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SKELETAL SYSTEM



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INTRODUCTION

Bones:

Bone is the one-third connective tissue, forming the main supporting framework of the body.

The inorganic Calcium salts make it hard and rigid.

Osteology:

The scientific study of bones is known as Osteology.



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The Skeletal System

Parts of the skeletal system

Bones (skeleton)

Joints

Cartilages

Ligaments (bone to bone)(tendon=bone to muscle)

Divided into two divisions

Axial skeleton- Bones of skull, Thoracic cage & Vertebral Column

Appendicular skeleton-Upper limb, Clavicle & Scapula, Lower limb, Pelvic Girdle



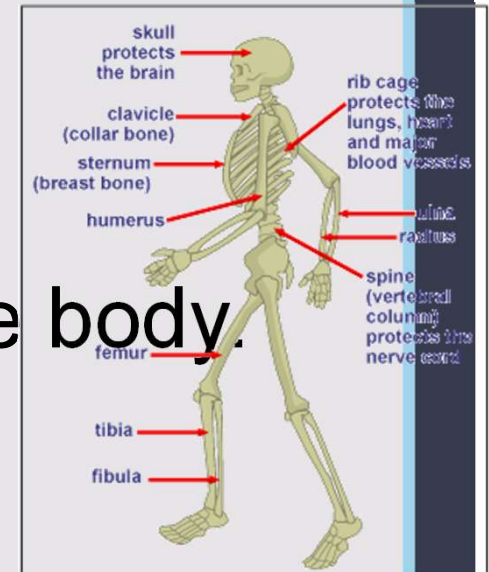
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Functions of Bones

a. Support, Protection & Movement:

1. Gives shape to the body.
2. Supports body weight.
3. Protects sensitive parts of the body.



b. Blood Cell Formation:

The red bone marrow found in the connective tissue of certain bones is the site of blood cell production.



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Functional Classification of Joints:

The point in human skeleton where two bones join together is called a joint.

There are three types of joints which are mentioned below:

Synarthroses

Amphiarthrosis

Diarthrosis



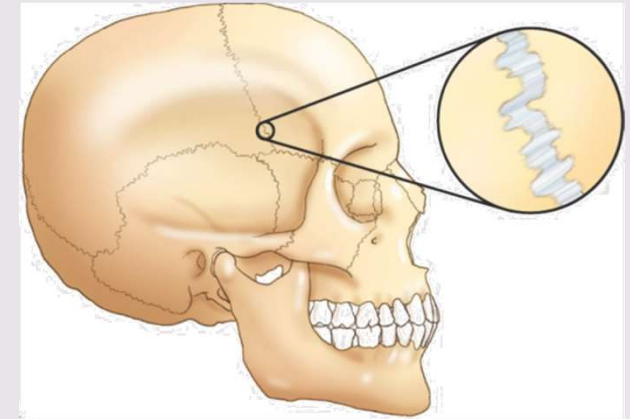
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1. Synarthroses:

Immoveable Joints.

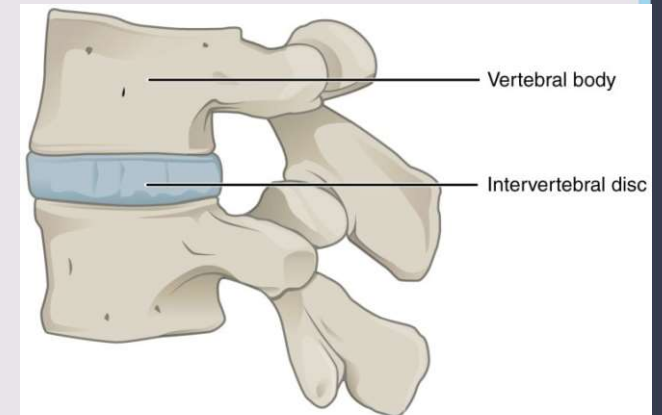
Example: Suture



2. Amphiarthrosis:

Slightly/Partially moveable joints.

