

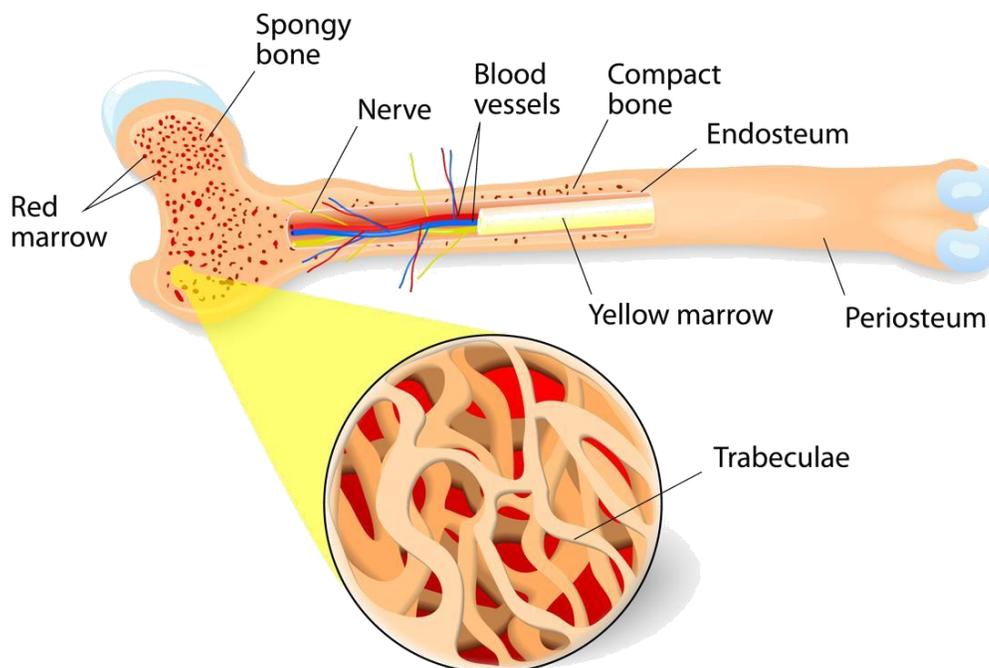
Human Body - Part I

Section 3: The Skeletal System

An adult skeleton is made up of 206 bones and has many important functions. First, it gives shape and support to the body, providing the framework of stability the body needs. Secondly, bones protect the internal organs. For example, your rib cage protects the heart and lungs. Thirdly, major muscles are attached to bones and work together to produce movement. They also make blood cells that are formed in the red marrow at the center of bones. Finally, bones store calcium and phosphorus, which are important to many body processes.

Bones are living tissue, continuously growing and developing as we do, giving them a unique structure. The thin, tough, fibrous membrane that covers the surface of bone is called the **periosteum**. Beneath the periosteum is the **compact bone**, which is a hard, strong layer that contains passageways where blood vessels and nerves travel. **Spongy bone** is found towards the ends of long bones with many spaces within it. It is very strong and found at the ends of bones like the femur. Bones also contain **red marrow**, a soft connective tissue found within the pores. There are two types of marrow. **Red marrow** produces all types of blood cells: red blood cells, white blood cells, and platelets. **Yellow marrow** stores fat as an energy reserve.

BONE ANATOMY



Human Body - Part I

Section 3: The Skeletal System Continued

The point at which two bones meet is called a **joint**. They have connective tissue that holds bones together and allows the bones to move. Joints are held in place by a tough band of tissue called **ligaments** that give them support and limit their movement. Joints are characterized by their structure and how they move. A **pivot joint** allows one bone to move around another. One example of a pivot joint is found at the top of your neck. It allows you to move your neck from side to side and shake your head. In a **ball and socket joint**, the rounded end of one bone fits into the cup-like structure of another. It gives the widest range of motion. The shoulder and hip are examples of ball and socket joints. **Hinge joints**, like those found in your elbow, allow back and forth movement. A **gliding joint** allows one part of a bone to slide over another like those found in your wrist or ankle. An **immovable joint** allows little to no movement as the bones are fused together.

