Introduction to Anatomy
The Skeletal System

RADIOLOGY DEPARTMENT

2nd STAGE

ANATOMY – PRACTICAL ANATOMY

LAB . 1

Mujtaba alallawee

Introduction |

Anatomy is a basic medical science that focuses on the study of the human body structure.

When you first start studying Anatomy, it can feel a lot like trying to learn a new language! There are a lot of new concepts and words to learn, which can feel overwhelming.

It provides information about the functions of the skeletal system, the shapes of bones, and introduces the major bones of the skeleton. The goal is to provide a basic foundation you can build upon as you learn and become more confident with Anatomy.

Objectives |

It enables students to:

- Locate and **describe internal organs** with precision , **normal position** , organ **shape** , body **structure**
- Understand how different body systems **formed** , integrate and function together.
- Learn and use **medical terminology**, the essential language for **clinical communication**.

•It explains how body systems are formed and how their parts are arranged within the body.

The **Skeletal System** has many important functions:

- Providing support for the body
- Storing minerals (calcium, phosphate)
- Producing red blood cells
- Protecting the organs and tissues
- Allowing movement (the bones act as levers)

The skeleton can be subcategorized into two divisions:

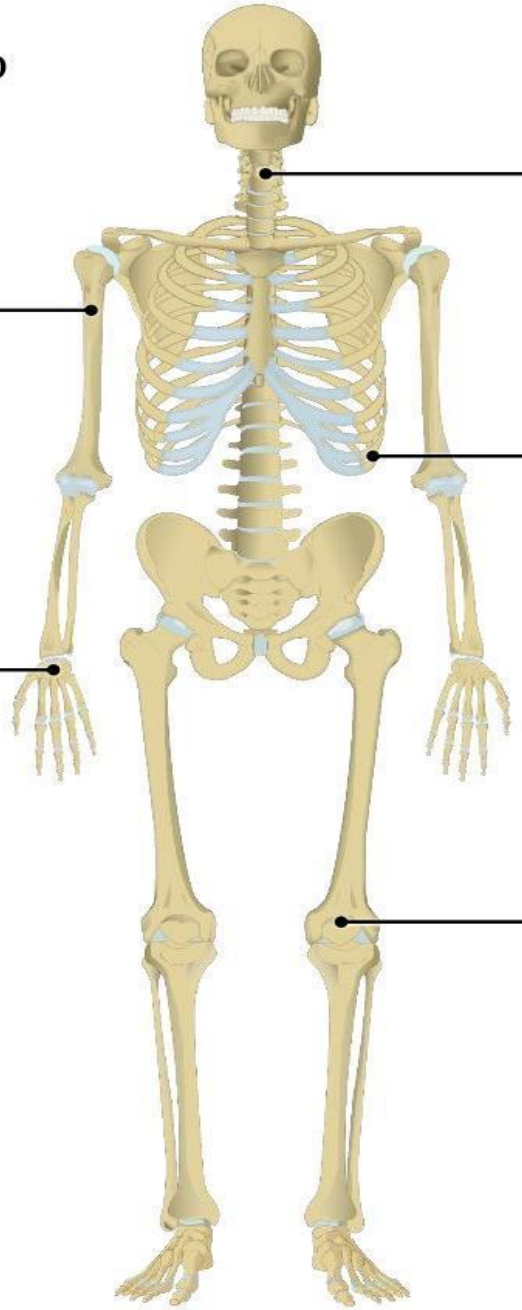
The ***Axial Skeleton*** *(left, in blue)*

Includes: Bones of the skull, vertebrae, sternum, ribs, and sacrum

The ***Appendicular Skeleton*** *(right, in pink)*

Includes: Bones of the upper and lower limbs, scapula, clavicles, and hip bones,

Bones can be classified according to their ***shape***:



Long Bones

Bones that are longer than they are wide
Examples: Humerus

Short Bones

Bones that are as wide as they are long
Example: Carpal bones in the hands

Irregular Bones

Bones that have complex, irregular shapes
Example: Spinal vertebrae

Flat Bones

Bones that are flat and light
Example: Rib bones

Sesamoid Bones

Bones that are flat, small, and round
Example: Patella (kneecap)

Bones found in this module, organized alphabetically by ***shape***:

Flat	Irregular	Long	Short	Sesamoid
Rib bones	Coxal Bones	Femur	Carpals	Patella
Scapulae	Vertebrae	Fibula	Tarsals	
Skull bones		Humerus		
Sternum		Metacarpals		
		Metatarsals		
		Phalanges		
		Tibia		

Tissues

Tissue: A group of similar cells to performing a specific function.

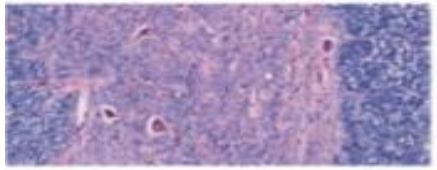
Main Types of Tissues:

1) **Epithelial T . :** Covers surfaces and lines organs; protection and secretion.

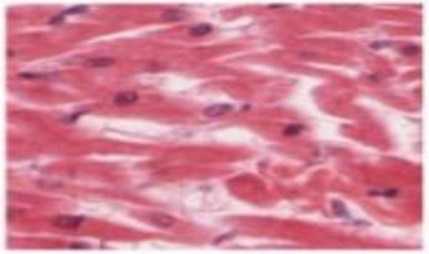
2) **Connective T . :** Supports and connects body parts (bone, cartilage, blood).

3) **Muscle T . :** Produces movement of the body and organs.

4) **Nervous T . :** Transmits nerve signals (brain, spinal cord, nerves).

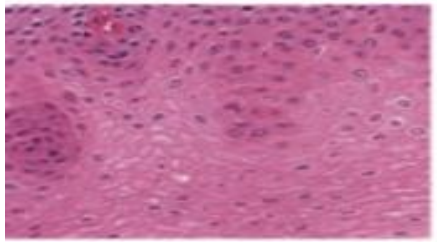


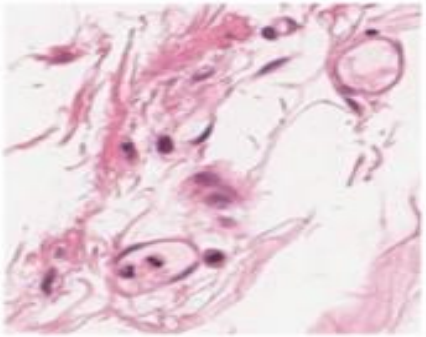
Nervous tissue
- Brain
- Spinal cord
- Nerves



Muscle tissue
- Cardiac muscle
- Smooth muscle
- Skeletal muscle

Epithelial tissue
- Lining of GI tract organs and other hollow organs
- Skin surface (epidermis)





Connective tissue
- Fat and other soft padding tissue
- Bone
- Tendon