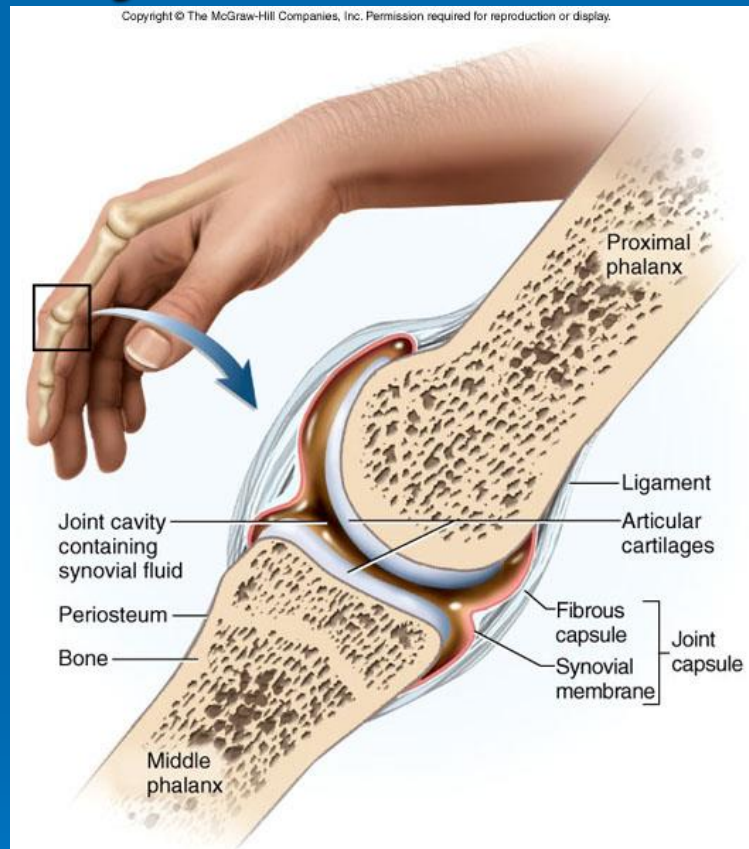


SYNOVIAL JOINT

FirstRanker.com

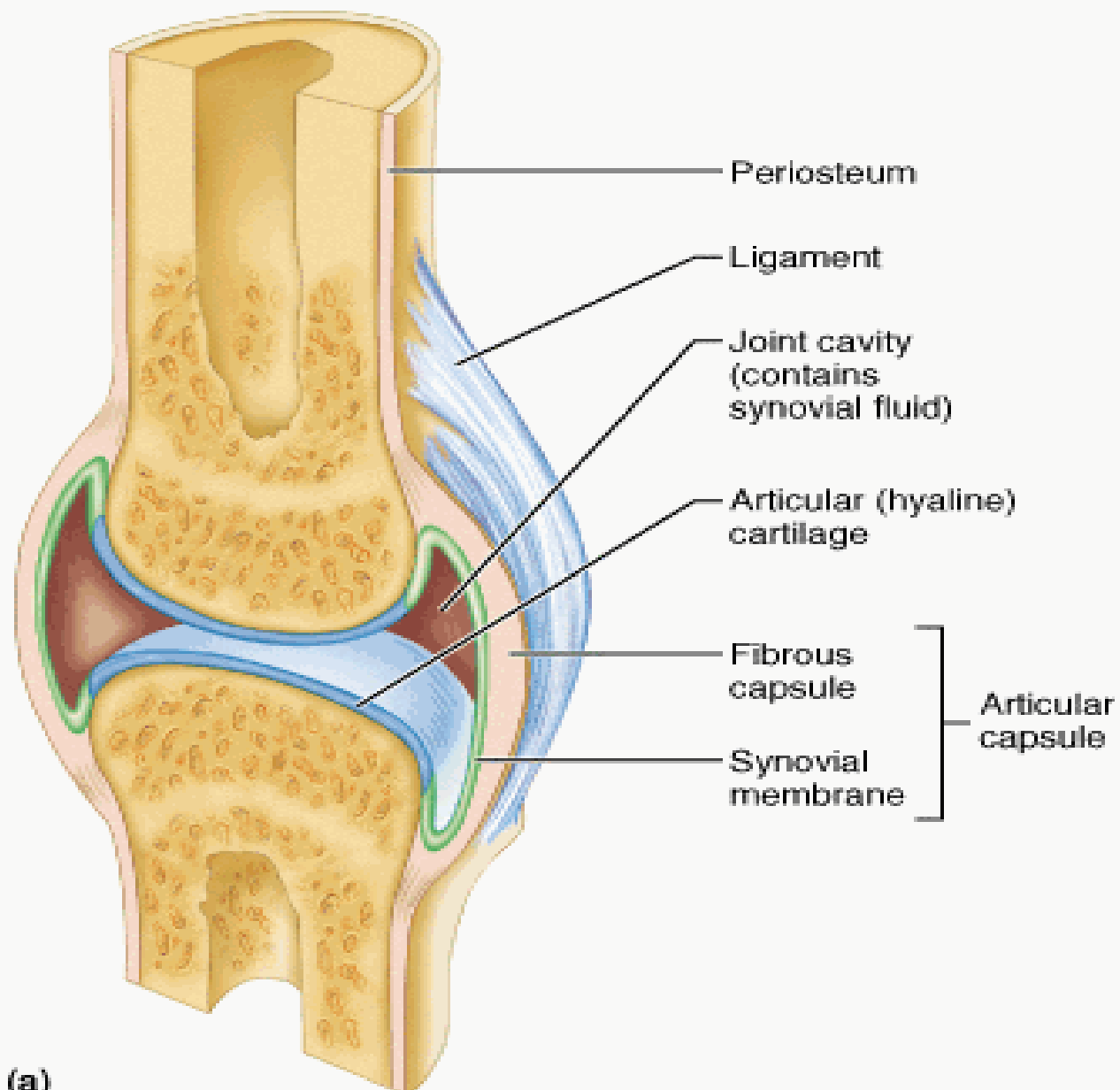
Synovial Joint



- Joint in which two bones are separated by a space called a joint cavity
- Most are freely movable

