

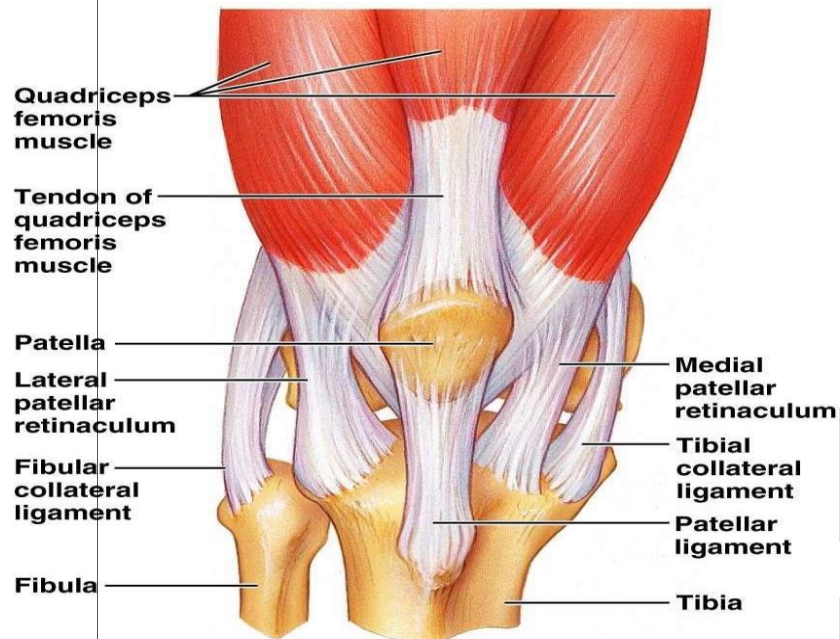
HUMAN ANATOMY AND PHYSIOLOGY-I, BP-101(T)

UNIT-II (Integumentary system)

CLASS-9

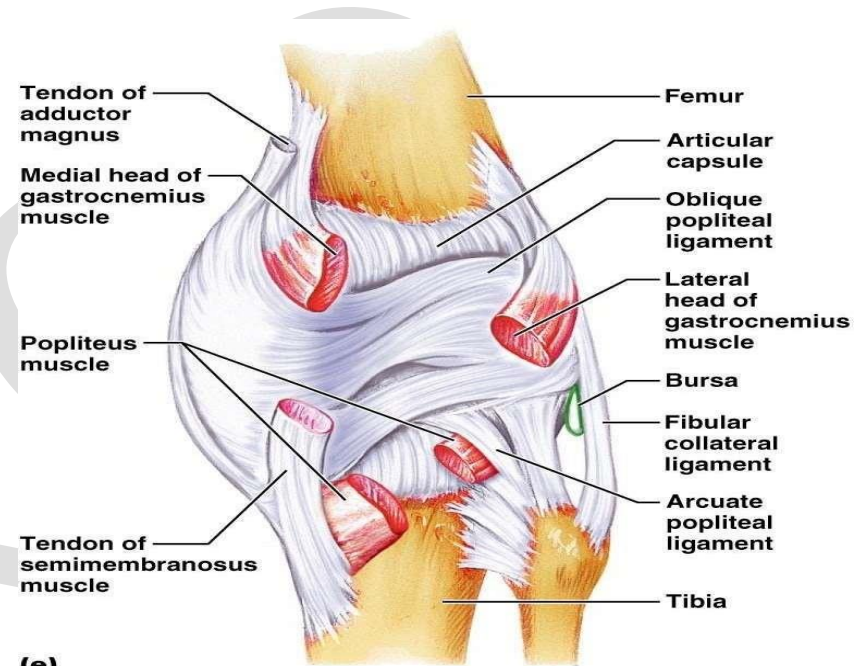
TOPIC – Structural and Functional Classification of Joints

Knee Joint



(c)

