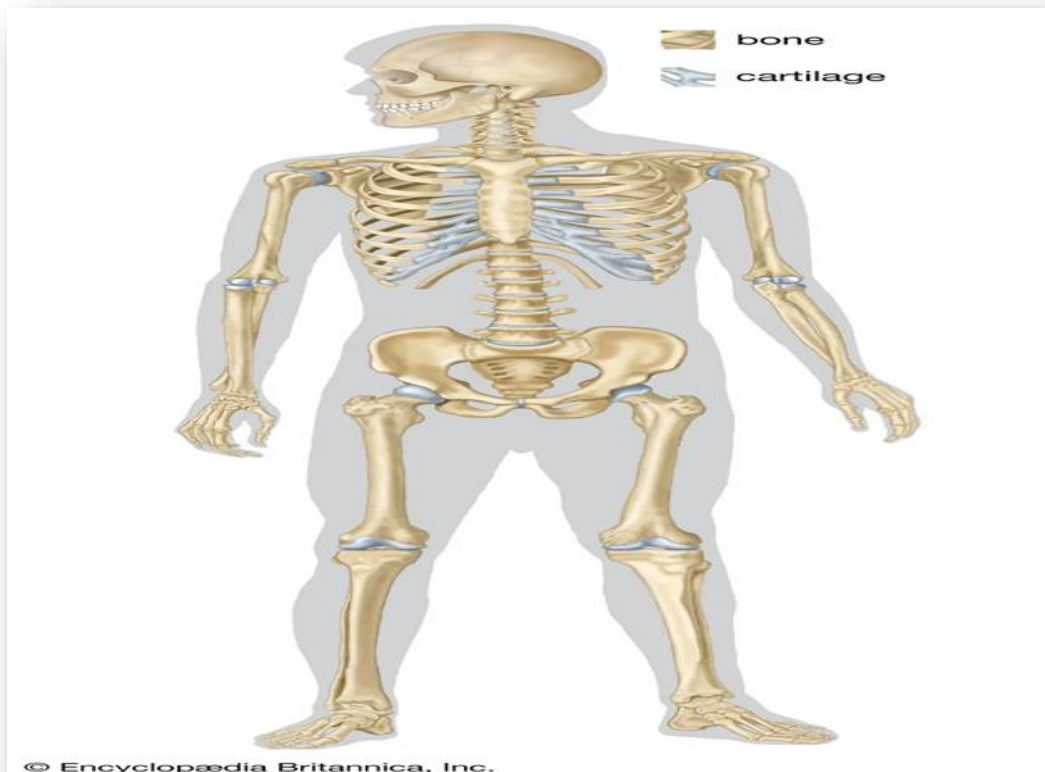


## skeletal system

The skeletal system is the body's framework, composed of bones and connective tissues such as tendons, ligaments, and cartilage. It serves several important functions in the human body:



1. **Support:** The skeleton provides structural support for the body..
2. **Protection:** The bones of the skeleton protect vital organs. For example, the skull protects the brain
3. **Movement:** Bones, in conjunction with muscles and joints, allow for movement.
4. **Storage of Minerals:** The bones act as a storage reservoir for minerals such as calcium and phosphorus..

5. **Blood Cell Production:** The bone marrow, found within certain bones, is responsible for the production of blood cells (red blood cells, white blood cells, and platelets) through a process called hematopoiesis.

### ☒ **skeletal system composed of**

The main part of skeletal system consists of

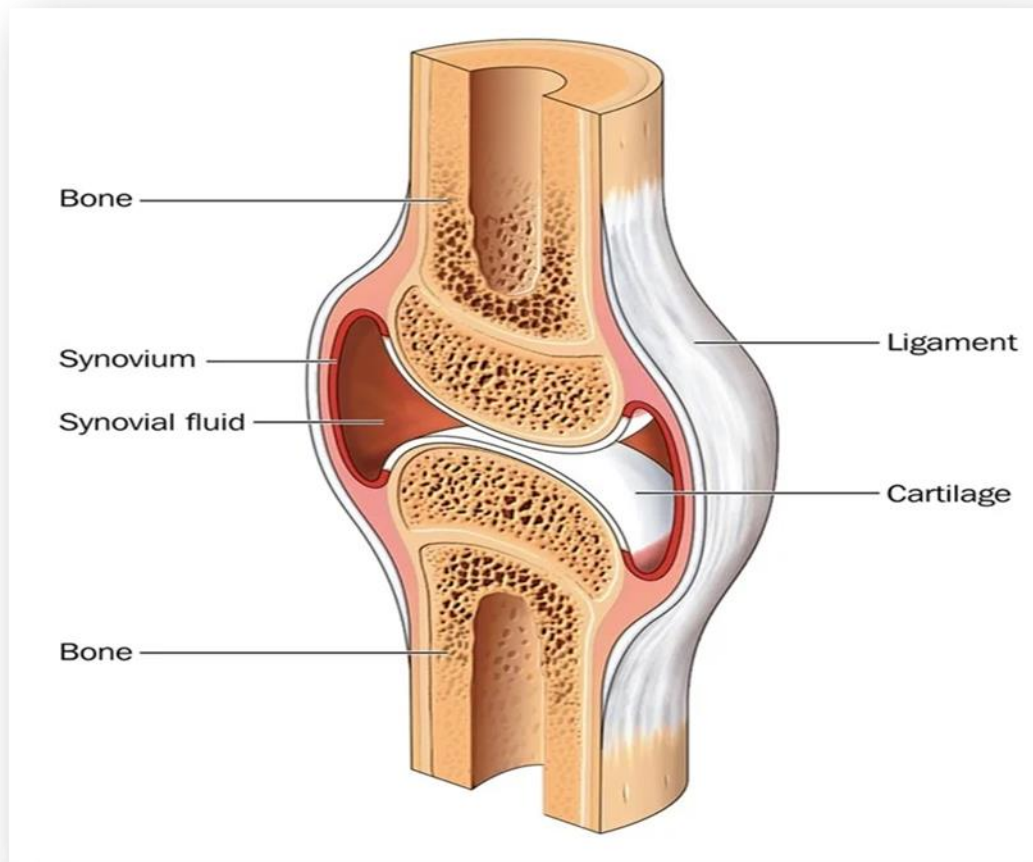
**1- Bones,** hard structures that create body's framework — the skeleton. There are 206 bones in an adult human skeleton.