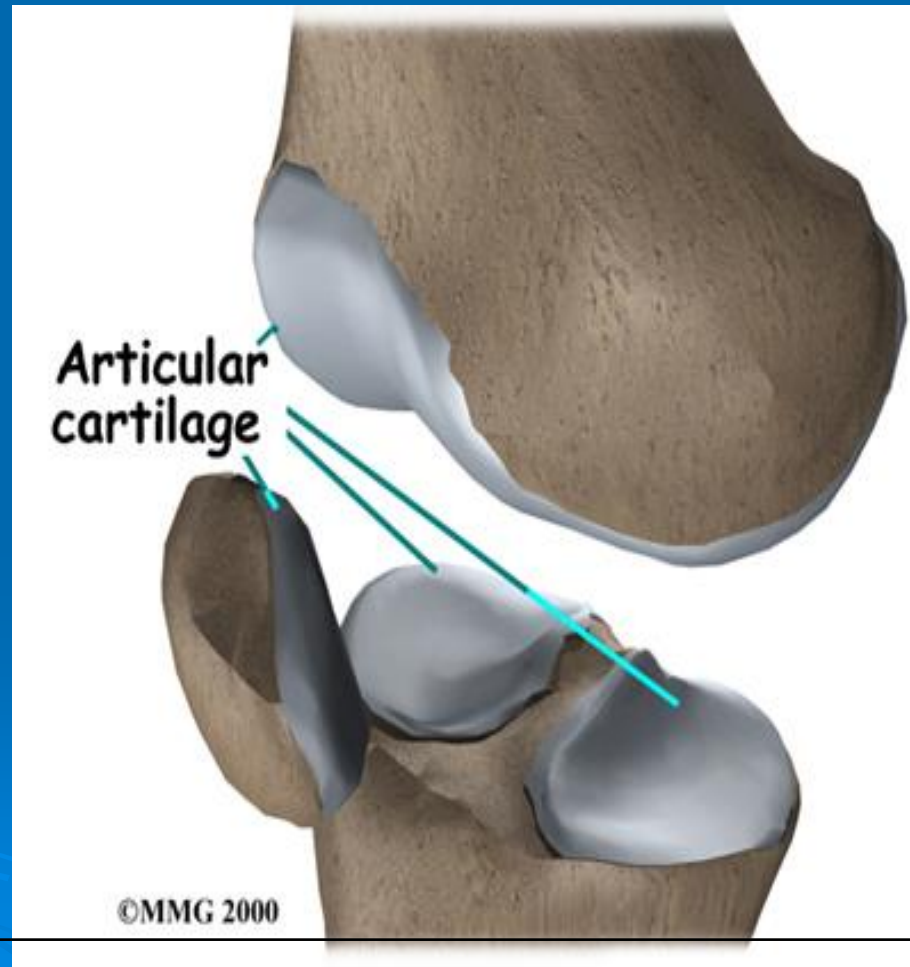
SALIENT FEATURES

- Articular cartilage
- Capsule
- Synovial membrane
- Synovial cavity
- Synovial fluid
- Articular discs
- Ligaments
- Menisci
- Bursa
- Intra articular structures