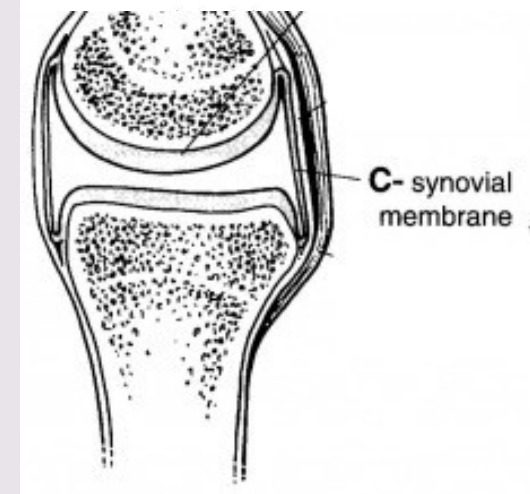
Example: Intervertebral disc.



3. Diarthrosis:

Freely moveable joints.

Example: Synovial membrane





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Cartilage:

Cartilage is a connective tissue composed of cells & fibers embedded in Nucleo polysachharide.

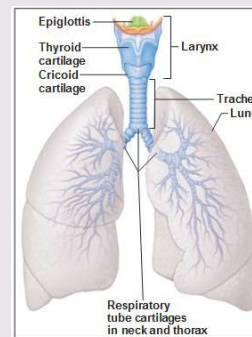
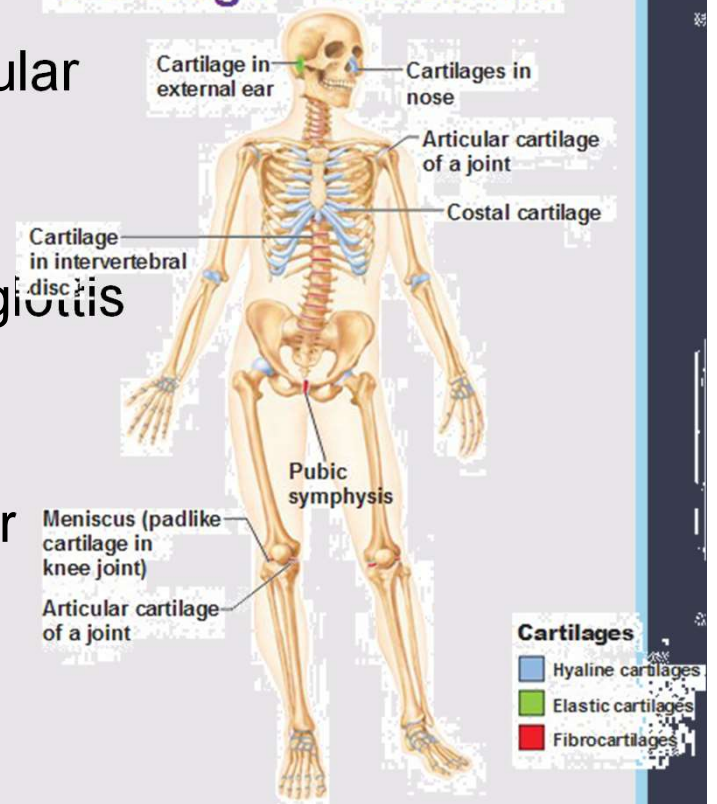
There are three main types of cartilages which are mentioned below:

