



**AUM**

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**PES111**



# What is Human ANATOMY?

Human anatomy is the study of the structures of the human body.

<http://www.medicalnewstoday.com/articles/248743.php>

- Human anatomy is the study of the shape and form of the human body.

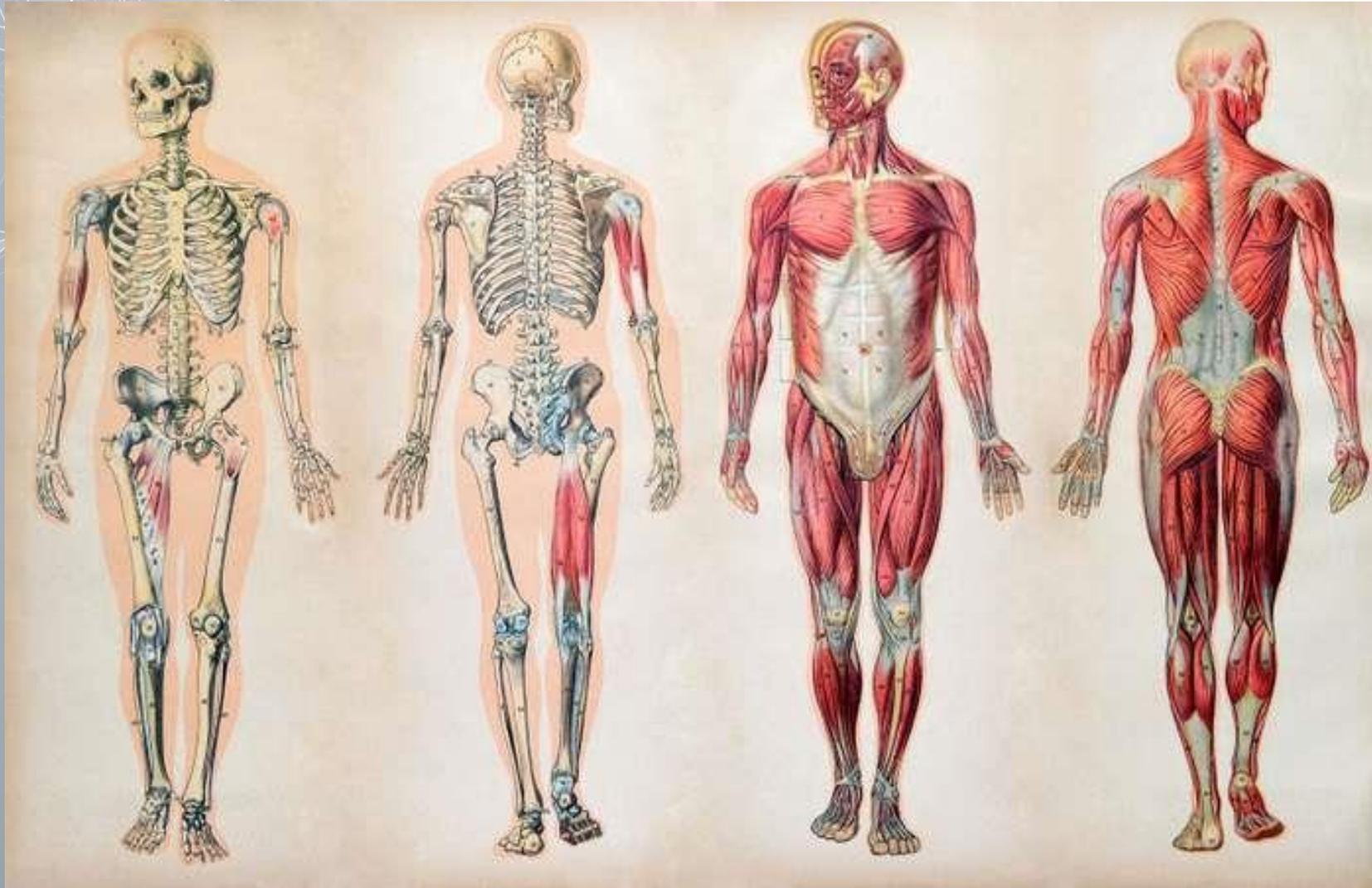
A decorative graphic in the top-left corner consisting of a network of white lines connecting various points, resembling a molecular or biological structure.

# What is Human PHYSIOLOGY?

Physiology is the study of **how** cells, tissues, and organs function. Physiological mechanisms are made possible by the structural design and relationships of the various body parts that carry out each of these functions.