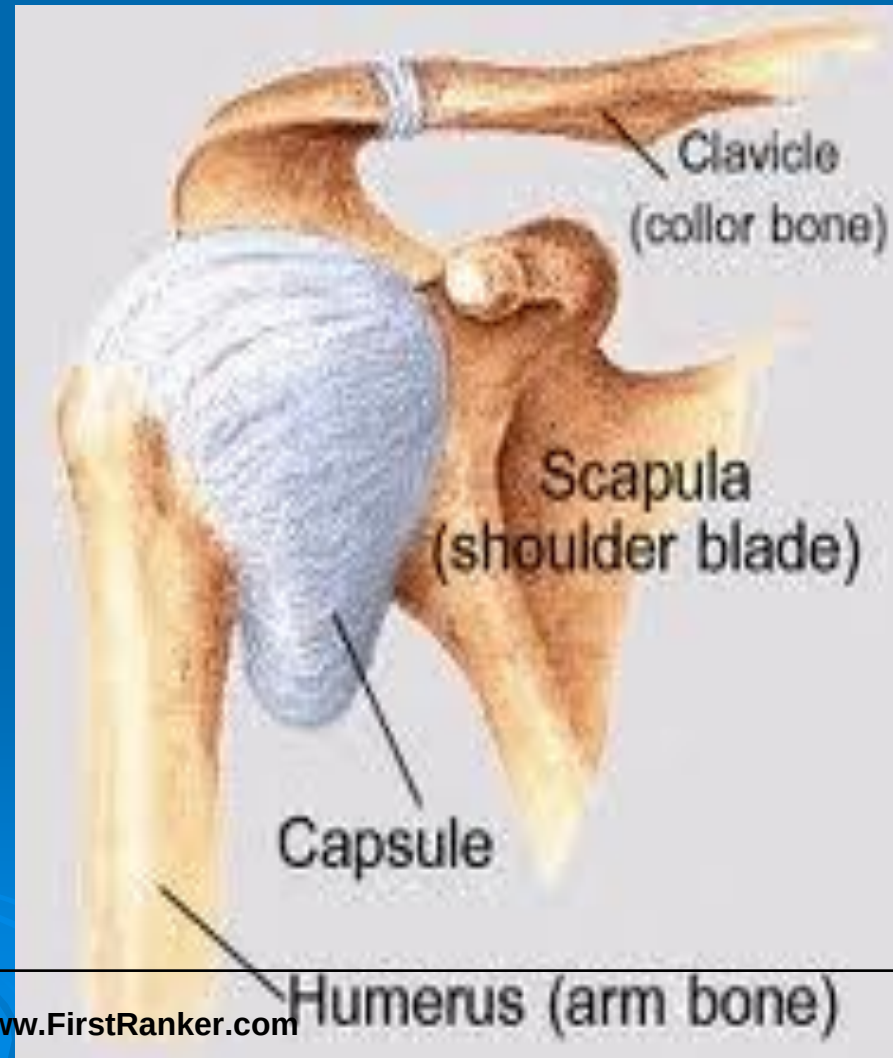
ARTICULAR CARTILAGE

- hyaline cartilage covering the bone surfaces



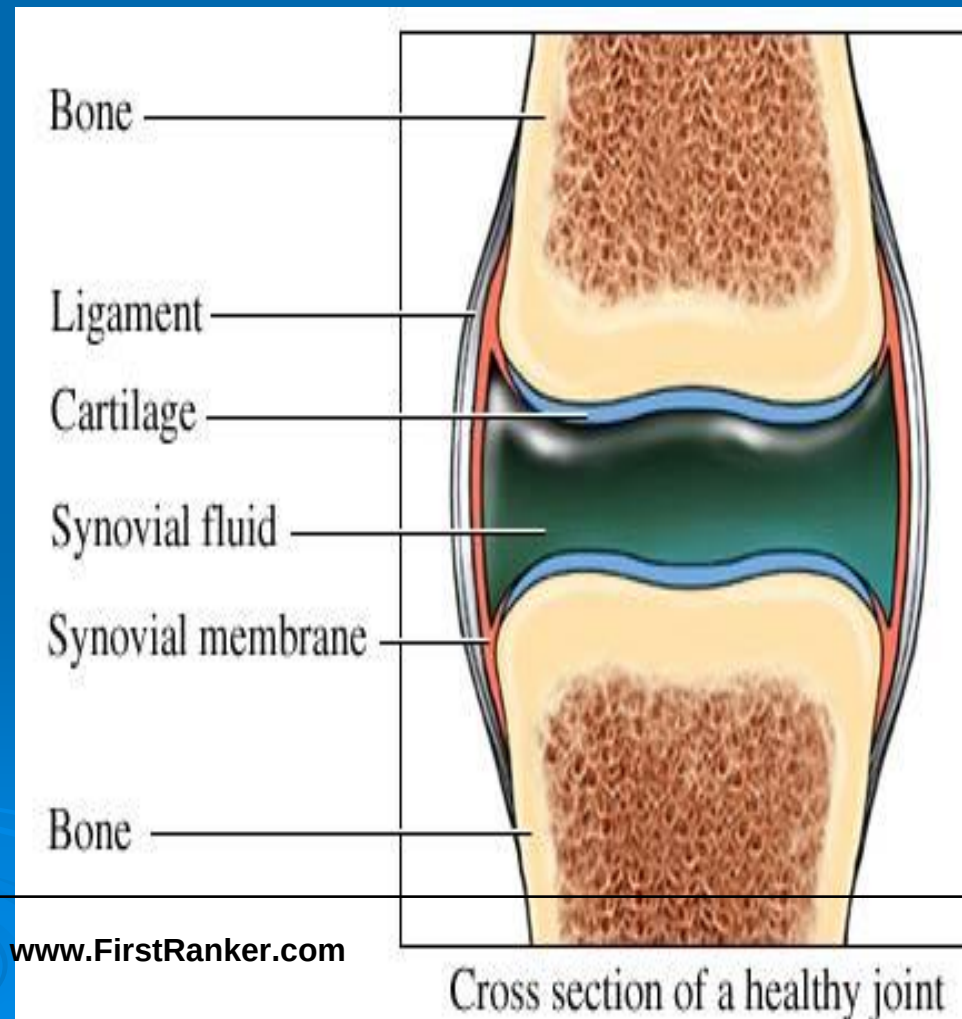
CAPSULE

- fibrous capsule lined by synovial membrane
- continuous with periosteum



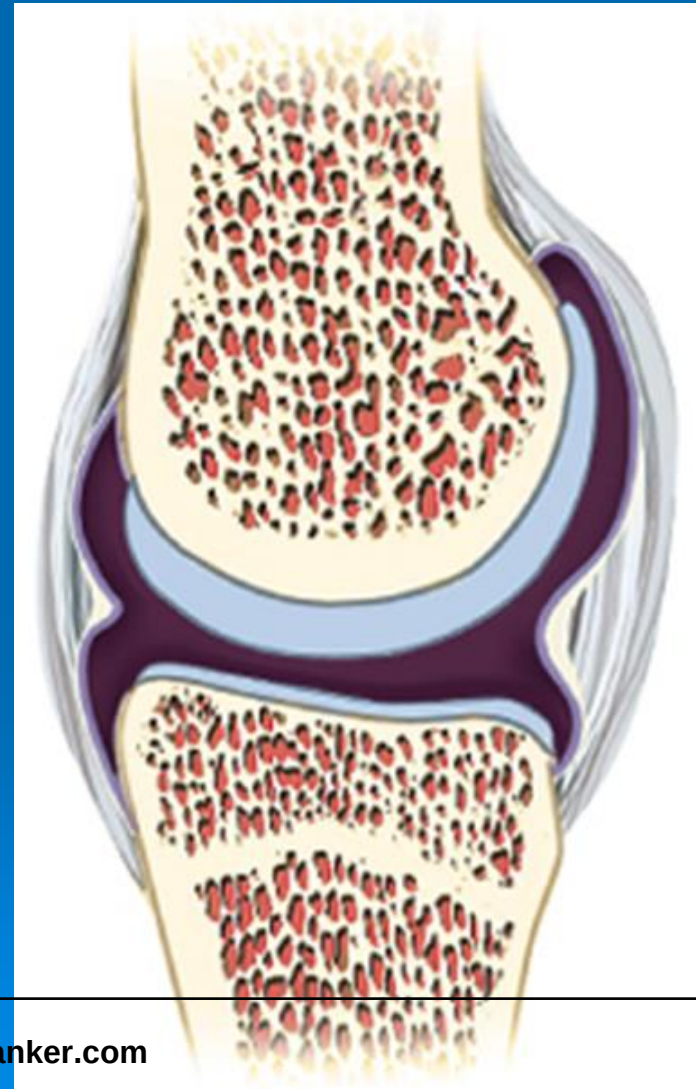
SYNOVIAL MEMBRANE

- Synovial membrane attaches to the margins of the joint surfaces at the interface between cartilage and bone and encloses the articular cavity



