Skeletal System

What is it?

- The skeletal system works as a support structure for your body. It gives the body its shape, allows **movement**, makes blood cells, provides **protection** for organs and stores **minerals**. The skeletal system is also called the musculoskeletal system. The skeletal system also provides attachment points for muscles to allow movements at the joints. New blood cells are produced by the red bone marrow inside of our bones.
- **Human skeleton**, the internal skeleton that serves as a framework for the body. This framework consists of many individual bones and cartilages. There also are bands of fibrous connective tissue—the ligaments and the tendons—in intimate relationship with the parts of the skeleton. This article is concerned primarily with the gross structure and the function of the skeleton of the normal human adult.

System

- The **skeletal system** includes all of the bones and joints in the body. Each **bone** is a complex living organ that is made up of many cells, protein fibers, and minerals. The **skeleton** acts as a scaffold by providing support and protection for the soft tissues that make up the rest of the body.

Organs

- The skeletal system is composed of four main fibrous and mineralized connective tissues : **bones**, **ligaments**, **tendons**, and joints. **Bone**: A rigid form of connective tissue that is part of the skeletal system of vertebrates and is composed principally of calcium.

Parts

- Besides bones, the **skeletal system** includes cartilage and ligaments. The **skeleton** is traditionally divided into two major **parts**: the axial **skeleton**, which includes the skull, spine, and rib cage; and the appendicle **skeleton**, which includes the appendages and the girdles that attach them to the axial **skeleton**.

Diseases

Other common conditions that affect the skeletal system include: **Osteoporosis**: This is a disease in which the bones become fragile and prone to **fracture**. **Leukemia**: This is a cancer of the **white blood cells**. **Osteopenia**, **osteitis deformans**, and **osteomalacia**: Similar to **osteoporosis**, these are other types of **bone loss**.

Components of the Skeletal System

- The skeletal system is composed of four main fibrous and mineralized connective tissues : bones, ligaments, tendons, and joints.
- **Bone:** A rigid form of connective tissue that is part of the skeletal system of vertebrates and is composed principally of calcium.
- **Ligament:** A small band of dense, white, fibrous elastic tissue. Ligaments connect the ends of bones together in order to form a joint. They also assist in holding organs in place.
- **Tendon:** A tough, flexible and inelastic band of fibrous connective tissue that connects muscles to bones.
- **Joint:** Joints hold the skeleton and support movement. They can be grouped together by function and structure, such as ball-and-socket, hinge, and pivot joints.

Types of Bones:

- There are five types of bones in the human skeletal system: long, short, flat, irregular, and sesamoid.
- **Long Bone:** Helps to facilitate movement and support the weight of the body. Long bones are characterized by a long tubular shaft and an articular surface at each end of the bone where ligaments and tendons attach. These bones include the major bones of the arms and legs such as the humerus and femur, tibia and fibula, and the radius and ulna.
- **Short Bone:** Helps to provide stability and movement within the ankle and wrist joints. They provide little to no movement. Short bones are roughly cube-shaped and are as long as they are wide. Examples of this type of bone include the carpals and metacarpals in the wrists and ankles.
- **Flat Bone:** The primary purpose of this type of bone is to protect internal organs such as the brain, heart and lungs. It also provides a large surface area for muscles to attach to. Examples of this type of bone include the cranium (skull), the thoracic cage (sternum and ribs) and the ilium (pelvis).
- **Irregular Bone:** These types of bones vary in size and structure with the shape usually being very complex. Irregular bones serve different functions depending on location. For example, vertebrae protect the spinal cord and together make up the spinal column. Another example would be the hyoid bone which helps to maintain tracheal and pharyngeal support.
- **Sesamoid Bone:** The function of this bone is to protect tendons and diminish friction and wear on joint surfaces. This type of bone is usually small and round and is found in the hands, feet, and knees. A common example of a sesamoid bone is the patella (kneecap).