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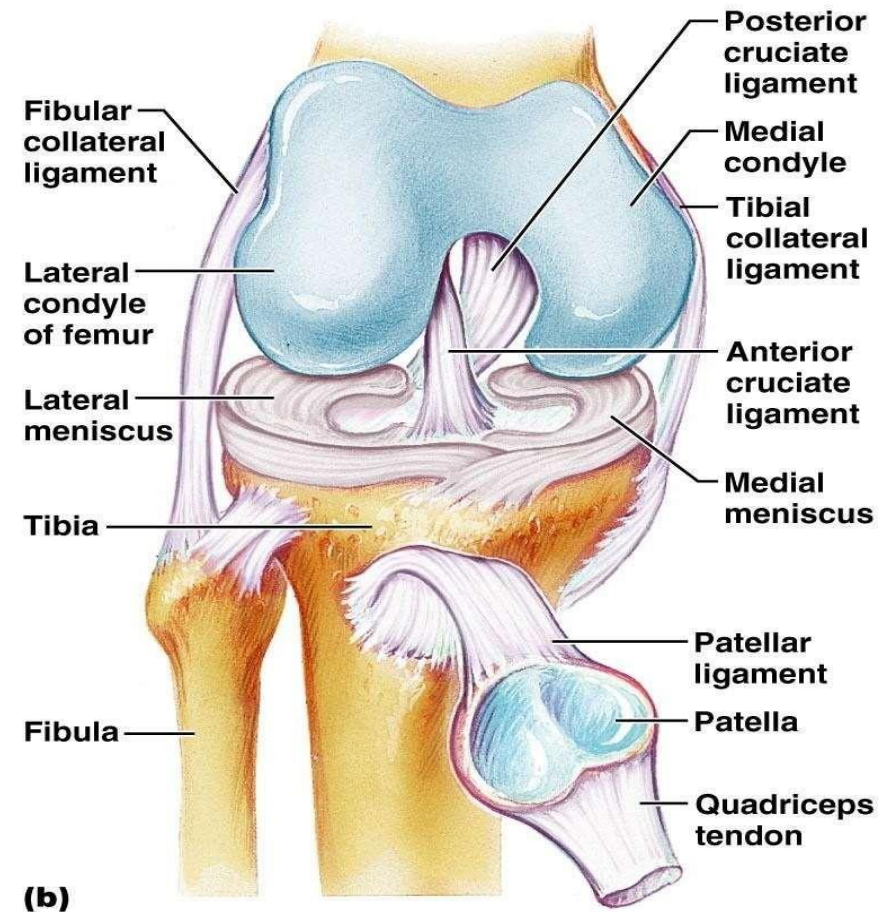
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- **Intercapsular ligaments:** are within the joint and include the **Anterior & Posterior Cruciate ligaments.**

* Ant. cruciate: extends from the ant. intercondylar area of tibia to lat. condyle of femur

* post. cruciate: extends from the post. Inter-condylar area of tibia to the medial condyle of femur.

- **Menisci** – Interarticular fibrocartilage separating the articular surfaces of tibia and fibula.