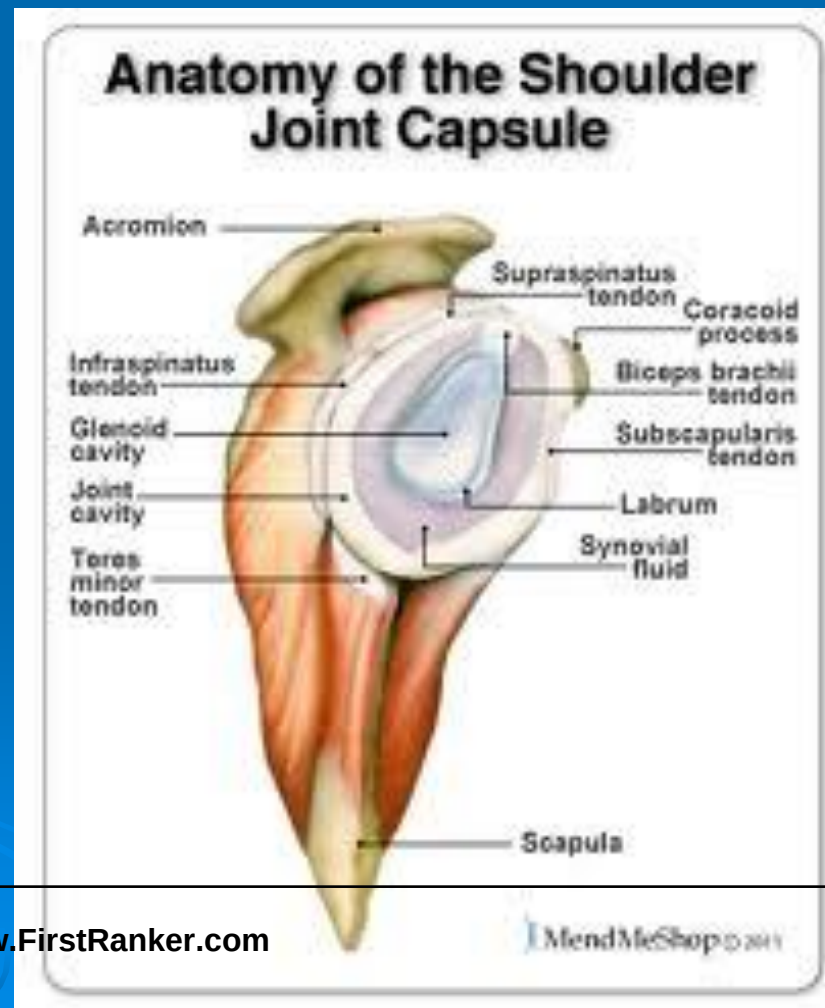
SYNOVIAL CAVITY

- Joint cavity is synovial cavity
- Surrounded by synovial membrane



SYNOVIAL FLUID

- **viscous**
slippery fluid
rich in
albumin &
hyaluronic
acid & similar
to raw egg
white



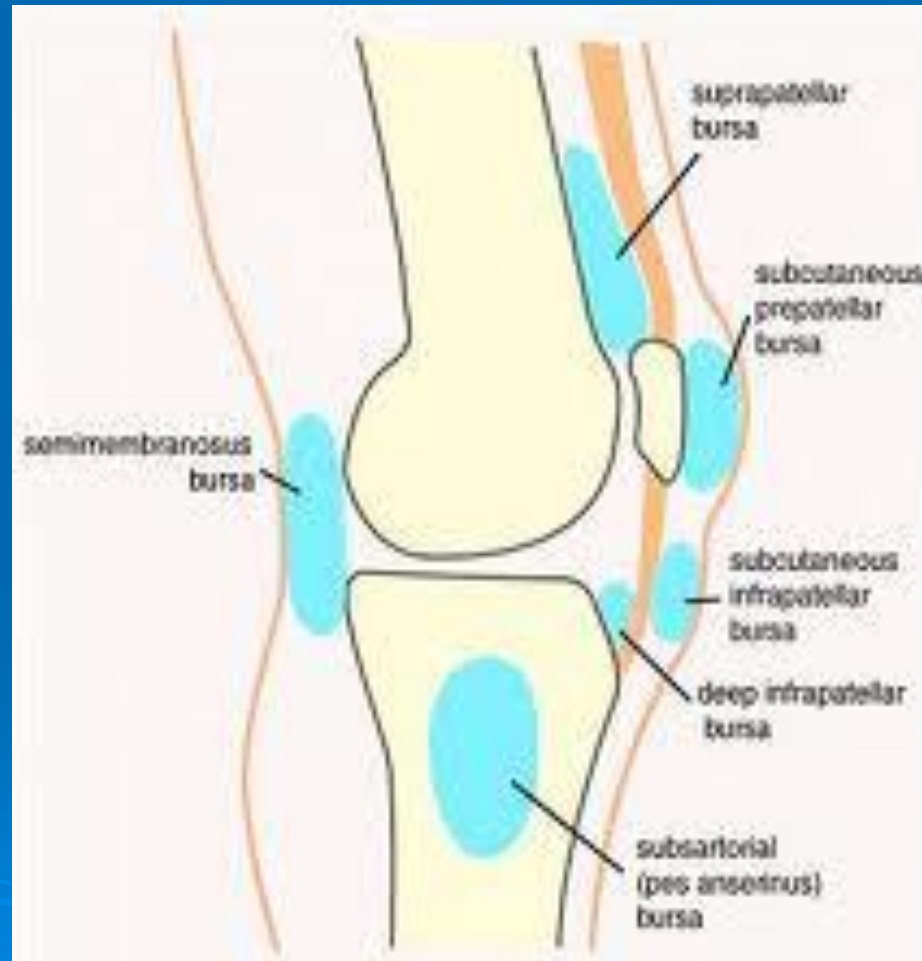
MENISCUS

- Meniscus is an incomplete rim of white fibrous cartilage between articular cartilages.
- Shock absorber
- Enhancement of congruence
- Protection of edges
- Weight distribution
- Facilitation of movement

