

Module 7 LO4

Synovial Joints

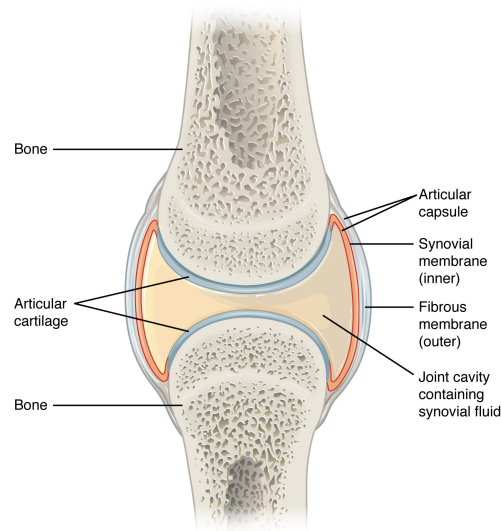
Dr. Lisa Brinn

lbrinn@fiu.edu

[Video Recording Link](#)

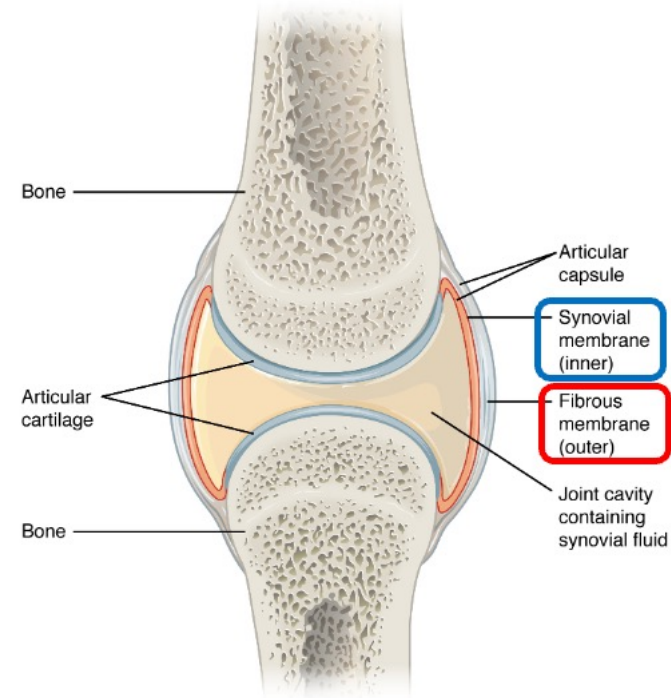
4. Synovial Joints

- Range from slightly movable (between carpal bones) to the most mobile joints of the body (at the shoulder)
- Main characteristic:
 - presence of a space called a **synovial cavity** or *joint cavity*
 - surrounded by connective tissue capsule that attaches the articulating bones



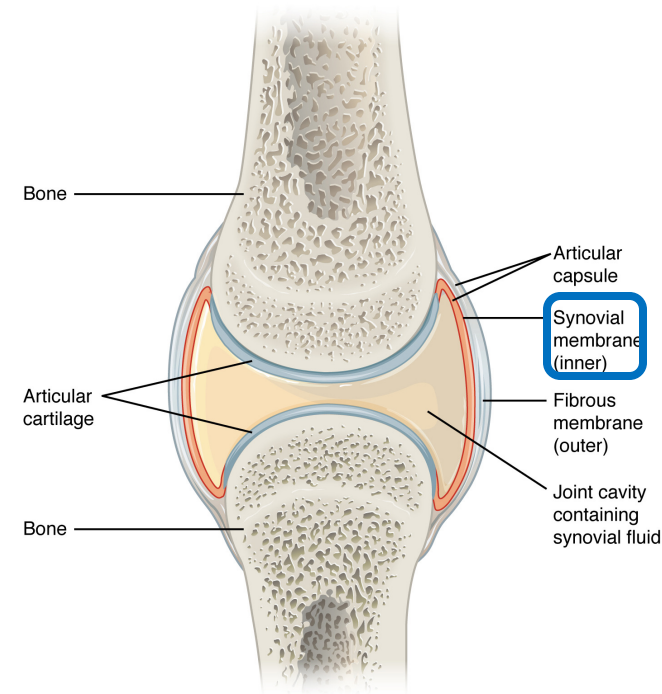
Structure of a Typical Synovial Joint

- Synovial cavity
 - Synovial fluid
- Articular capsule
 - Fibrous membrane (outer)
 - Continuous with periosteum
 - Collagen fibers
 - Synovial membrane (inner)
 - Elastic fibers
- Articular cartilage
 - Reduces friction between articulating bones



