

Veterinary Anatomy
(Unit -1)

Topic

Structure Of Diarthrodial Joint

By

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What is a diarthrodial joint ?

A true joint or movable joint or synovial joint characterised by the presence of a joint cavity with a synovial membrane in the joint capsule and by their mobility

Classified into two categories

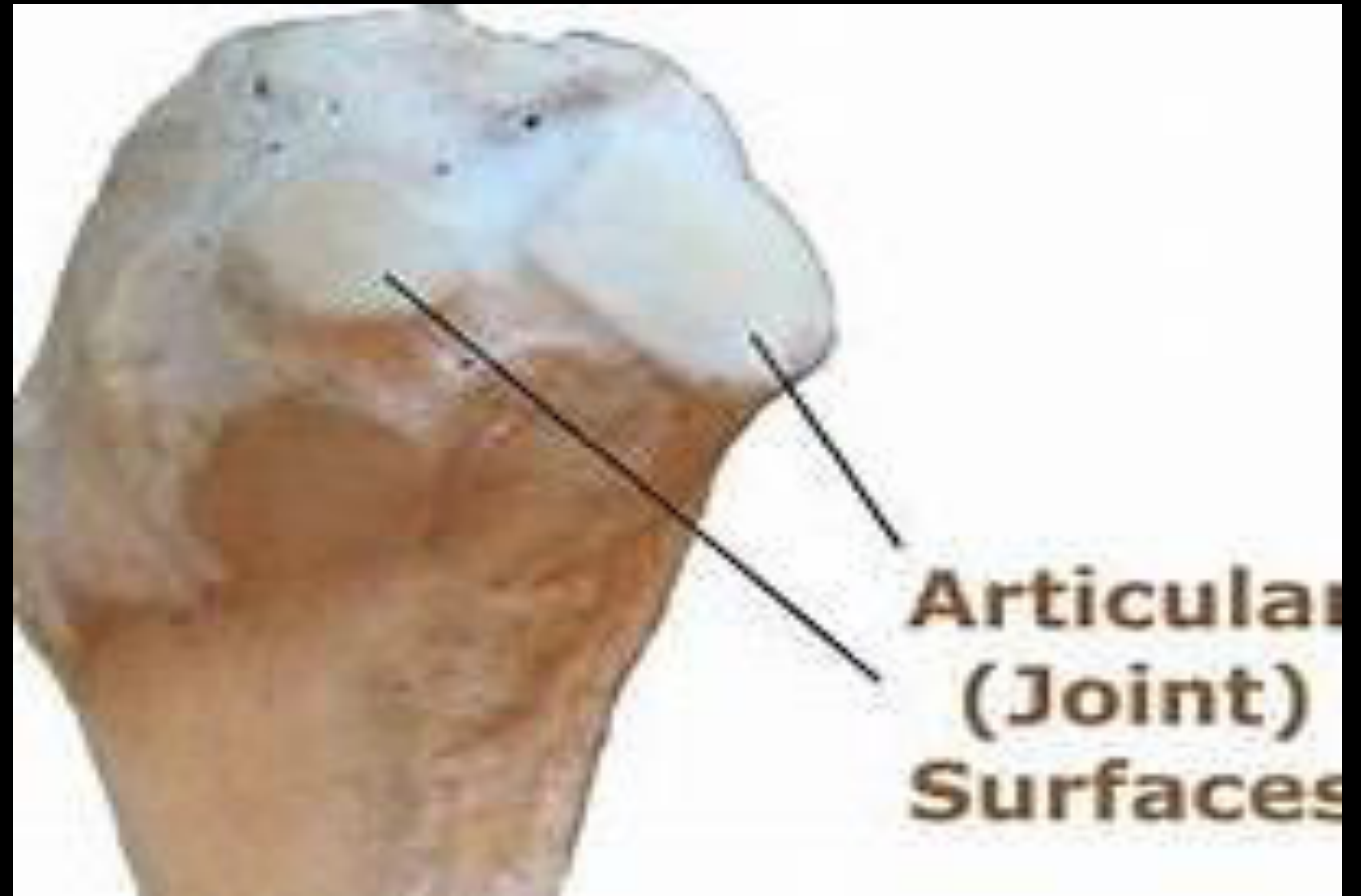
- Simple
- composite

What are the prerequisite materials/structures required in the formation of a diarthrodial joint ?