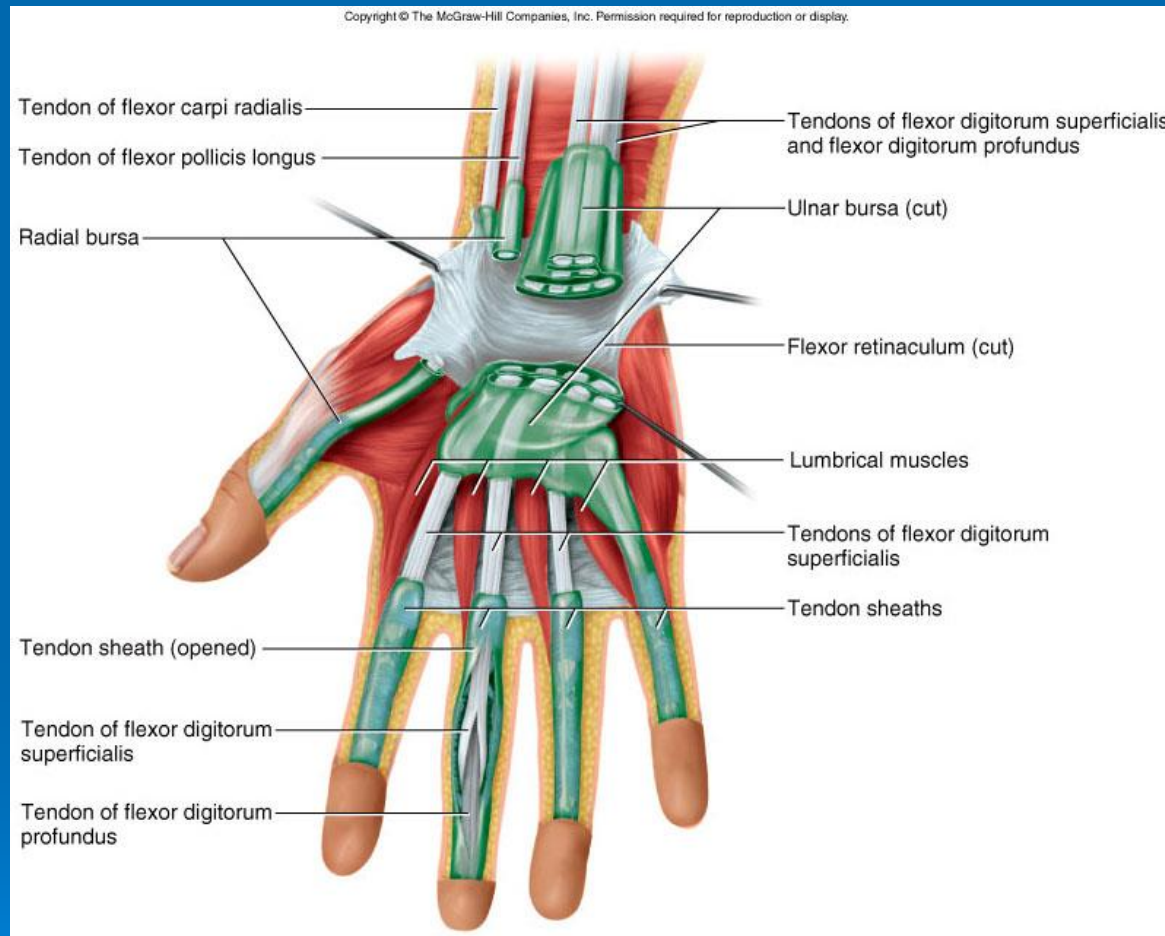


BURSA

- Lubricating device consist of a closed fibrous sac.
- Present wherever tendon rub against bones, ligaments or other tendons

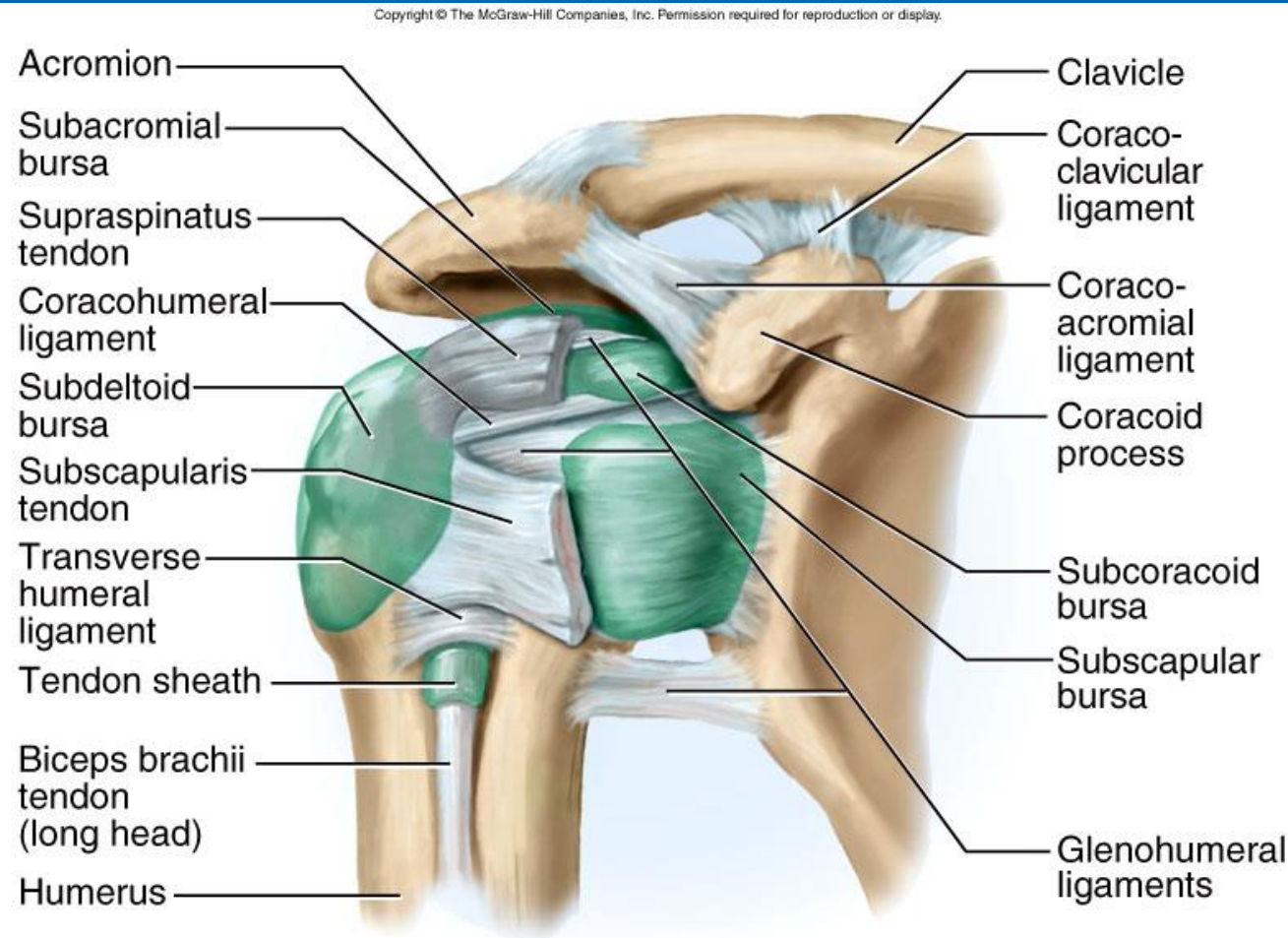


Tendon Sheaths and Bursae



- Tendon sheaths = cylinders of connective tissue lined with synovial membrane and wrapped around a tendon