Synovial Membrane

- Secretes synovial fluid
- Consists of hyaluronic acid secreted by synovial cells in synovial membrane and interstitial fluid from blood plasma
- Function:
 - Reducing friction
 - Absorbing shocks
 - Supplies O_2 and nutrients
 - Removes CO_2 and metabolic wastes
 - Contain phagocytic cells



Accessory Ligaments

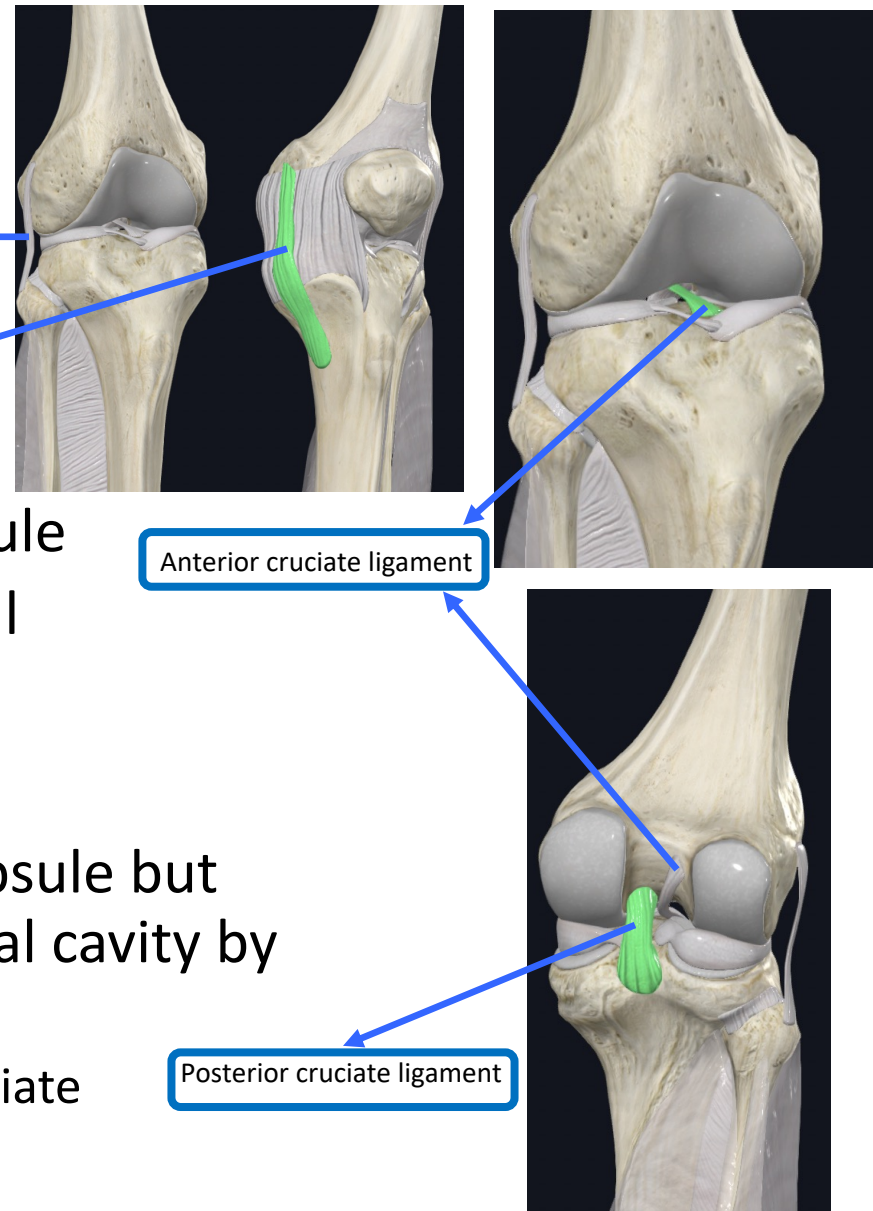
- **Extracapsular ligaments**
 - Lie outside the articular capsule
 - Ex. Fibular and tibial collateral ligaments of knee joint
- **Intracapsular ligaments**
 - Occur within the articular capsule but are excluded from the synovial cavity by folds of synovial membrane
 - Ex. Anterior and posterior cruciate ligaments of knee joint

Fibular collateral ligament

Tibial collateral ligament

Anterior cruciate ligament

Posterior cruciate ligament



Articular Discs

- Fibrocartilage structures not covered by synovial membrane
- Divide synovial cavity into two smaller cavities
 - Separate movements can occur in each cavity
- Menisci
 - Incomplete discs
 - Partially divide the joint
 - Crescent-shaped discs
 - Functions:
 - absorbs shocks
 - allows better fit between articulating bones
 - distributes weight
 - distributes synovial lubricant