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Hip Joint

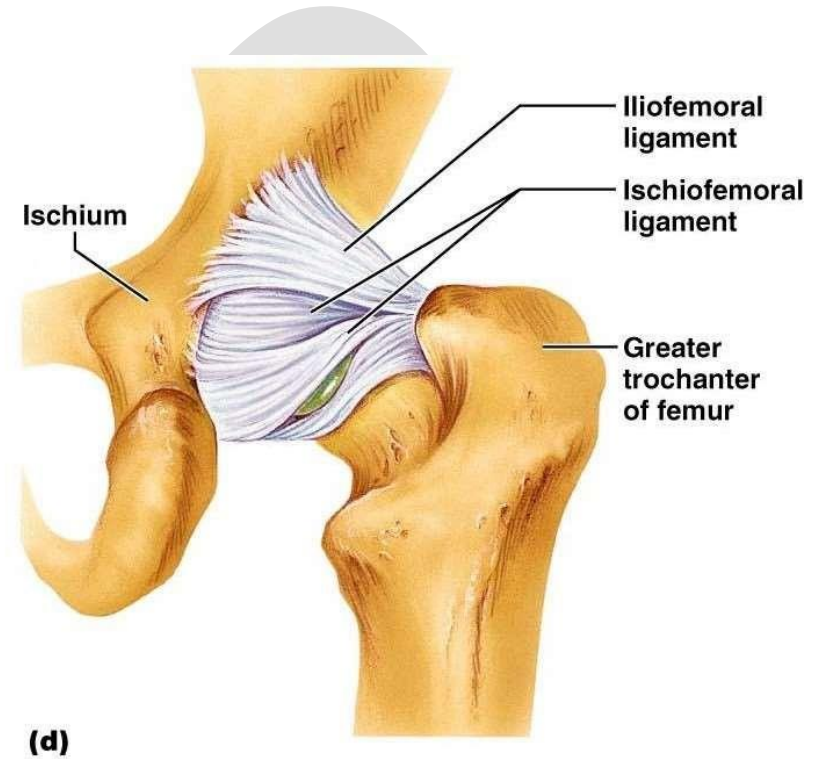
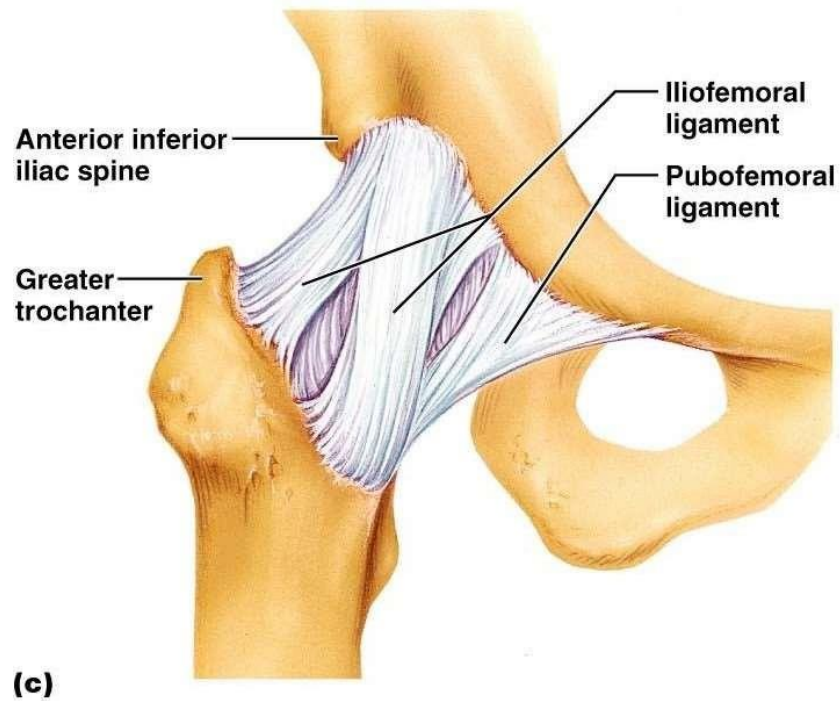
- Ball and socket joint
- Ligaments:

Iliofemoral ligament – connects the Anterior inferior iliac spine to intertrochanteric line between lesser and greater trochanter).

Pubofemoral ligament – extends between the superior portion of pubis and the iliofemoral ligament.

Ischiofemoral ligament – extends from ischium to the joint capsule itself.