INTRACAPSULAR STRUCTURE

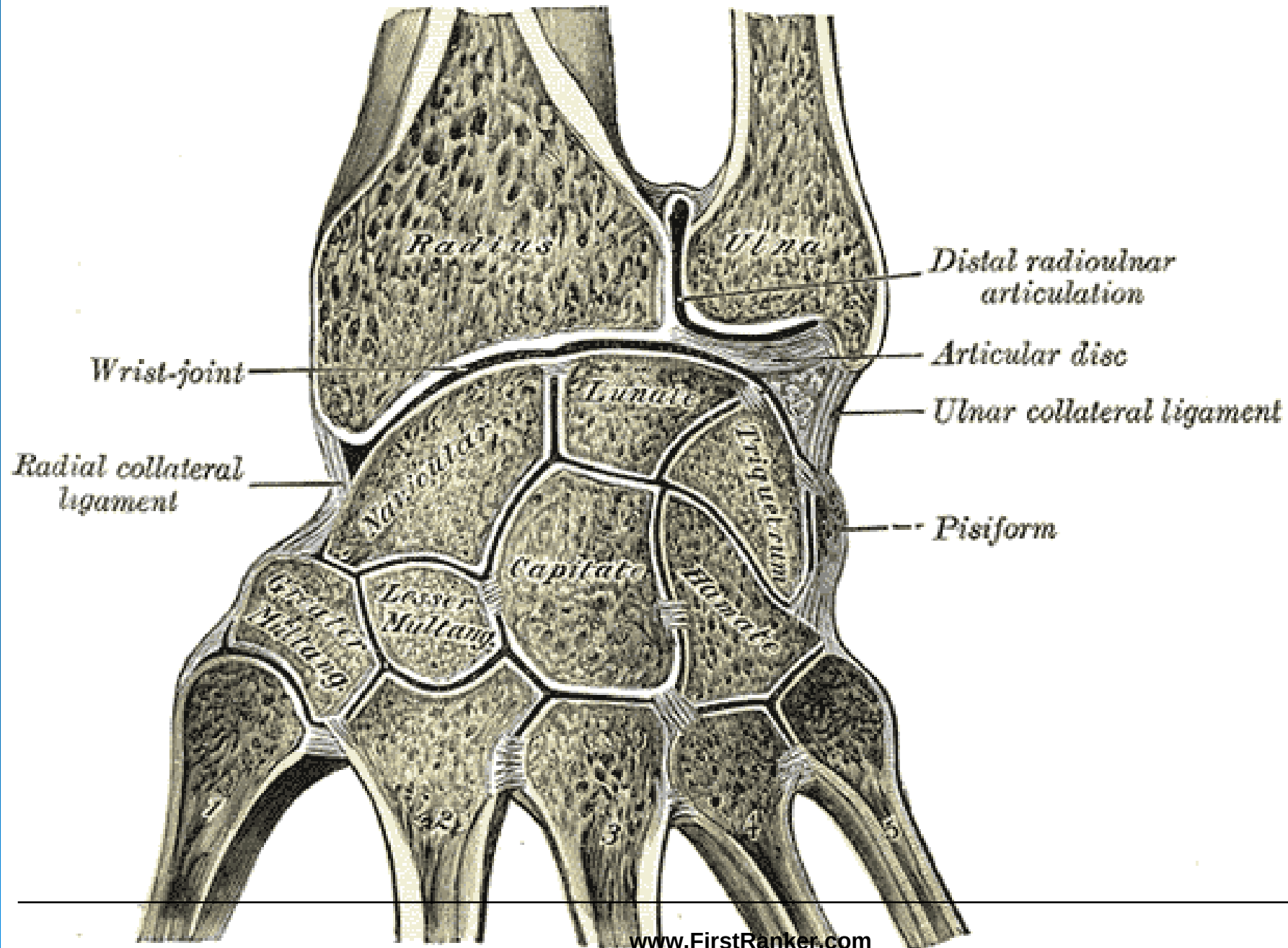


TYPES OF SYNOVIAL JOINT

- Classified according to arrangement of articular surfaces and types of movement
- Plane joint
- Hinge
- Pivot
- Condylloid
- Ellipsoid
- Saddle
- Ball and socket

PLANE JOINT

- Opposed articular surfaces are flat, allowing bones to slide on one another
- Sternoclavicular and acromioclavicular joint



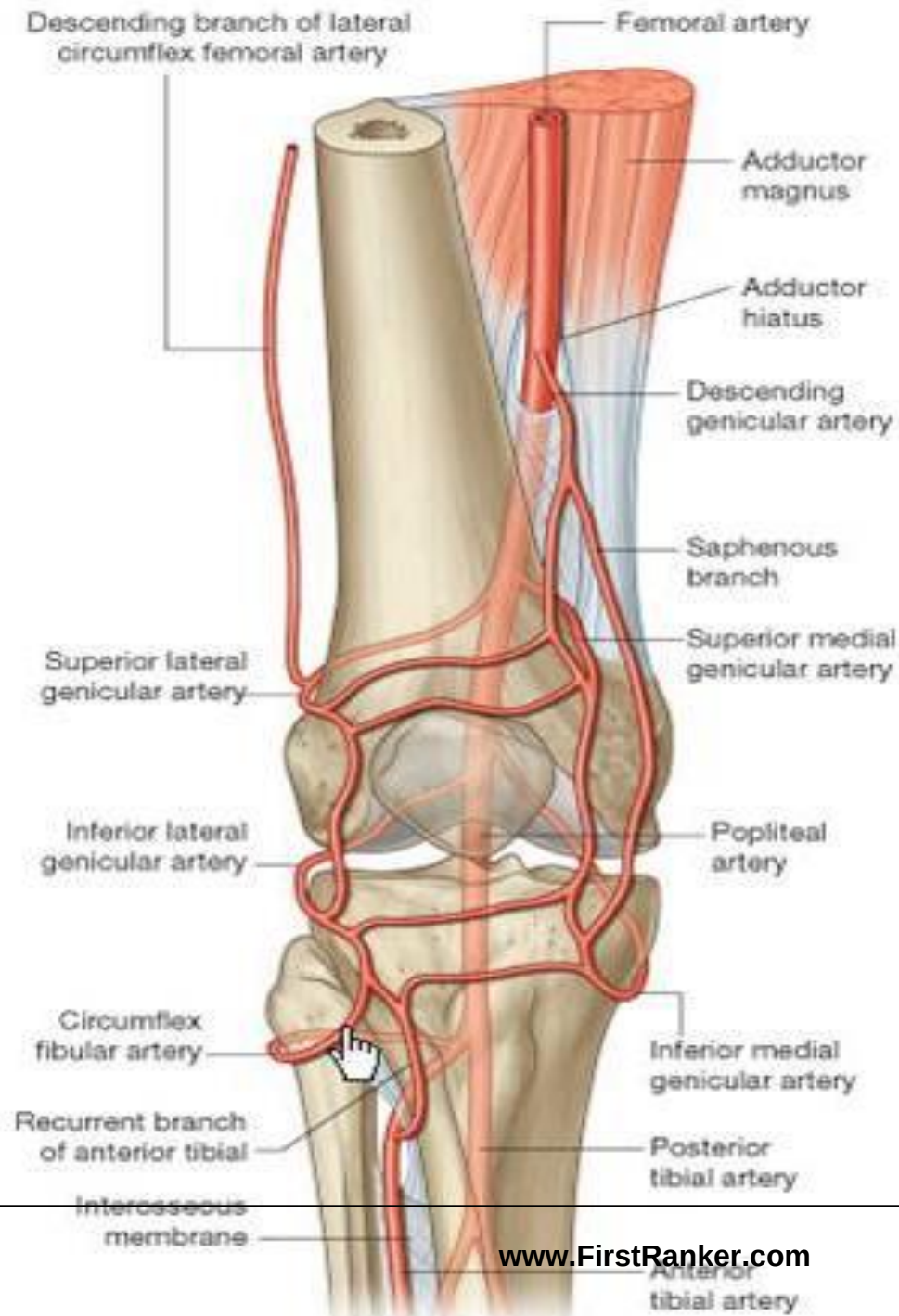
HINGE JOINT

- Resemble hinge on door
- Flexion and extension possible
- Elbow, knee and ankle joint



