# An Overview of system in Our Body: Skeletal System

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**Abstract:**

The human body is a system which is made of systems. The body is divided into bodily systems, such as the endocrine and circulatory systems, which are subdivided into many sub-systems at a variety of levels, whereby all systems and subsystems in this paper we will be discussing one such important system for our body that is the skeletal system.

**Introduction :**

Ontology is playing an increasingly important role in research related to terminology and knowledge management systems in the field of biomedical computing, and we argue that it will play a key role in biomedical research going forward. The term ontology must, however, be included in the.right way.

**The Skeleton :**

- With its highly developed joints, the living skeleton is intimately connected to the muscle system.
- It has a structure of strong levers and sturdy plates that allows for a wide range of motions.
- The skeleton is also functionally linked to the circulatory system, since millions of new blood cells stream out of the bone marrow every second.

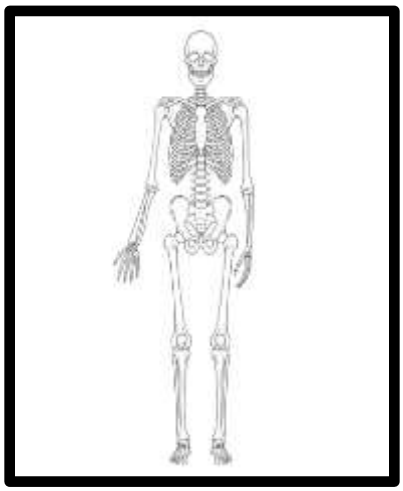

**Figure 1 : The Skeleton**

**Parts Of The Skeleton:-**

There are numerous components to a Skeleton. It consists of :-

- Bones
- Cartilage
- Tendons
- Ligaments

**Bones:-**

A bone is a hard tissue that is part of the skeleton in most vertebrate animals. Bones protect the body's organs, generate red and white blood cells, store minerals, give structure and support for the body, and allow mobility. They are present all around the body

**Parts of Bones-**

1. Periosteum: The periosteum is a tough membrane that covers and protects the outside of the bone
2. Compact bone: Below the periosteum, compact bone is white, hard, and smooth. It provides structural support and protection.

3. Spongy bone: The core, inner layer of the bone is softer than compact bone. It has small holes called pores to store marrow.

**Bones in the human body-**

Skull - 14 Bones

Vertebral Column / Spine - 33 bones

Rib Cage - 24 Bones

**Cartilage:-**

Cartilage is a type of connective tissue found in the body. Some cartilage survives and is distributed throughout the body, particularly around the joints. They are present in The Nose, The Neck, The Spine and other joints

**Tendons:-**

The tendon is the connective tissue that transmits the mechanical force of muscle contraction to the bone; one end of the tendon is closely connected to the muscle fiber and the other end is connected to the bone component.

**Ligaments:-**

Ligaments are strong bands of fibrous tissue that support bones and connect the ends of the bones in and around the joints.

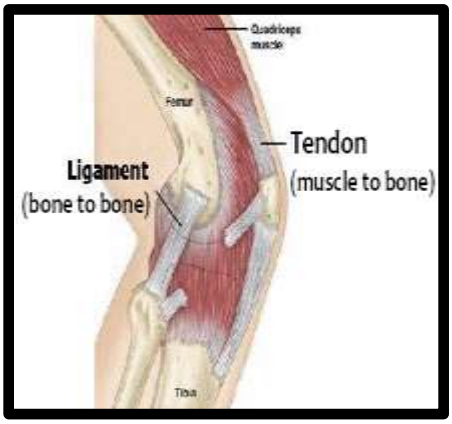


**Figure 2 : Tendons and Ligaments**

**Joints:-**

A joint is where two or more bones in the body come together. There are three different joint types. They are -

1. Immovable joints : Immovable joints don't let the bones move at all, like the joints between your skull bones.

2. Partly movable joints : These joints allow limited movement. The joints in your rib cage are partly movable joints.

3. Movable joints: Movable joints allow a wide range of motion. Your elbow, shoulder, and knee are movable joints.

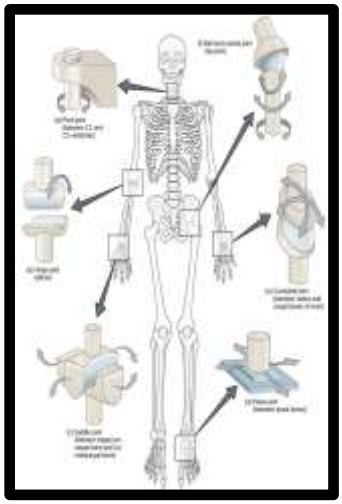

**Figure 3 : Joints**

**Facts about the the Skeleton:**

- The skeleton accounts for almost one-fifth of the weight of a healthy body.
- All other components and tissues, which would collapse without skeletal reinforcement, are supported by this flexible inner structure.
- The mature human body consists of 206 bones.

- ❖ It also protects certain organs, such as the delicate brain inside the skull.
- ❖ It can repair itself if damaged and can remodel its bones to thicken and strengthen them in areas of extra stress, when persons do extreme sports.


**Figure 4 : Human Skeleton**

## INTERACTIONS BETWEEN THE SKELETON, MUSCLES, AND NERVES MOVE THE BODY

- The muscles of the entire human body are attached to bones.
- Nerves around a muscle can signal the muscle to move.
- When the nervous system sends commands to the skeletal muscles, the muscles contract.
- That contraction produces movement at the joints between bones

## CONCLUSION

The skeletal system provides the structural support for the human body and protects our organs. Our bones also serve several other vital functions, including producing blood cells and storing and releasing fats and minerals. The skeleton supports the body against the pull of gravity. The large bones of the lower limbs support the trunk when standing. The skeleton also protects the soft body parts.

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