- Articular surface
- Articular cartilage
- Articular capsule
- Ligaments
- Articular discs and menisci
- Marginal cartilage

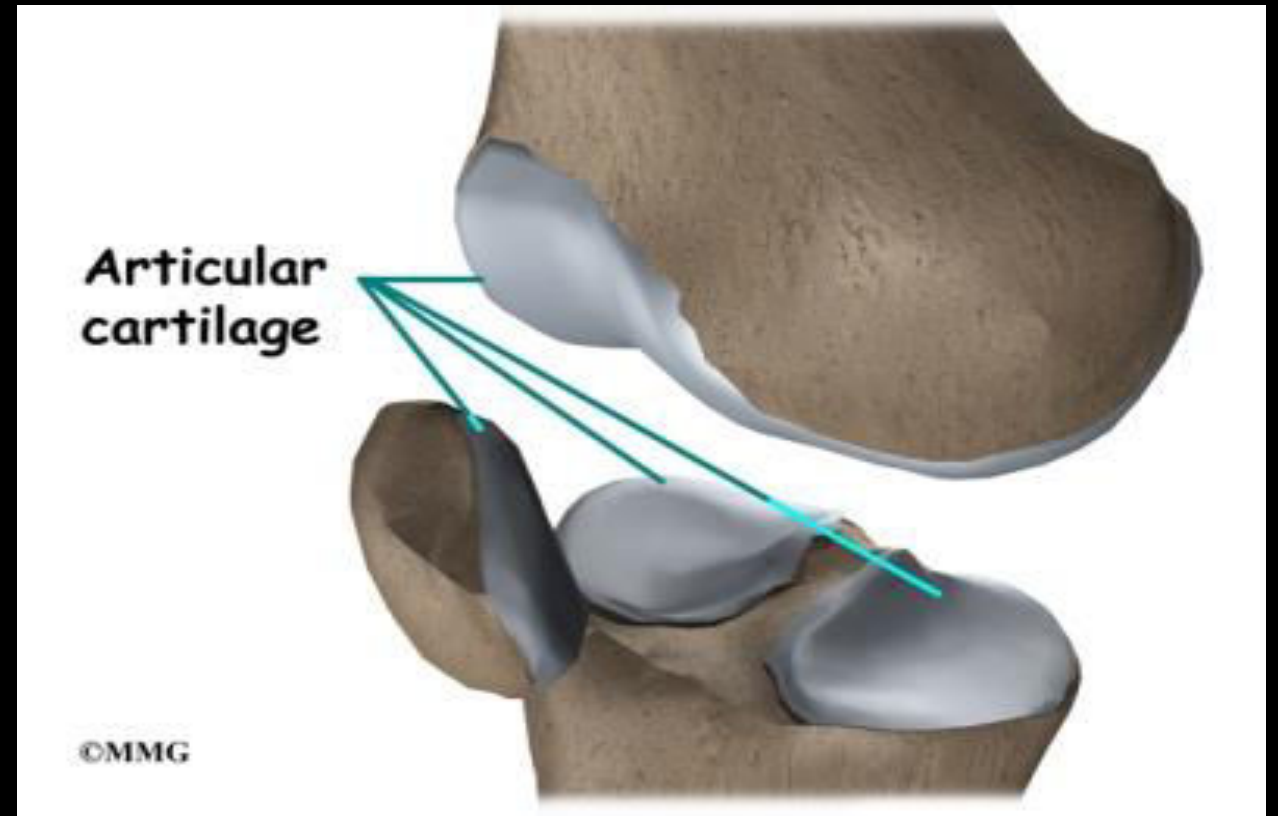
Articular surface

Smooth and made up of dense bone and may be interrupted by non articular cavities known as synovial fossae