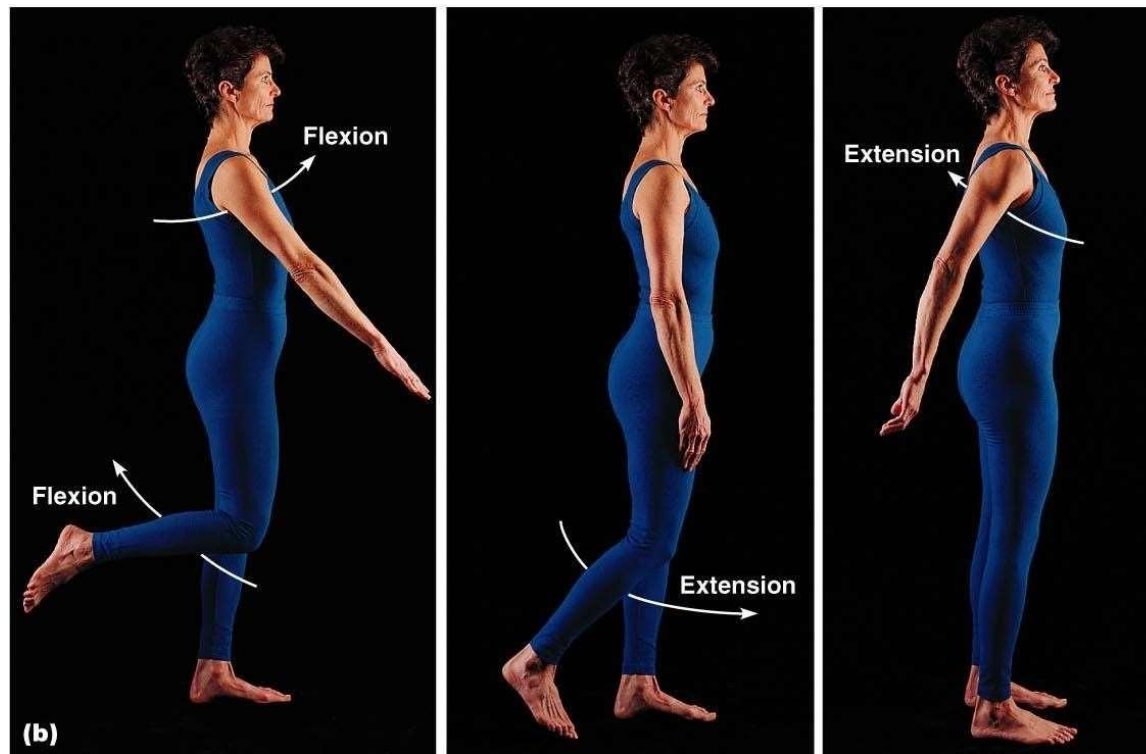
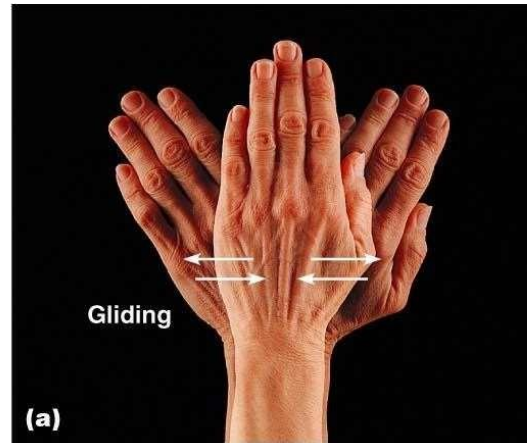
Hip Joint