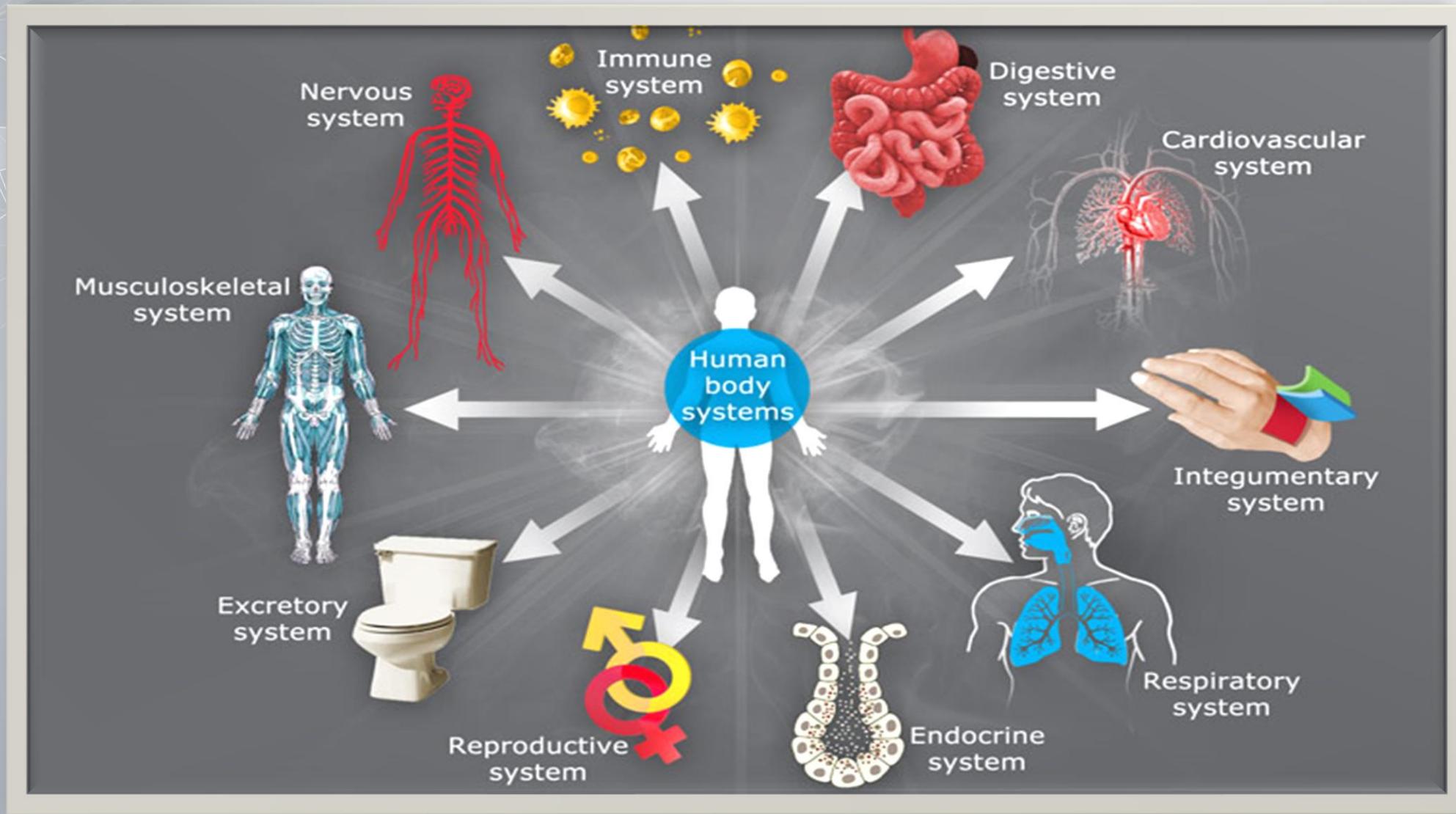
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# COMPOSITION OF THE HUMAN BODY



- The human body is about 60% water by weight.
- Contains trillions of cells.
- Consists of different types of tissue.
- Organs
- Systems

There are 10 organ systems in the human body



Although these systems have different names, they all work interdependently, meaning they work together and depend on each other.

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What important functions  
does the human skeleton  
provide?