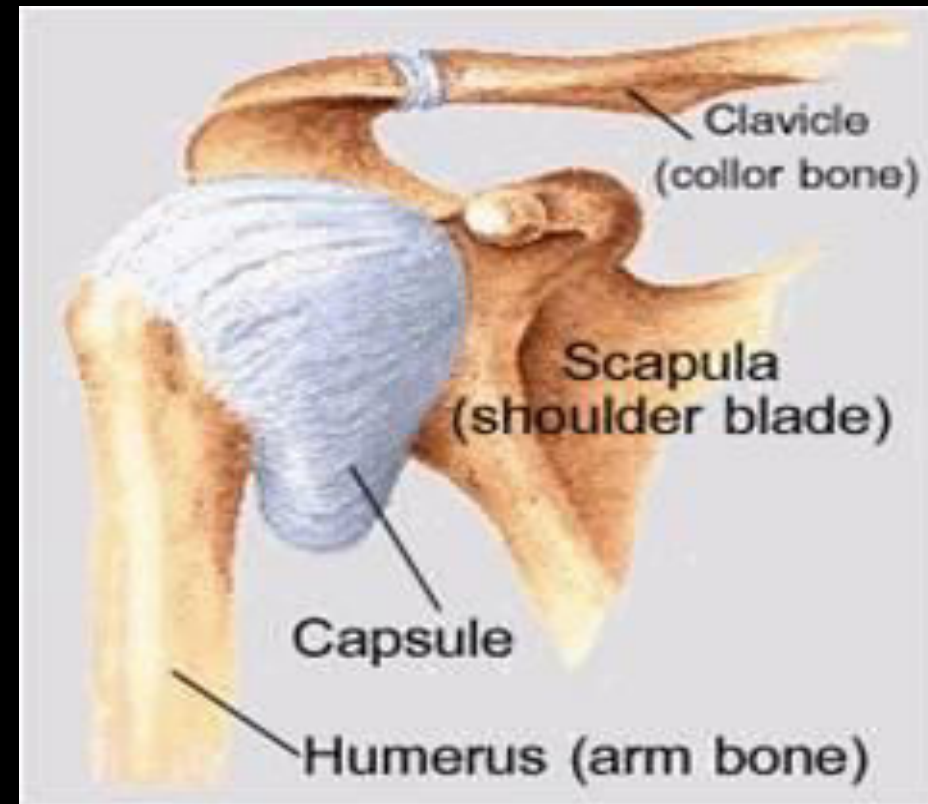
Articular cartilage

- ❑ Cover the articular surface of the bone
- ❑ Hyaline in nature
- ❑ Vary in thickness
- ❑ Non vascular
- ❑ Minimises the effect of pressure and friction