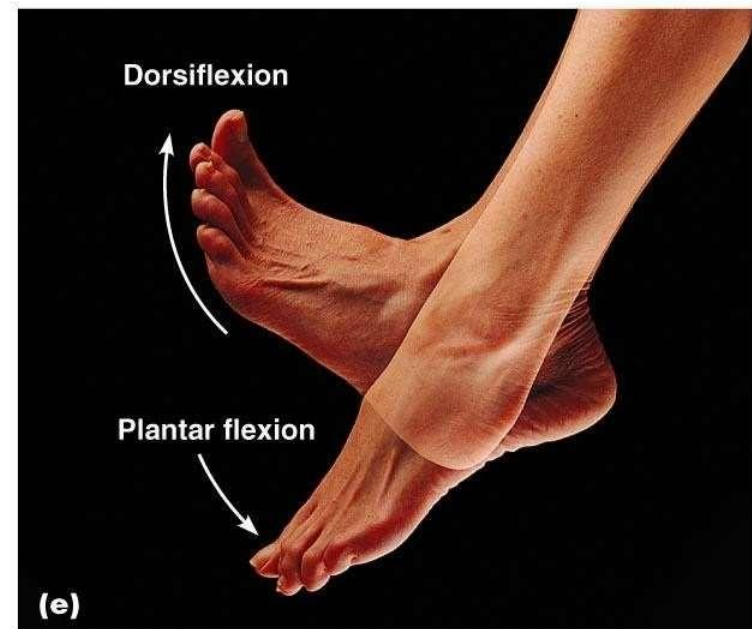
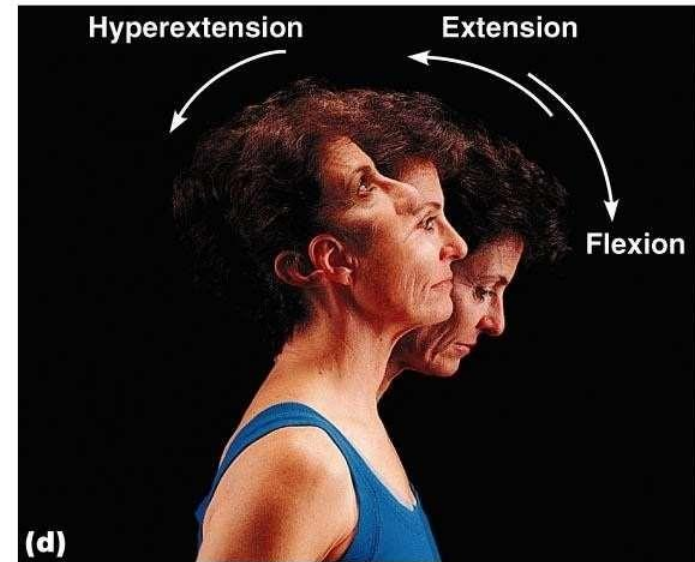
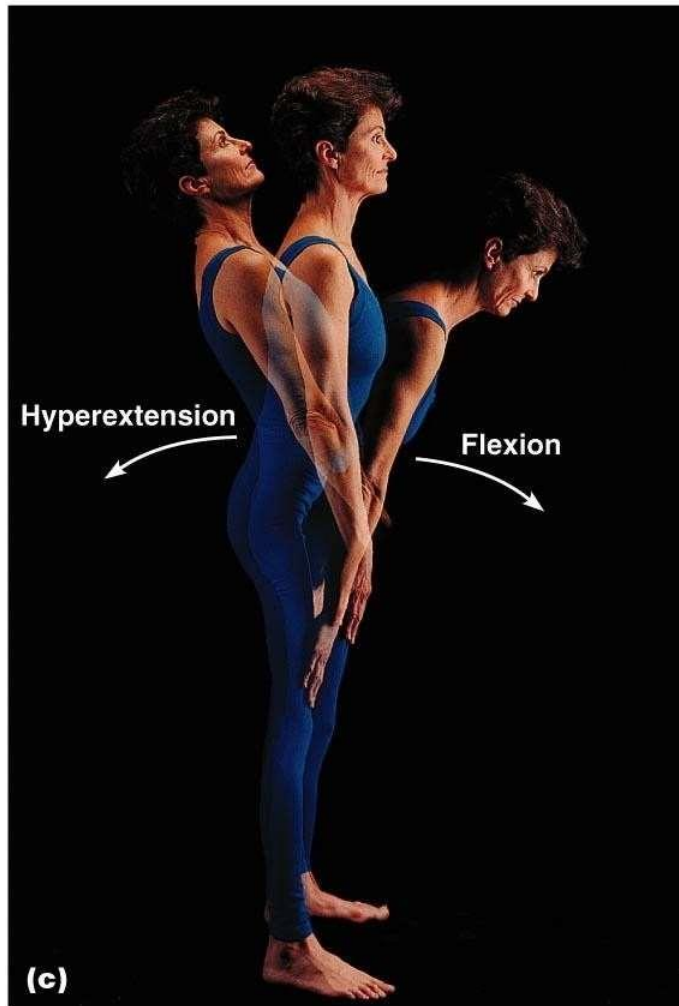