# *Skeletal System*



The human skeleton is an **active, living tissue** that performs several important **functions:**

- support
- movement
- protection
- storage
- formation of blood cells

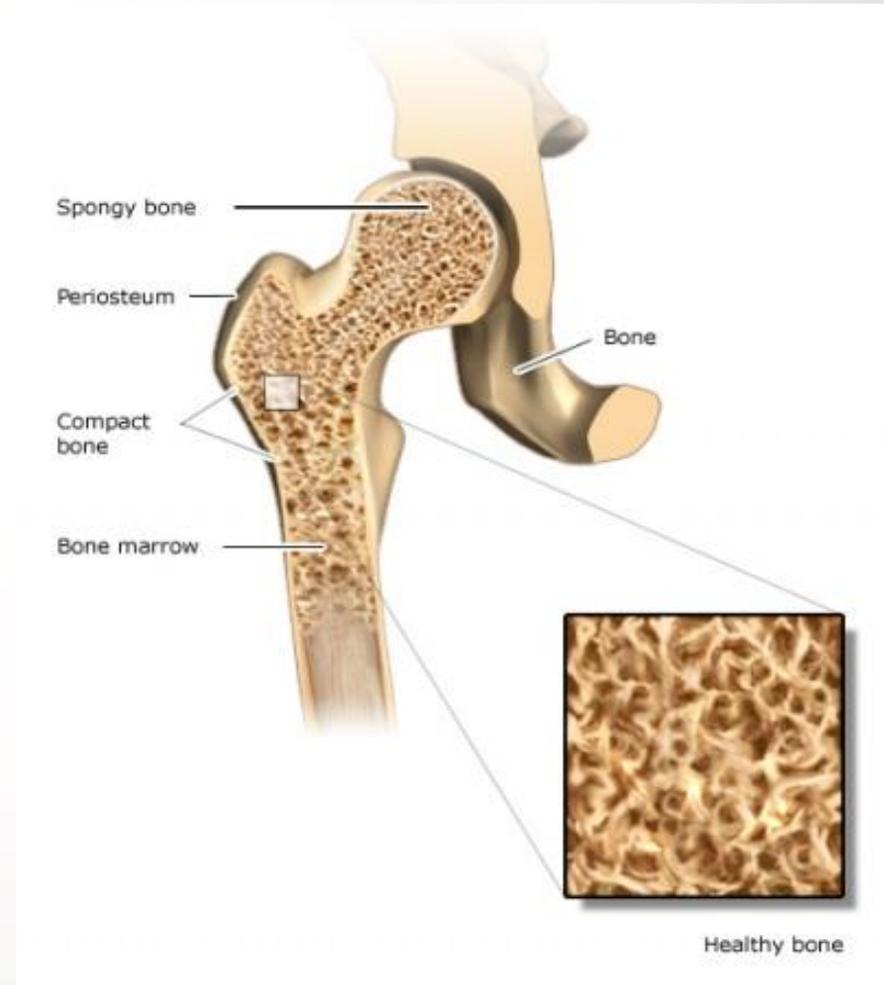
# Bones

## Bone

A living, growing tissue made mostly of collagen.

**Collagen** is a protein that provides a soft framework, and **calcium phosphate** is a mineral that adds strength and hardens the framework.