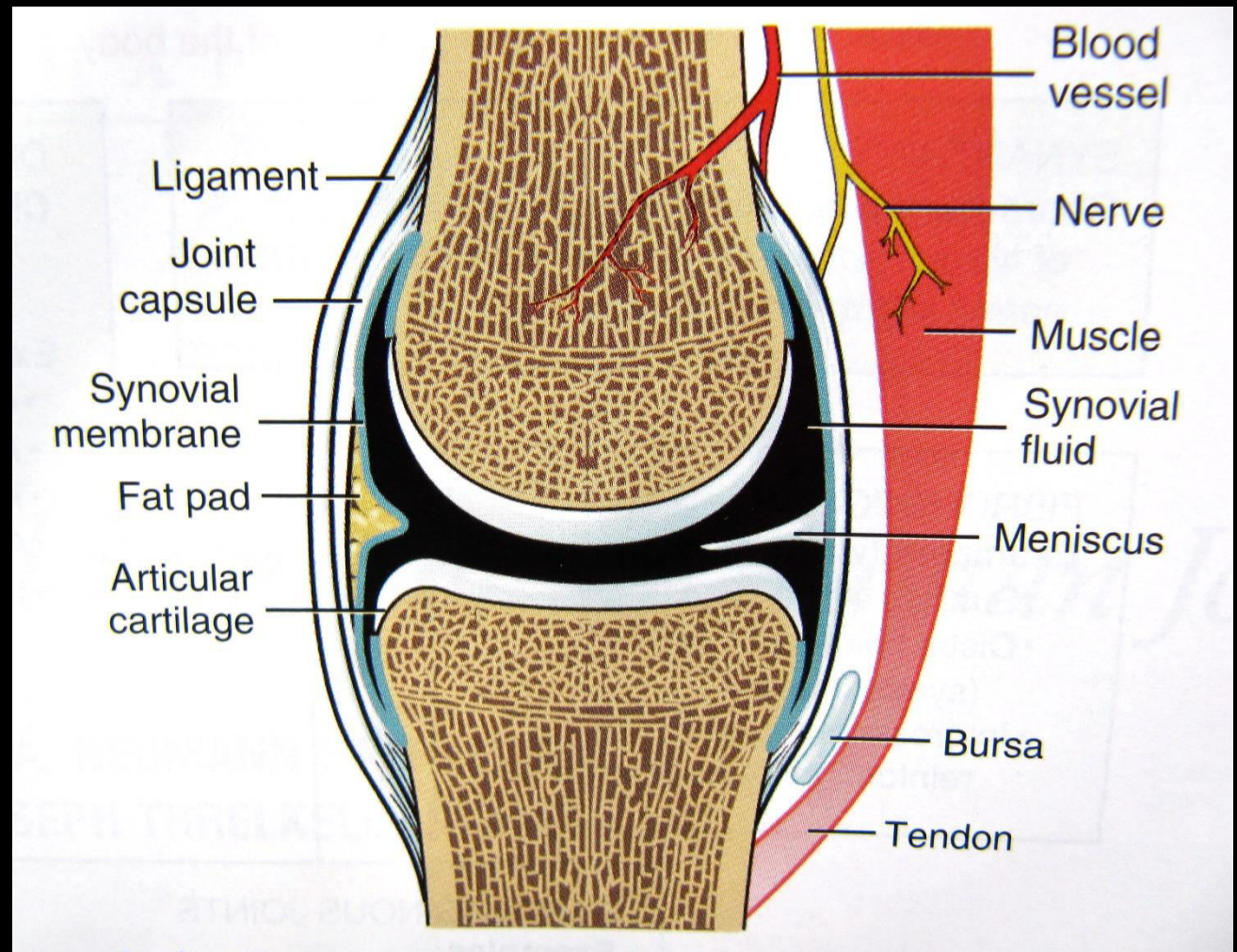


Articular capsule

- ❑ A tube like structure whose ends are attached to the articulating surface
- ❑ Consist of two layers, an external layer and an internal layer
- ❑ The external layer is made up of fibrous tissue and the internal layer is known as synovial membrane
- ❑ The fibrous layer is also known as capsular ligament and is attached close to the margins of articular surfaces



- ❑ The synovial membrane lines the joint cavity except where it is bounded by articular cartilages
- ❑ Richly supplied by network of vessels and nerves
- ❑ It consist of folds and villi which consist of pads of fat
- ❑ The synovial membrane secretes synovial fluid which lubricates the joint
- ❑ It resembles the white part of an egg and consist of albumin, mucin and salts and is alkaline in nature
- ❑ It helps in transport of nutrients to the hyaline articular cartilage