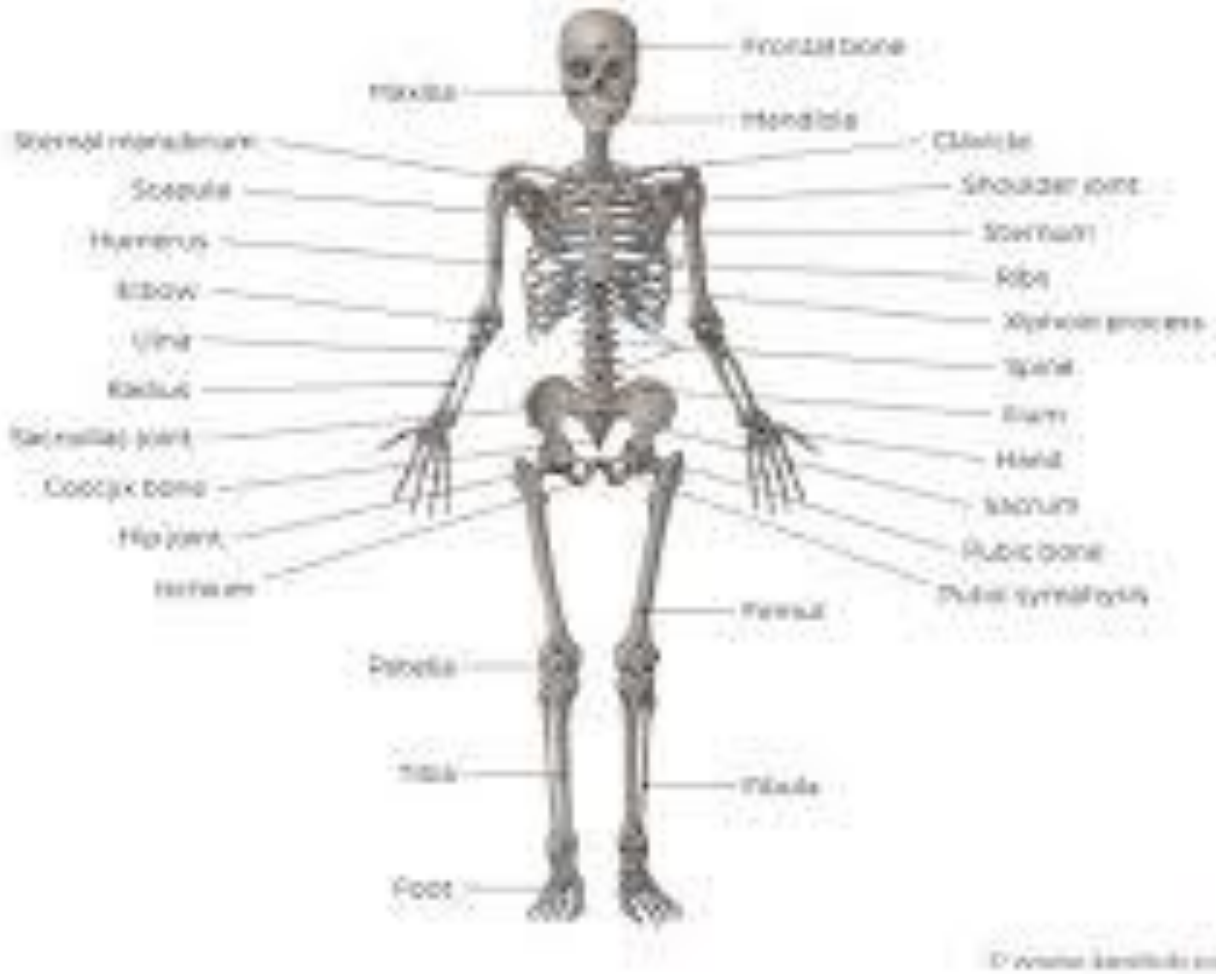
Summary

- The skeletal system is the organ system that provides an internal framework for the human body. In adults, the skeletal system contains 206 bones.
- Bones are organs made of dense connective tissues, mainly the tough protein collagen. Bones also contain blood vessels, nerves, and other tissues. Bones are hard and rigid due to deposits of calcium and other mineral salts within their living tissues. Besides bones, the skeletal system includes cartilage and ligaments.
- The skeleton is traditionally divided into two major parts: the axial skeleton, which includes the skull, spine, and rib cage; and the appendicle skeleton, which includes the appendages and the girdles that attach them to the axial skeleton.
- The skeletal system has many different functions, including supporting the body and giving it shape, protecting internal organs, providing attachment surfaces for skeletal muscles, allowing body movements, producing blood cells, storing minerals, helping to maintain mineral homeostasis, and producing endocrine hormones.
- There is relatively little sexual dimorphism in the human skeleton, although the female skeleton tends to be smaller and less robust than the male skeleton. The greatest sex difference is in the pelvis, which is adapted for childbirth in females.

Bone Makers And Bone Breakers

- OsteoBlasts make our bone
- Osteoclasts break out bone(
- Remove the old furniture)

Images


Maxilla
Mandible
Scapula
Humerus
Elbow
Ulna
Radius
Coccyx bone
Hip joint
Patella
Tibia
Foot
Fibula
Pubic bone
Ribs
Sacrum
Femur

Links

- https://www.getbodysmart.com/skeletal-system
- https://www.innerbody.com/image/skelfov.html#continued
- https://kidshealth.org/en/kids/bones.html
- https://training.seer.cancer.gov/anatomy/skeletal/
- https://open.oregonstate.education/aandp/chapter/6-1-the-functions-of-the-skeletal-system/
- https://www.acls.net/human-skeletal-system.htm#:~:text=The%20skeletal%20system%20is%20composed,is%20composed%20principally%20of%20calcium.
- https://bio.libretexts.org/Bookshelves/Human_Biology/Book%3A_Human_Biology_(Wakim_and_Grewal)/14%3A_Skeletal_System/14.2%3A_Introduction_to_the_Skeletal_System#:~:text=their%20living%20tissues.-,Besides%20bones%2C%20the%20skeletal%20system%20includes%20cartilage%20and%20ligaments.,them%20to%20the%20axial%20skeleton.
- https://www.niams.nih.gov/health-topics/muscle-bone-diseases