**ARTICULATIONS**

Connects 2 bones, classified by structure or function

Joint classification

**Structure:**

1. Fibrous joints (held together by fibrous connective tissue)
2. Cartilagenous joints (held together by cartilage)
3. Synovial joints (complex structure with cartilage and cavities)

**Function**:

1. Synarthroses (immovable)
2. Amphiarthroses (Slightly movable)
3. Diarthroses (Freely movable)

**Extra: Bony joint (SYNOSTOSIS)**

 Immovable
 found when two bones OSSIFY together/merge/weld (come cranial sutures and growth plate)

**FIBROUS joints**

1. Suture – SYNARTHROSES, immovable joints in the skull
	1. Serrated – Most sutures are classified as this and squamous (coronal)
	2. lap/squamous – diagonal or crooked
	3. straight - Intermaxillary suture (becomes a synostosis later in life)
2. Gomphosis – Where teeth attach to bone
3. Syndesmosis –fibula to tibia and ulna to radius at distal ends

**CARTILAGENOUS Joints (amphiarthroses)**

1. Synchondroses - bound by hyaline cartilage (costal cartilage…first rib attached to sternum)
2. Symphyses – Fibrous cartilage (between vertebrae/pubic bone)

**SYNOVIAL joints (diarthroses)**

1. VERY COMPLEX – separated by synovial space (synovial cavity) that holds synovial fluid
2. ALBUMIN…where else is that found!?
3. Joint membrane consists of an outer fibrous capsule that continues with the periosteum
4. Inner synovial membrane secretes synovial fluid into the joint capsule
5. Both bones have articular cartilage for cushioning
6. Bones held together by ligaments – put bones together properly so articular cartilage can “ride” together properly.

**Type of joints by SHAPE:**

1. Ball in socket (hips/shoulders) THE ONLY MULTIDIRECTIONAL JOINTS
2. Hinge joints (Ulna and femur, fingers) RAZOR FLIP PHONE
3. Pivot joints (neck (atlas and axis) and forearm) 1 BONE SPINS ON ANOTHER (SAYING NO, supination and pronation)
4. Saddle joints (thumb, clavicle to sternum)
5. Condyloid joints (fingers)
6. Gliding joints (patella to femur)

Articular disc (fibrous cartilage – in the knee called a meniscus)

 It usually refers to either of two specific parts of [cartilage](http://en.wikipedia.org/wiki/Cartilage) of the knee: The [lateral](http://en.wikipedia.org/wiki/Lateral_meniscus) and [medial menisci](http://en.wikipedia.org/wiki/Medial_meniscus). Both are [cartilaginous](http://en.wikipedia.org/wiki/Cartilaginous#Fibrocartilage) tissues that provide structural integrity to the knee when it undergoes [tension](http://en.wikipedia.org/wiki/Tension_%28mechanics%29) and [torsion](http://en.wikipedia.org/wiki/Torsion_%28mechanics%29).

Hip and knee replacements – An increase in obesity and arthritis -- combined with a larger elderly population -- has prompted a steep rise in these surgeries. Arthritis most common in the older generations which are most commonly the ones getting these surgeries.

Rheumatoid arthritis – autoimmune disease which means the body's immune system mistakenly attacks healthy tissue. - Rheumatoid arthritis (RA) is a long-term disease that leads to inflammation of the joints and surrounding tissues. It can also affect other organs.

may affect many tissues and organs, but principally attacks flexible ([synovial](http://en.wikipedia.org/wiki/Synovial_joints)) joints.

About 1% of the world's population has rheumatoid arthritis, women three times more often than men.

Osteoarthritis – bone degeneration due to old age

**MOVEMENTS**

Abduction (arm up like a jumping jack)

Adduction (arm down like a jumping jack)

Elevation (raise shoulders up)

Depression (lower shoulders down)

Protraction (moving body part to anterior put arm out in front of you)

Retraction (pull shoulders back to posterior portion of body)

Flexion (flex your arm muscles!) Pull upper body forward

Extension (straight arm out to side) Back to midline

Hyperextension – pull upper body posterior past midline

Supination – palm up

Pronation – palm down

Inversion – pull feet so bottoms (plantar surfaces) are towards midline

Eversion – pull feet so bottoms (plantar surfaces) are lateral facing

Dorsiflexion – pull so toes are superior to heel (plantar surface more anterior)

Plantar flexion – pull so toes are inferior to heel (plantar surface more posterior)