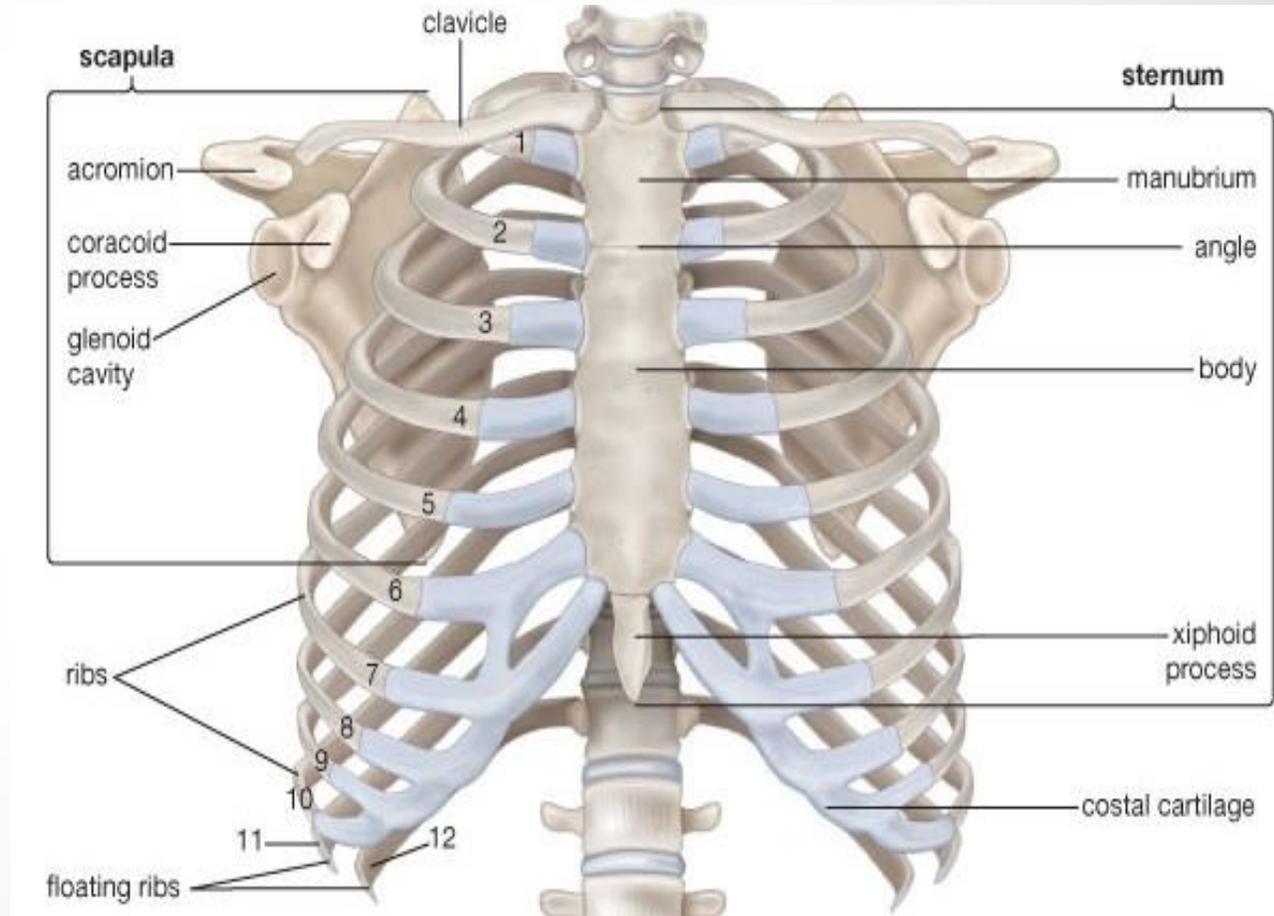
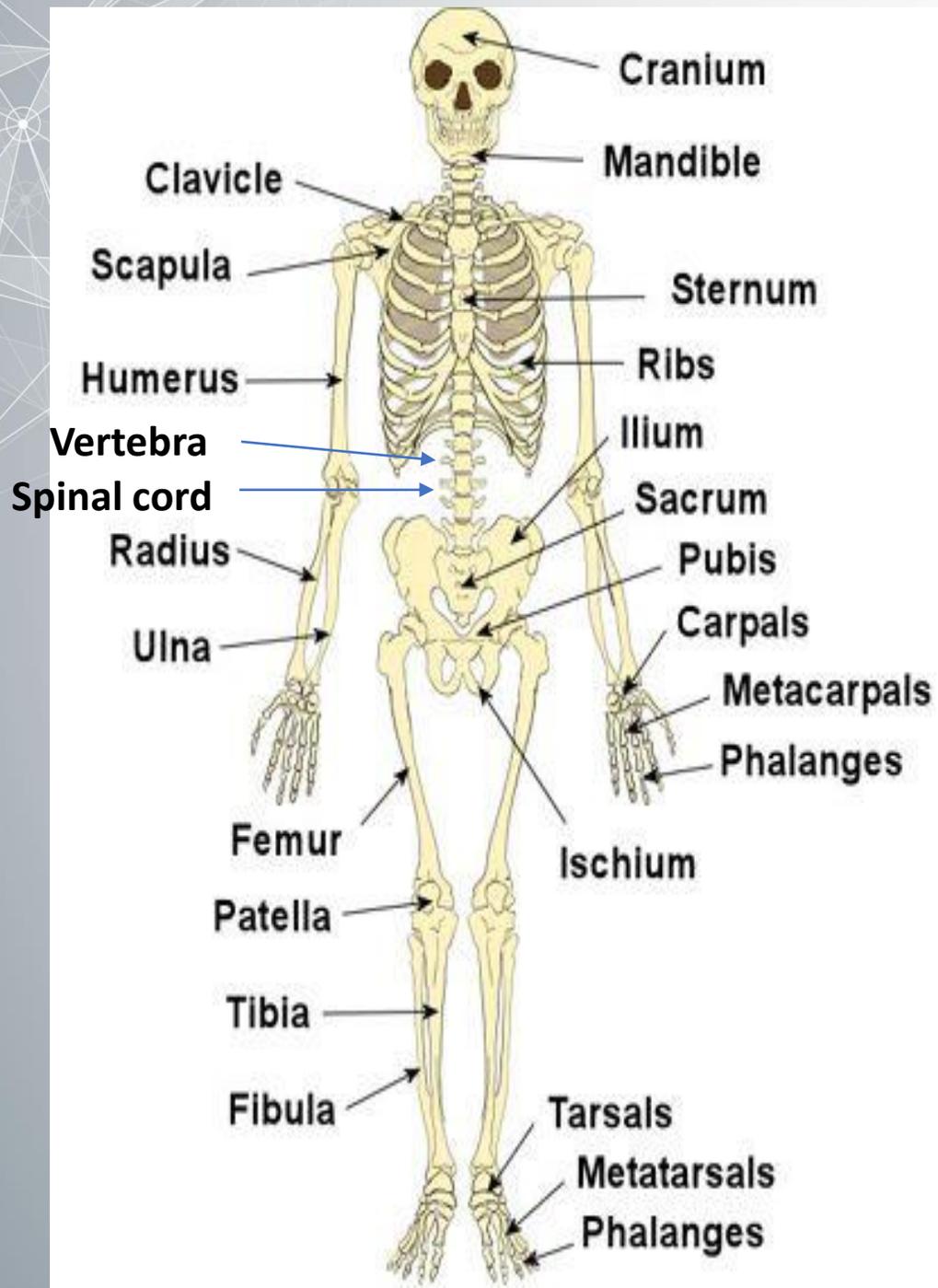
This combination of collagen and calcium makes bone strong and flexible enough to withstand stress. More than 99 percent of the body's calcium is contained in the bones and teeth. The remaining 1 percent is found in the blood.