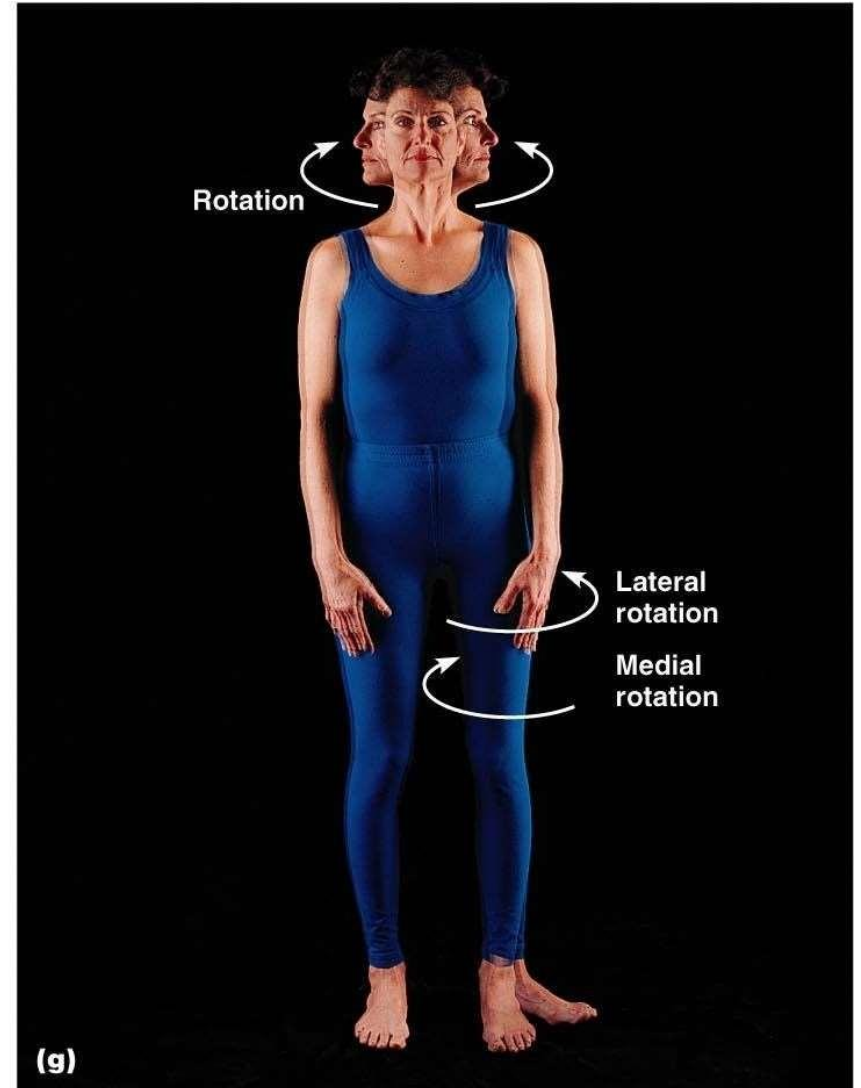
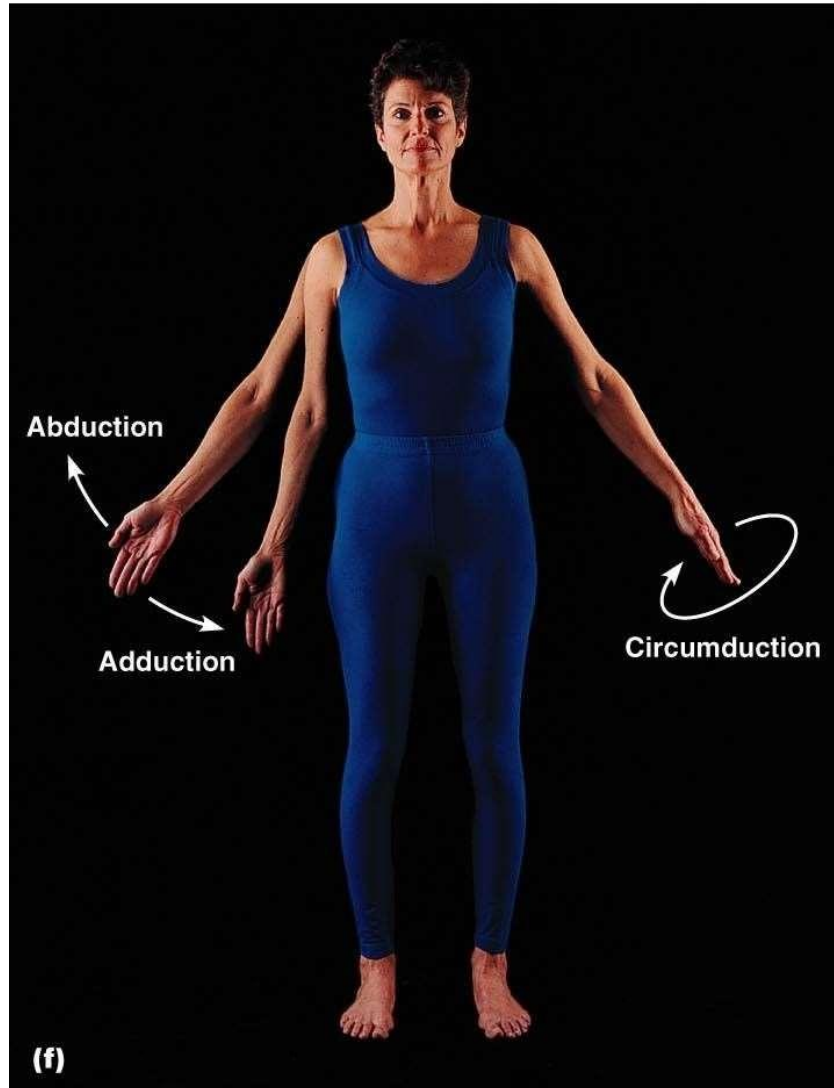
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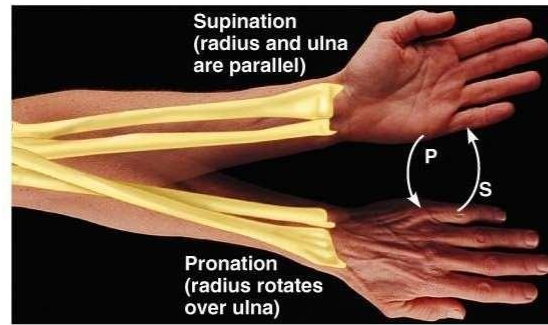
Joint Motion

