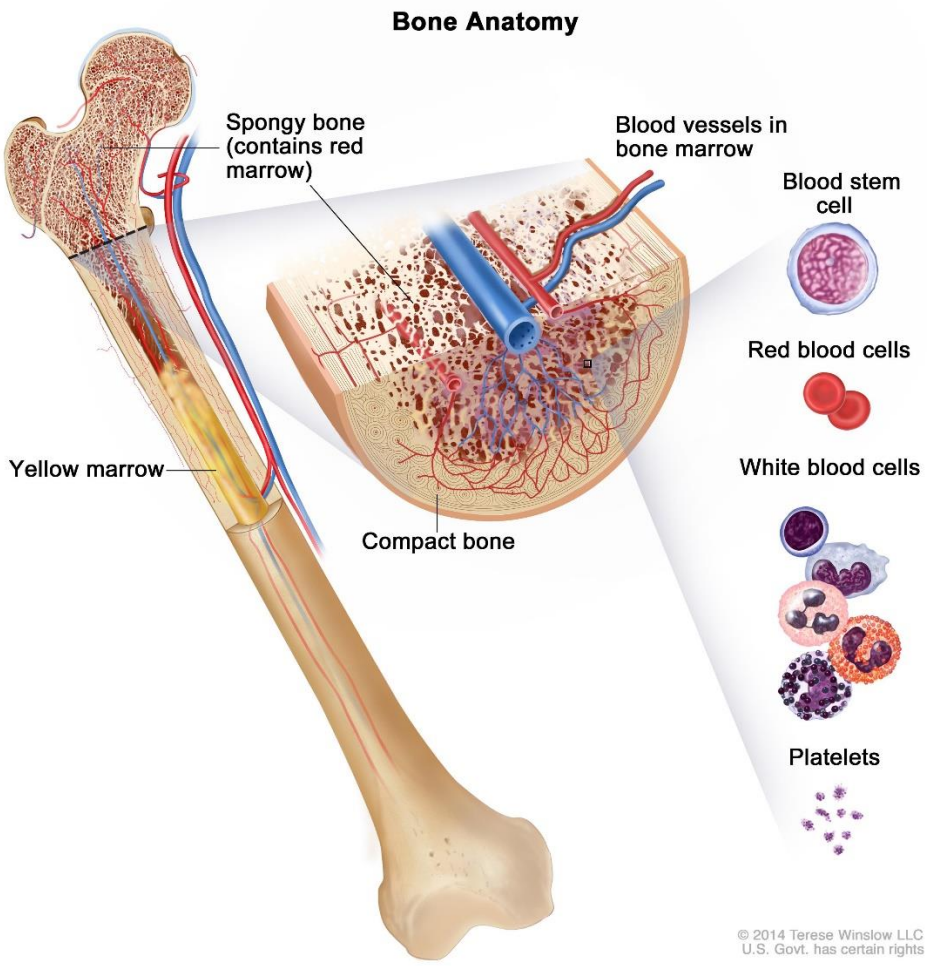
Bone marrow

A soft highly vascular modified connective tissue in the interior of bones. In humans, red blood cells are produced by cores of bone marrow in the heads of long bones in a process known as hematopoiesis. It is the spongy tissue inside some of the bones in the body, including the hip and thigh bones. Bone marrow contains immature cells, called stem cells.

Bone marrow occurs in two forms:

1. A whitish or yellowish bone marrow
    a. It consists chiefly of fat cells
    b. Found especially in the cavities of the long bones.
    c. It is also called yellow marrow.
2. A reddish bone marrow
    a. It contains little fat.
    b. It is the chief site of red blood cell and blood granulocyte formation
    c. It occurs in the normal adult flat bones
    d. It is also called red marrow.



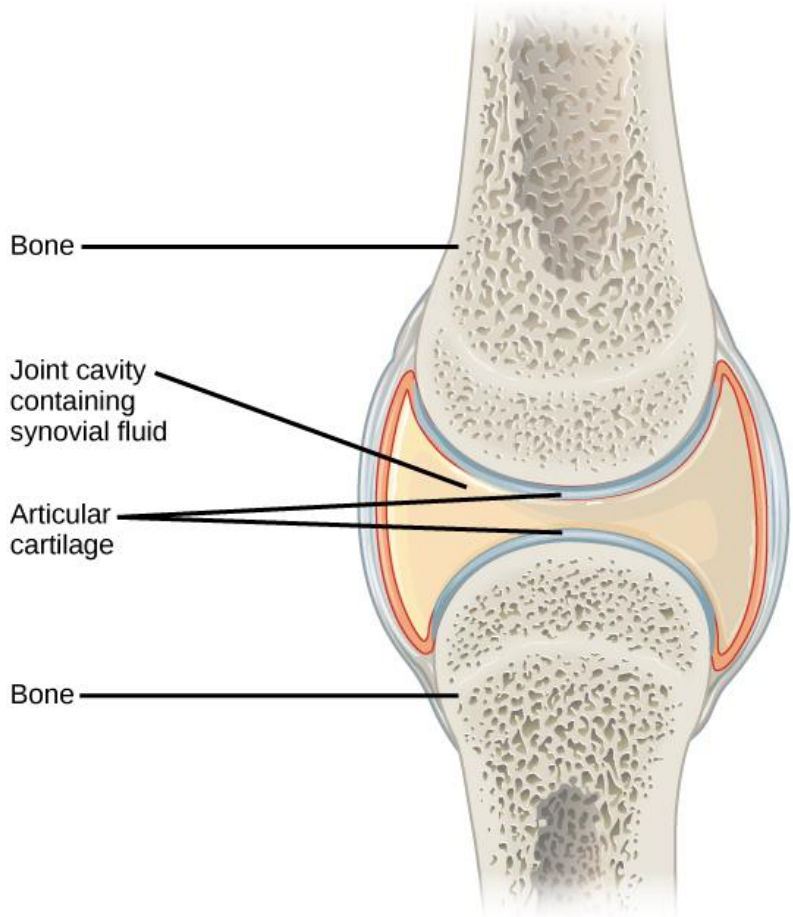
Joints

A joint or articulation is the connection made between bones in the body. It links the skeletal system into a functional whole.

The structural classification divides joints into **fibrous**, **cartilaginous**, and **synovial** joints depending on the material composing the joint and the presence or absence of a cavity in the joint.

1. Fibrous joints

   a. The bones of fibrous joints are held together by fibrous connective tissue.
   b. There is no cavity, or space, present between the bones.
   c. Most of the fibrous joints do not move at all.
   d. There are three types of fibrous joints.
      i. Sutures (Founds in skull)
      ii. Syndesmoses (Joints of the tibia and fibula)
      iii. Gomphoses (Joints between teeth and socket)



2. Cartilaginous joints

a. Cartilaginous joints are those in which the bones are connected by cartilage.
b. There are two types of cartilaginous joints.
c. In one kind of joints, the bones are joined by hyaline cartilage.
d. In other types, the connection between bones occurs through fibrocartilage.

3. Synovial joints

a. Synovial joints are the only joints that have a space between the adjoining bones.
b. This space (synovial cavity), is filled with synovial fluid.
c. Synovial fluid lubricates the joint, reducing friction between the bones and allowing for greater movement.
d. The entire joint is surrounded by an articular capsule composed of connective tissue.
e. Knees, elbows, and shoulders are examples of synovial joints.