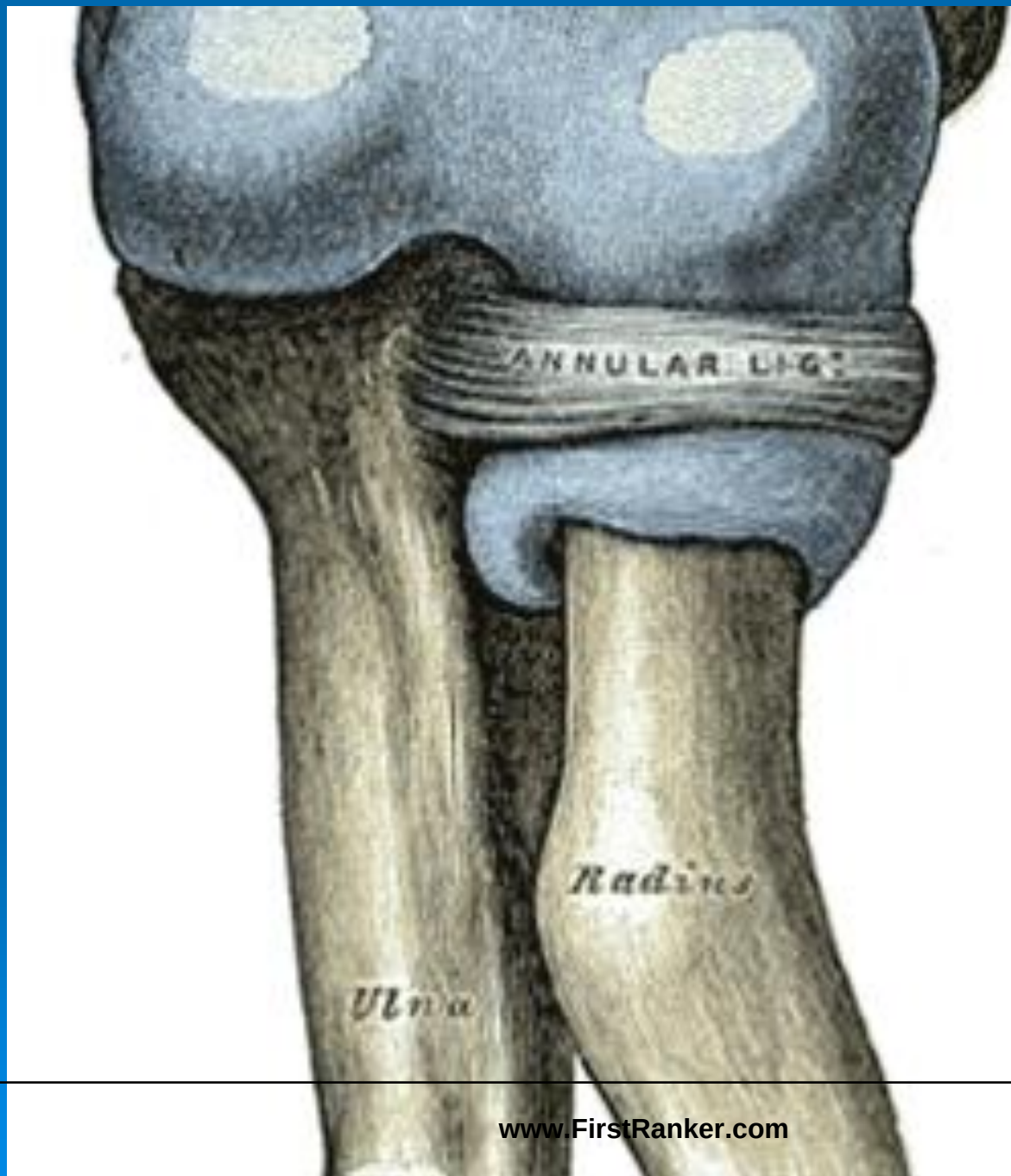
CONDYLOID JOINTS

- These are also known as bicondylar joints. Their articular surfaces consist of two distinct condyles in which one is fitting into a concave surface of the other bone. These joints mainly permit the movement in plane around a transverse axis. Example of this type of joints is knee joint



PIVOT JOINTS

- Pivot joints are formed by a central bony pivot surrounded by an osteo-ligamentous ring. Movements are permitted in one plane around a vertical axis. Examples of this type are superior and inferior radioulnar joints and atlantoaxial joint



SADDLE JOINT

- Each articular surface is shaped like a saddle, concave in one direction and convex in the other
 - Flexion, extension, abduction, adduction and rotation
 - carpometacarpal joint at the base of the thumb

Saddle joint
(trapeziometacarpal)

