interpret** common muscle-related medical terms
 - ❖ **Recognize** major muscular diseases and condition



What is muscular system?

The **muscular system** is the body system composed of specialized tissues called muscles that are responsible for movement, maintaining posture, and generating heat.



Function of the muscular system

- **Movement**

Enables body movements such as walking, running, and writing

- **Posture & Stability**

Maintains body position and supports joints

- **Heat Production**

Generates heat to regulate body temperature

- **Movement of Substances**

Helps circulate blood and move food through the digestive system

- **Protection**

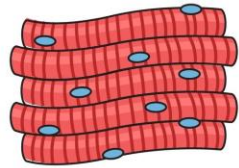
Protects internal organs

- **Control of Body Openings**

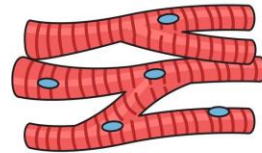
Regulates openings using sphincter muscles

Types of Muscles

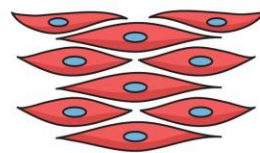
Types of Muscle cells



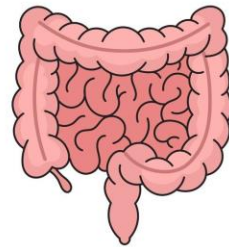
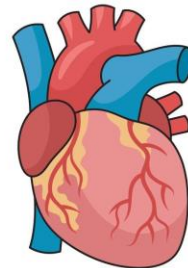
Skeletal muscle



Cardiac muscle



Smooth muscle



- **Skeletal muscle** – voluntary, attached to bones

- **Smooth muscle** – involuntary, found in organs (e.g., intestines)

- **Cardiac muscle** – involuntary, found in the heart

Word Roots (Combining Forms)

Root	Meaning
my/o	muscle
muscul/o	muscle
rhabd/o	striated (skeletal) muscle
lei/o	smooth
fasci/o	fascia (band of tissue)
tend/o, tendin/o	tendon

Prefix related to muscle system

Prefix	Meaning	Example
myo-	muscle	myopathy
hyper-	excessive	hypertrophy
hypo-	below/deficient	hypotonia
dys-	abnormal/painful	dystrophy

Suffix related to muscle system

Suffix	Meaning	Example
-itis	inflammation	myositis
-algia	pain	myalgia
-oma	tumor	myoma
-pathy	disease	myopathy
-trophy	development	hypertrophy
-plegia	paralysis	paraplegia

Common Medical Terms

- **Myalgia** → muscle pain
- **Myopathy** → muscle disease
- **Myositis** → inflammation of muscle
- **Muscular dystrophy** → progressive muscle weakness
- **Tendonitis** → inflammation of tendon
- **Atrophy** → muscle wasting
- **Hypertrophy** → increase in muscle size

Clinical Conditions

- **Muscular Dystrophy** → progressive degeneration of muscles
- **Myasthenia Gravis** → muscle weakness due to nerve-muscle communication problems
- **Rhabdomyolysis** → breakdown of skeletal muscle releasing toxins

Diagnostic & Procedures related to muscle system

- **Electromyography (EMG)** → records muscle electrical activity
- **Muscle biopsy** → removal of tissue for examination
- **Creatine kinase (CK)** → enzyme elevated in muscle damage

Class activity



5 min preparation



5 min answer the
question



Mark: 5

References

Ehrlich, A., & Schroeder, C. L. (2021). *Medical terminology for health professions* (9th ed.). Cengage Learning.

Shier, D., Butler, J., & Lewis, R. (2021). *Hole's human anatomy and physiology* (16th ed.). McGraw-Hill Education.



Next lecture

- Cardiovascular System Terminology