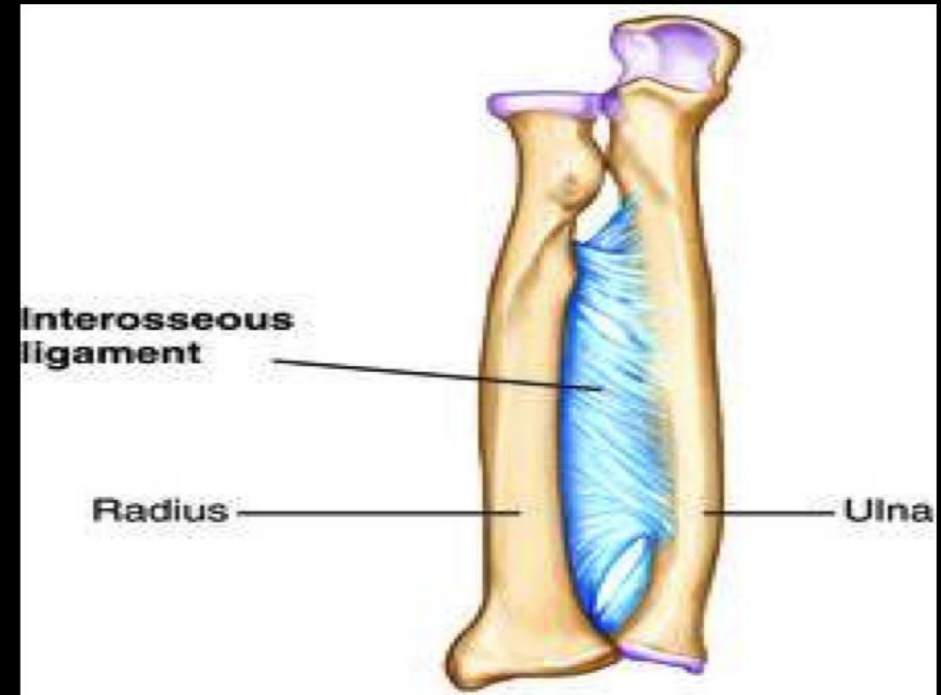


Ligaments

- ❑ They are bands of membranes made up of white fibrous tissue
- ❑ They bind the bones together and are inelastic except nuchal ligament which are composed of elastic tissue
- ❑ Subdivided into extra and intra capsular ligaments
- ❑ Collateral ligaments are those which are situated on the sides of a joint

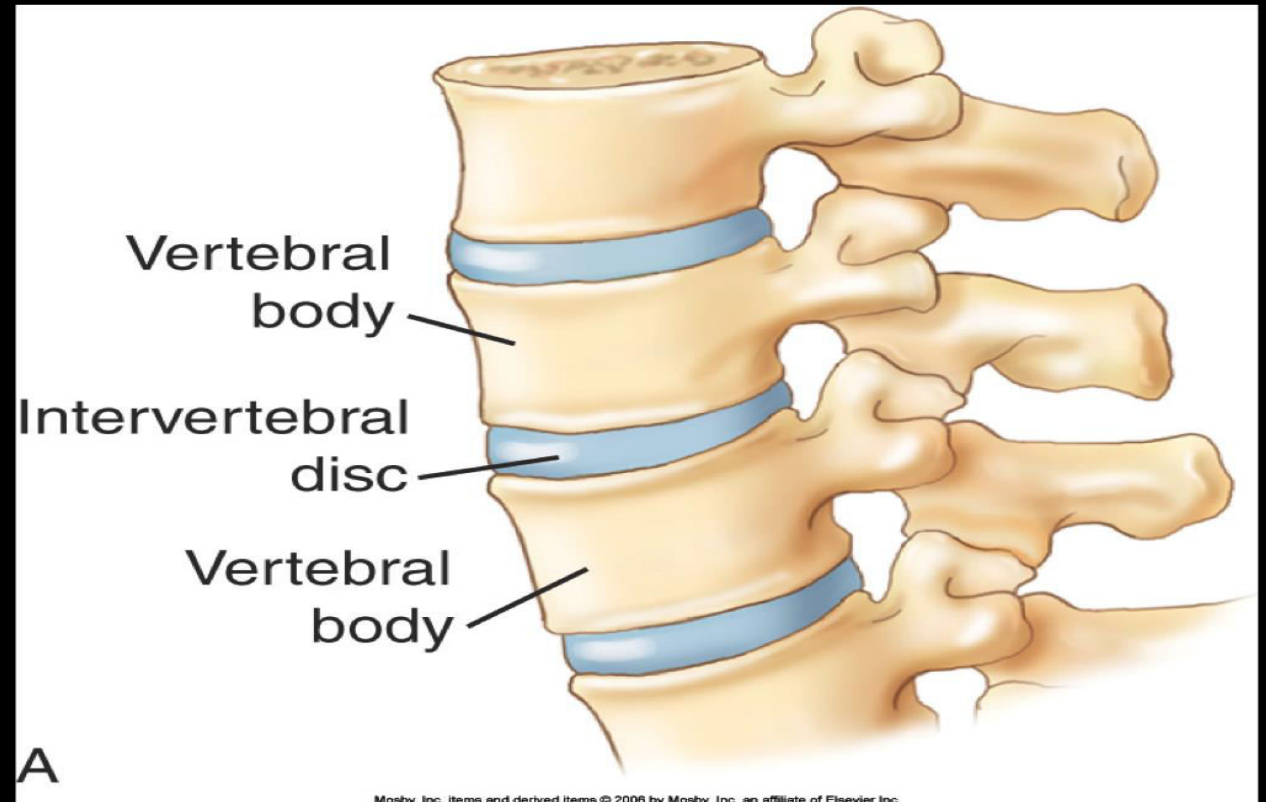


- ❑ Interosseous ligaments are those which are directly connected to the opposed surface of the bone
- ❑ Muscle ,tendons and thickening of fascia may also function as ligaments