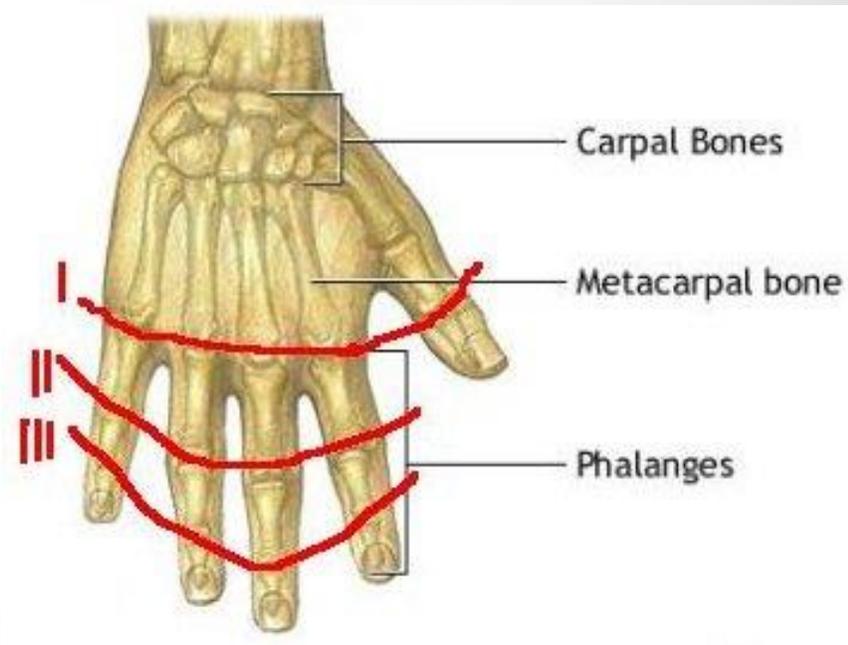
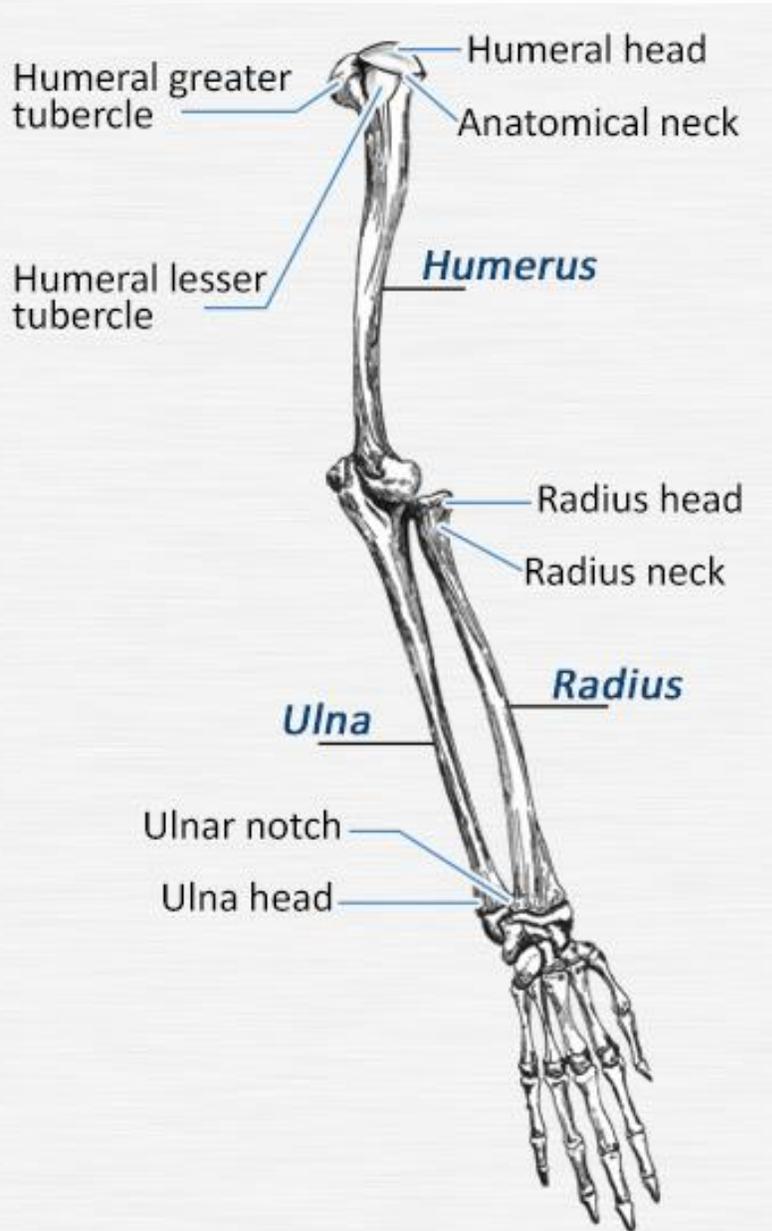
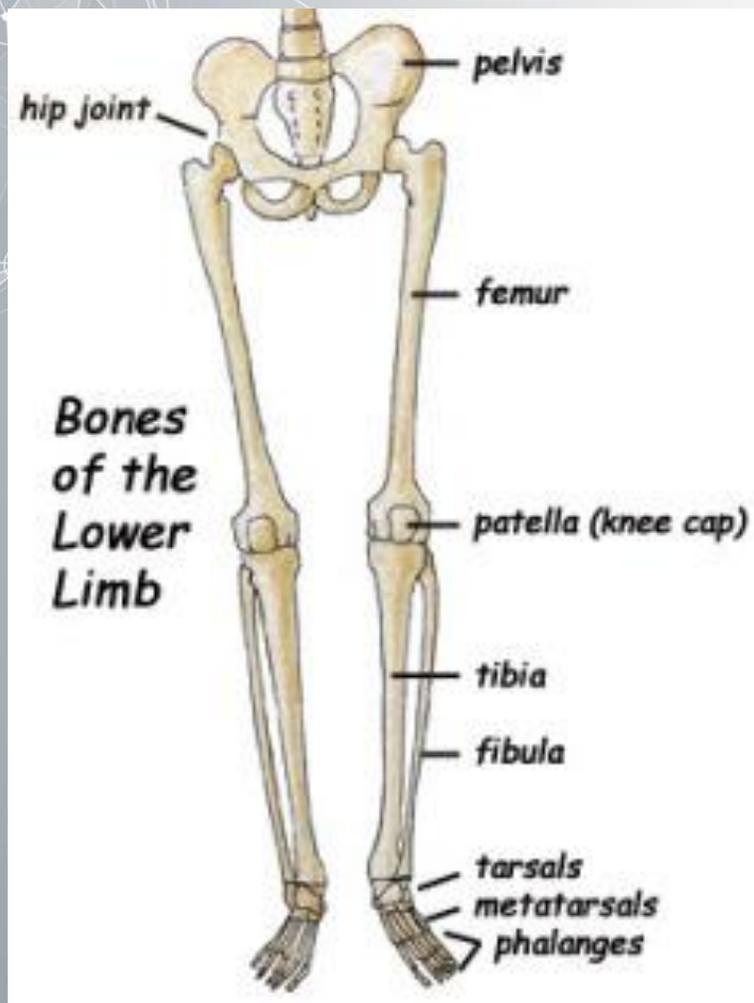