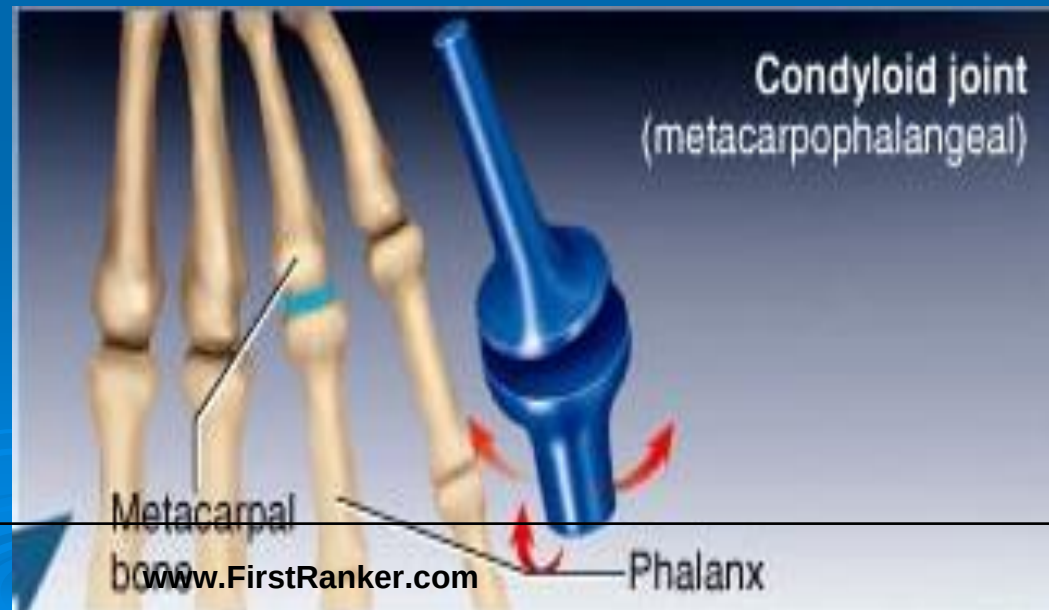
Carpal bone

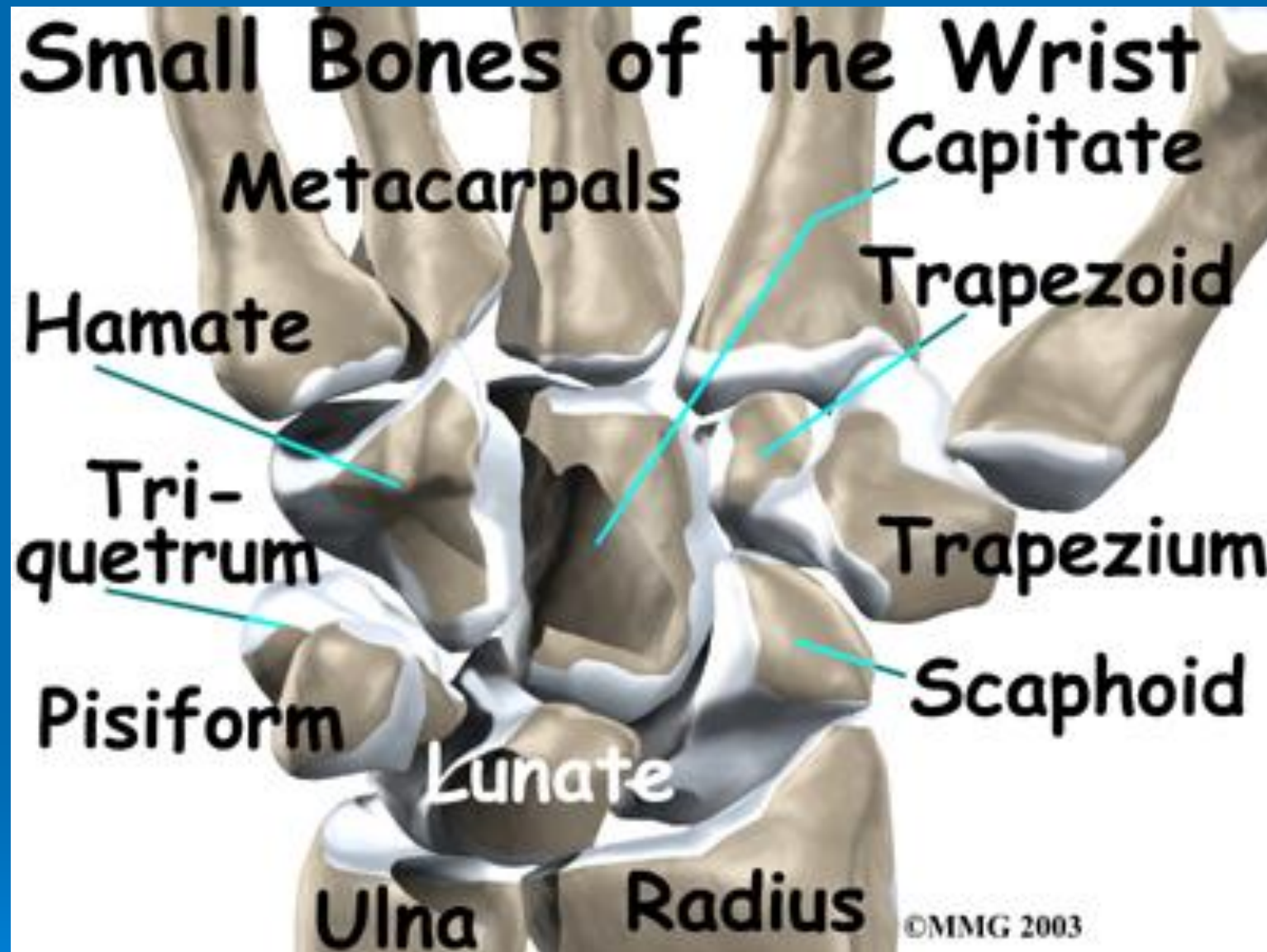
Metacarpal bone



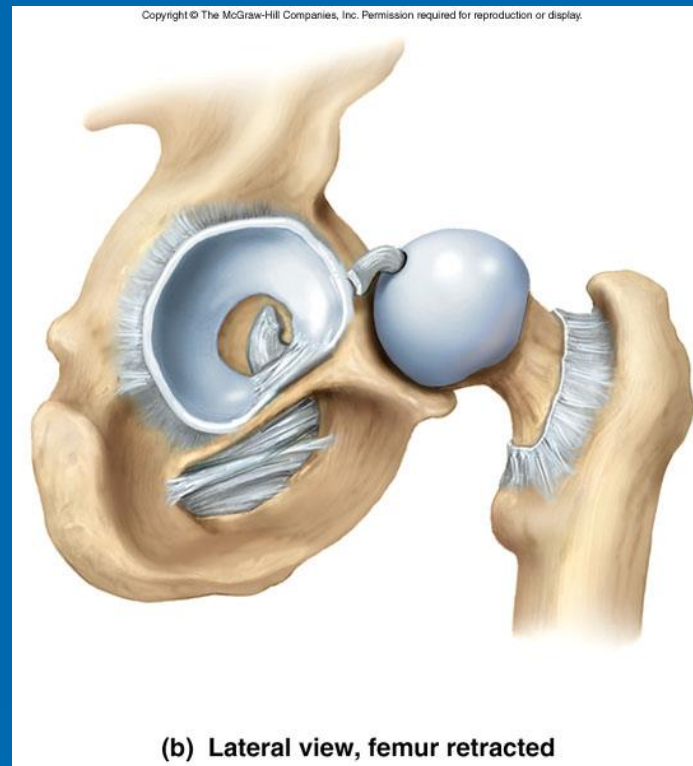
ELLIPSOID JOINTS

- Oval convex surface on one bone fits into a similarly shaped depression on the next
 - radiocarpal joint of the wrist
 - metacarpophalangeal joints at the bases of the fingers





BALL and SOCKET



- Socket deepened by acetabular labrum
- Blood supply to head of femur found in ligament of the head of the femur
- Joint capsule strengthened by ligaments