1. Hyaline Cartilage: Covers the atricular Surface of synovial membrane.

2. Fibro-Cartilage: Present in the Epiglottis etc.

3. Elastic Cartilage: Present in the ear Pinna etc.

Cartilage - Locations





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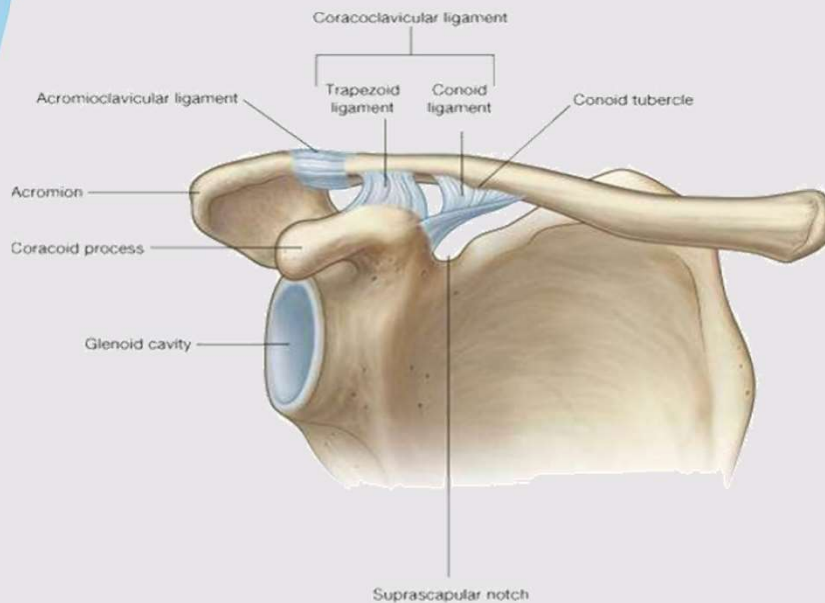
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Ligament & Tendon

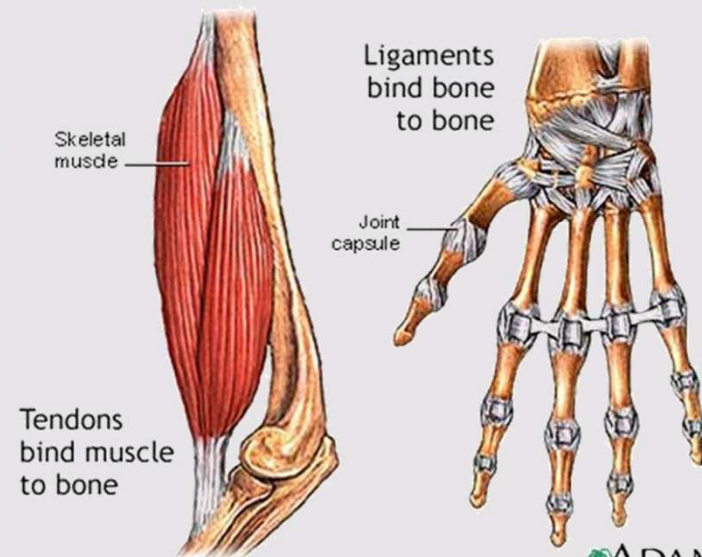
Ligament: a short band of tough, flexible fibrous connective tissue which connects two bones or cartilages at a joint or supporting an organ.

Tendon: Part of the muscle that attaches the muscle to bone and transfers forces generated by muscle to bone that produces movement at joint. Contains 70% collagen

Tendon vs. Ligament



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ADAM.



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Bones of the Human Body

The skeleton has 206 bones

Two basic types of bone tissue

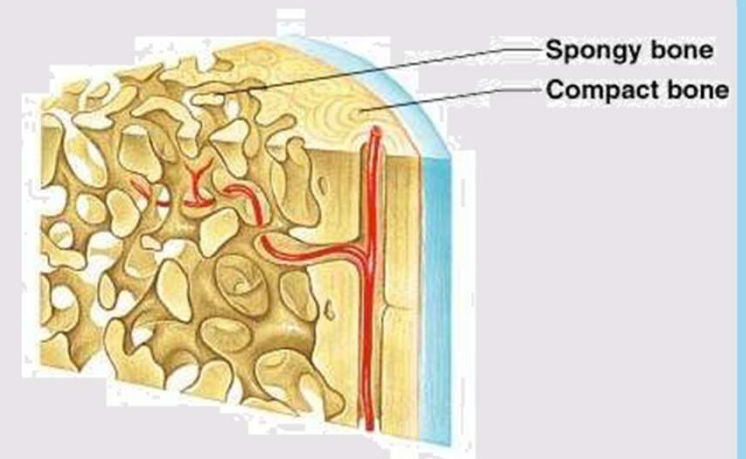
Compact bone

Homogeneous

Spongy bone

Small needle-like pieces of bone

Many open spaces





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Microscopic Anatomy of Bone