Each bone has three main layers:

- **Periosteum:** The periosteum is a tough membrane that covers and protects the outside of the bone.
- **Compact bone:** Below the periosteum, compact bone is white, hard, and smooth. It provides structural support and protection.
- **Spongy bone:** The core, inner layer of the bone is softer than compact bone. It has small holes called pores to store marrow.

The other components of skeletal system include:

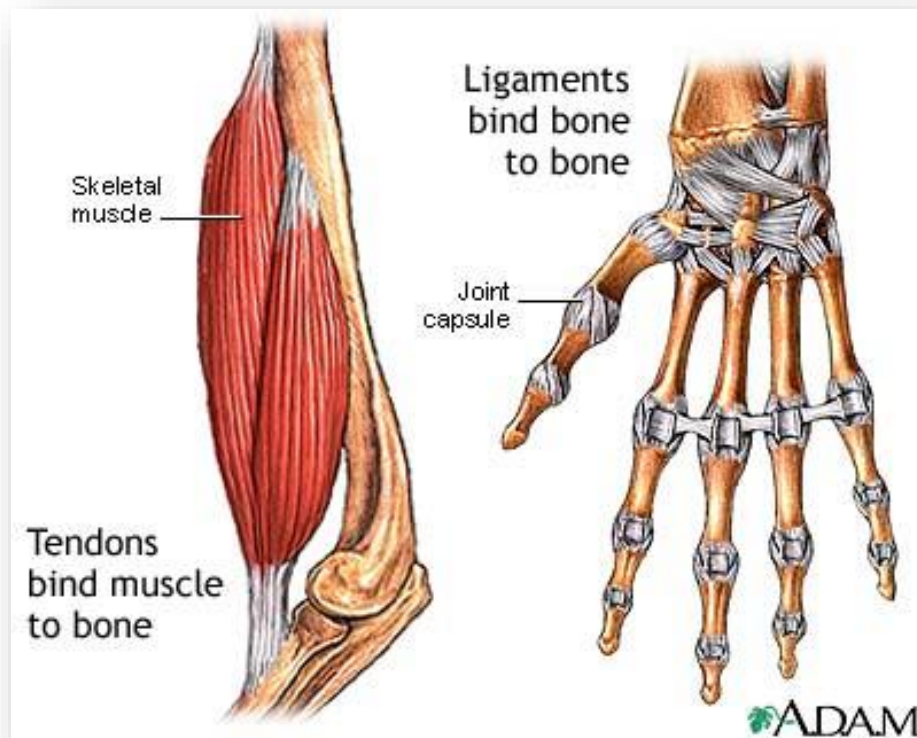
**2- Cartilage:** This smooth and flexible substance covers the tips of your bones where they meet. It enables bones to move without friction.



**3- Joints:** A joint is where two or more bones in the body come together.

**4- Ligaments:** Bands of strong connective tissue called ligaments hold bones together. They are made of collagen – a tough, elastic protein.

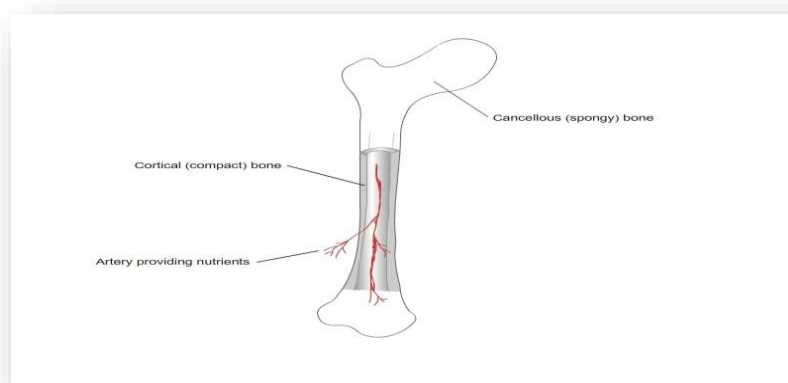
**5- Tendons:** Tendons are bands of tissue that connect the ends of a muscle to bone.



## Classification of Bones

### 1) Long Bones::

longer bones within body . They consist of a long shaft with two bulky ends. They are primarily compact bone but may have a large amount of spongy bone at the ends . Long bones include bones of the leg, arm, and forearm.



## 2) Short Bones::

are roughly cube shaped with vertical and horizontal dimensions approximately equal. They consist primarily of spongy bone, which is covered by a thin layer of compact bone. Short bones include the bones of the wrist and ankle. Flat Bones

## 3) Flat Bones:

are thin, flattened, and usually curved. Most of the bones of the cranium are flat bones.

## 4) Irregular Bones

They are primarily spongy bone that is covered with a thin layer of compact bone. The vertebrae and some of the bones in the skull are irregular bones.