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How many bones are there in the human body?

# Skeletal System



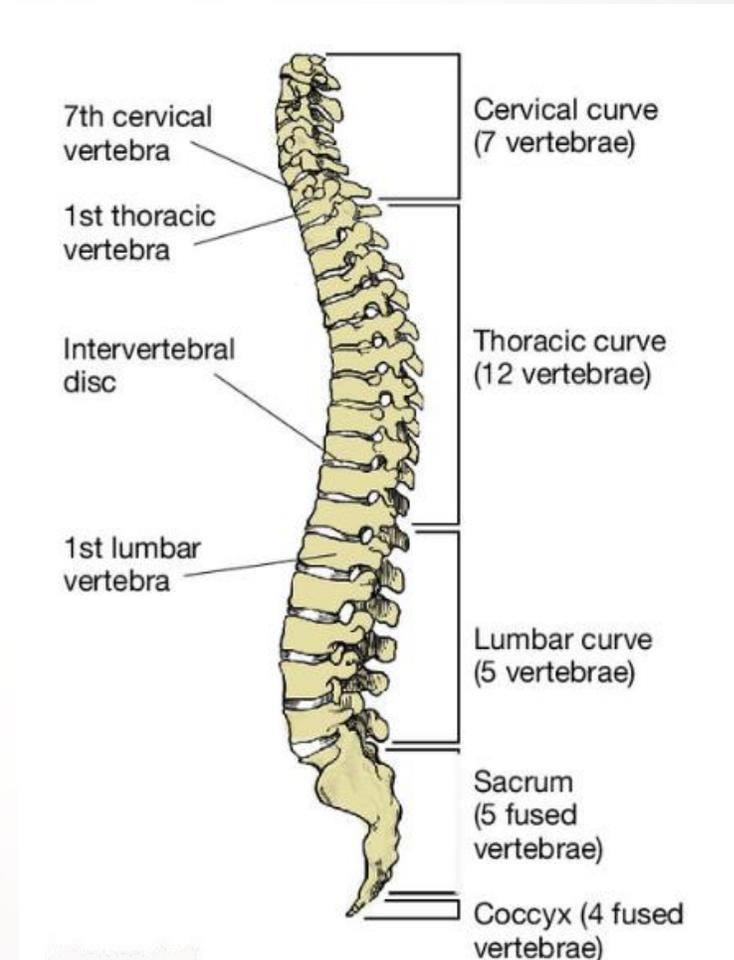


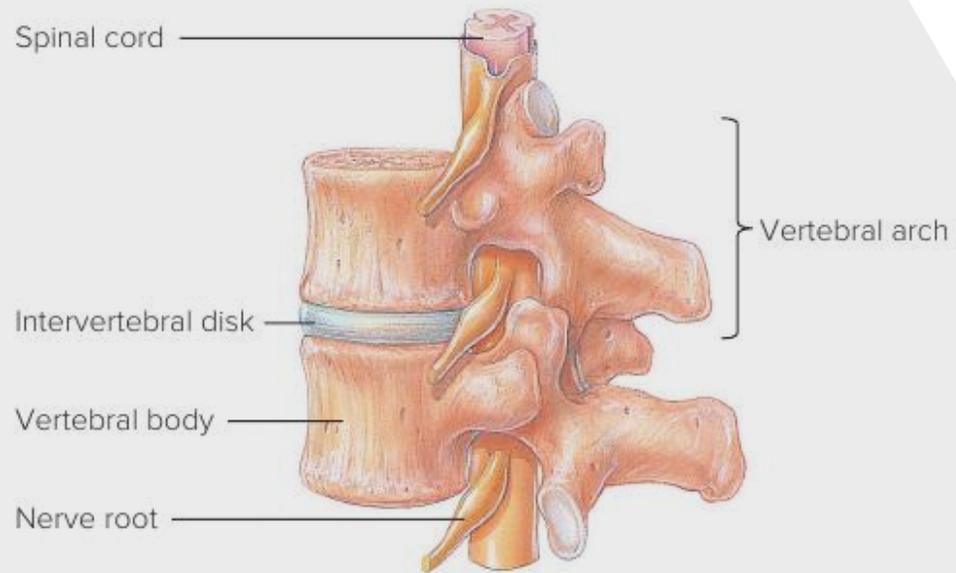
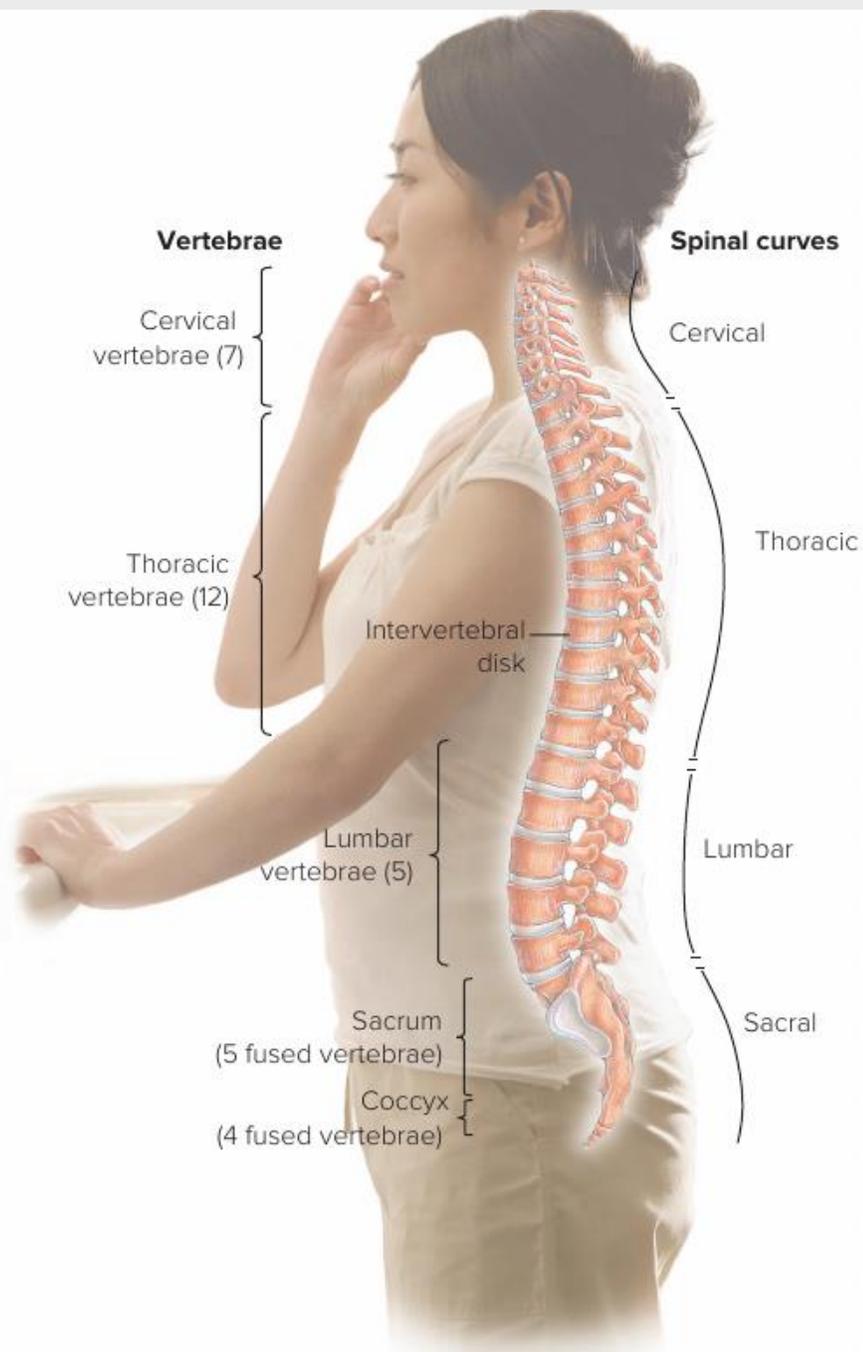


# Vertebrae

26 vertebrae form the **vertebral column** of the human body. They are named by region:

- **Cervical** (neck) – 7 vertebrae
- **Thoracic** (chest) – 12 vertebrae
- **Lumbar** (lower back) – 5 vertebrae
- **Sacrum** – 1 vertebra
- **Coccyx** (tailbone) – 1 vertebra





**FIGURE 5.4 Vertebrae and an intervertebral disk.**

# Joints

It is a union of two or more bones of the body; its primary function is to provide motion and flexibility to the frame of the body.

Joints, also known as articulations, are strong connections that join the bones, teeth, and cartilage of the body to one another.

There are three main types of joints:

- **Fibrous** (immovable) Examples are where the teeth are held to their bony sockets and at both the radioulnar and tibiofibular joints.
- **Cartilaginous** (partially moveable) Example between vertebrae in the spine.
- **Synovial** (freely moveable) joint.