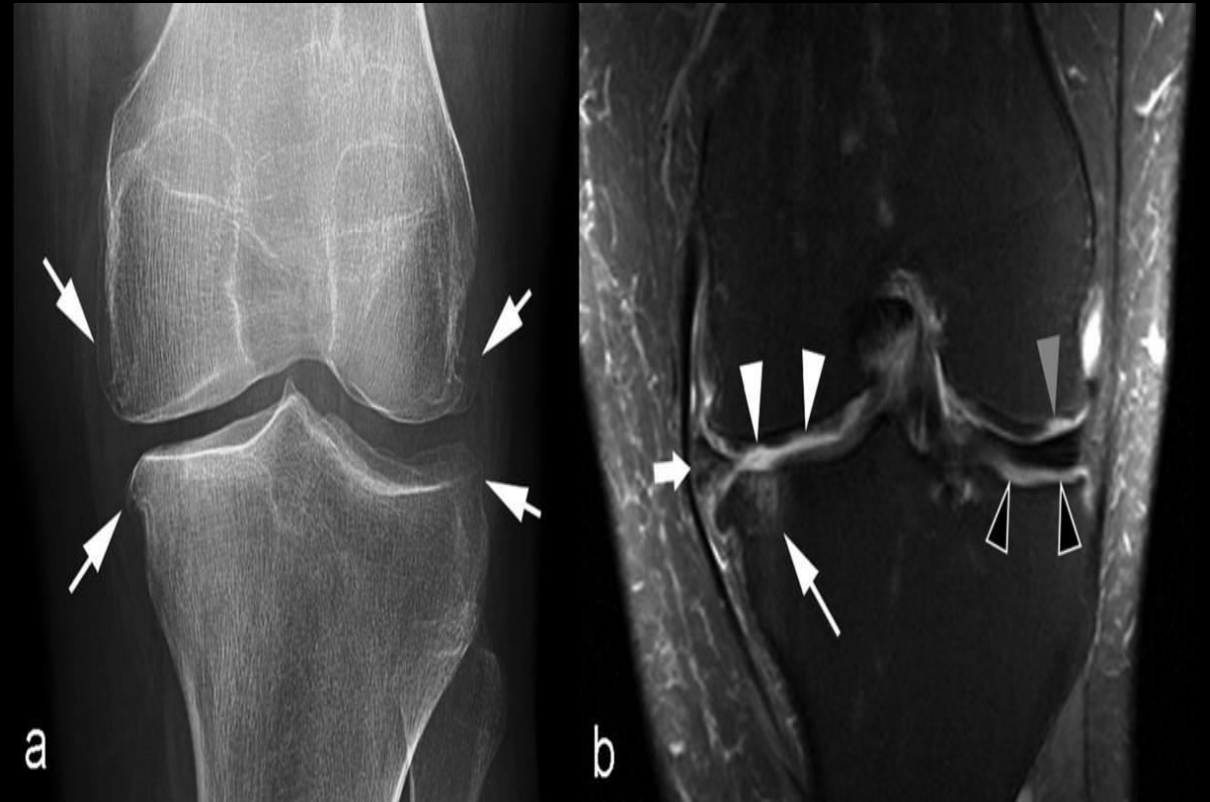
Articular disc and menisci

- ❑ They are plates of fibro cartilage or dense fibrous tissue placed between articular cartilages
- ❑ They allow greater range of movement and diminish concussion



Marginal cartilage

- ❑ It is a ring of fibro cartilage which encircles the rim of an articular cavity
- ❑ It enlarges the cavity and prevents fracture of the margin



THANKS