# The Skeletal System

**The Skeletal System serves many important functions; it provides the shape and form for our bodies in addition to supporting, protecting, allowing bodily movement, producing blood for the body, and storing minerals.**

## Functions

**Its 206 bones form a rigid framework to which the softer tissues and organs of the body are attached.**

**Vital organs are protected by the skeletal system. The brain is protected by the surrounding skull as the heart and lungs are encased by the sternum and rib cage.**

**Bodily movement is carried out by the interaction of the muscular and skeletal systems. For this reason, they are often grouped together as the musculo-skeletal system. Muscles are connected to bones by tendons. Bones are connected to each other by ligaments. Where bones meet one another is typically called a joint. Muscles which cause movement of a joint are connected to two different bones and contract to pull them together. An example would be the contraction of the biceps and a relaxation of the triceps. This produces a bend at the elbow. The contraction of the triceps and relaxation of the biceps produces the effect of straightening the arm.**

**Blood cells are produced by the marrow located in some bones. An average of 2.6 million red blood cells are produced each second by the bone marrow to replace those worn out and destroyed by the liver.**

**Bones serve as a storage area for minerals such as calcium and phosphorus. When an excess is present in the blood, buildup will occur within the bones. When the supply of these minerals within the blood is low, it will be withdrawn from the bones to replenish the supply.**

## Divisions of the Skeleton

**The human skeleton is divided into two distinct parts:**

**The axial skeleton consists of bones that form the axis of the body and support and protect the organs of the head, neck, and trunk.**

**The Skull**
**The Sternum**
**The Ribs**

The Vertebral Column

The appendicular skeleton is composed of bones that anchor the appendages to the axial skeleton.

The Upper Extremities
The Lower Extremities
The Shoulder Girdle
The Pelvic Girdle--(the sacrum and coccyx are considered part of the vertebral column)

## Types of Bone

The bones of the body fall into four general categories: long bones, short bones, flat bones, and irregular bones. Long bones are longer than they are wide and work as levers. The bones of the upper and lower extremities (ex. humerus, tibia, femur, ulna, metacarpals, etc.) are of this type. Short bones are short, cube-shaped, and found in the wrists and ankles. Flat bones have broad surfaces for protection of organs and attachment of muscles (ex. ribs, cranial bones, bones of shoulder girdle). Irregular bones are all others that do not fall into the previous categories. They have varied shapes, sizes, and surfaces features and include the bones of the vertebrae and a few in the skull.

## Bone Composition

Bones are composed of tissue that may take one of two forms. Compact, or dense bone, and spongy, or cancellous, bone. Most bones contain both types. Compact bone is dense, hard, and forms the protective exterior portion of all bones. Spongy bone is inside the compact bone and is very porous (full of tiny holes). Spongy bone occurs in most bones. The bone tissue is composed of several types of bone cells embedded in a web of inorganic salts (mostly calcium and phosphorus) to give the bone strength, and collagenous fibers and ground substance to give the bone flexibility

 Anatomy Terms 

References:

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