1. Types of joint movements should be studied in the following diagrams.
2. For each movement, the definition and an example should be learned.
3. One way to remember these movements is by their opposite direction.
 - Flexion vs. Extension
 - Abduction vs. Adduction
 - Supination vs. Pronation
 - Dorsiflexion vs. Plantar flexion
 - Eversion vs. Inversion
 - Protraction vs. Retraction
 - Elevation vs. Depression

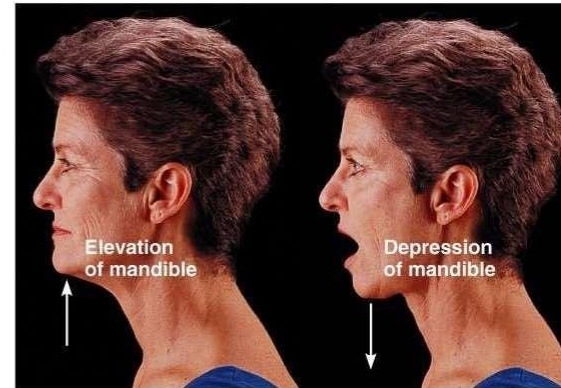




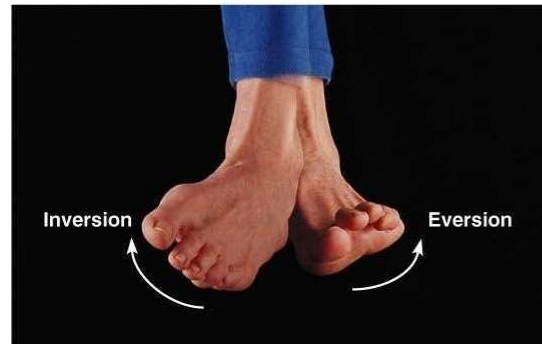




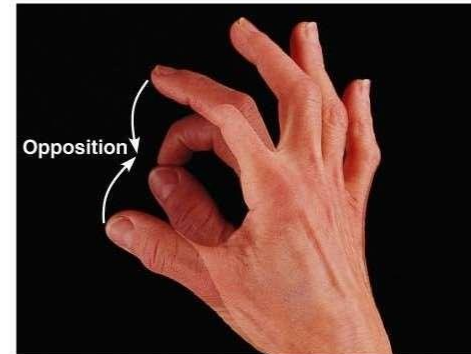
(a) Supination (S) and pronation (P)



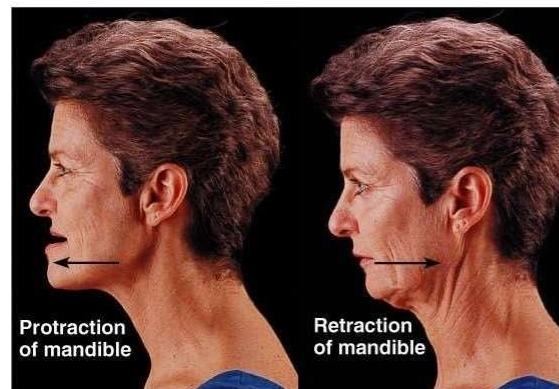
(d) Elevation and depression



(b) Inversion and eversion



(e) Opposition



(c) Protraction and retraction

Disorders of Joints

1. **Dislocation** = displacement of articulating bones of a joint, as a result of a fall or unusual body movements.
2. **Sprain** = results of overstretching or tearing of the connective tissue ligament, or tendon at a joint.
3. **Bursitis** = inflammation of the bursa (a sac filled with synovial fluid at the synovial joint) caused by excessive use of a joint.
4. **Arthritis** = inflammation of a joint that causes swelling and pain (rheumatoid arthritis is an **autoimmune** disease where white blood cells attack the joint tissues; while osteoarthritis is a natural degeneration of joint tissues).

Clinical Terms

- **Arthroscopic surgery:** removal of damaged cartilage from the joint.
- **Dislocation:** bone out of alignment at a joint.
- **Subluxation:** partial dislocation.
- **Bursitis:** inflammation of bursa caused by trauma or excessive friction.
- **Arthritis:** inflammatory or Degenerative Joint Disease (DJD) that damage the joints.
- **Osteoarthritis:** non-inflammatory arthritis, mostly seen in elderly.
- **Rheumatoid arthritis:** an autoimmune disease involving severe inflammation of joints, very painful.
- **Sprain:** result from overstretching or tearing of connective tissues, ligaments, and tendons associated with a joint.

IMPORTANT QUESTIONS:**2M QUESTIONS:**

1. Define skin and its functions.
2. Enlist the layers of skin.
3. Define muscle tone
4. Differentiate osteoclast and osteoblast.
5. Define skeletal system and its functions.
6. Differentiate tendon and ligament.
7. Define muscle contraction.
8. Define neuromuscular junction
9. Explain largest and shortest bones of human body
10. Name the largest nerve of human body.
11. Define:
 1. Joint
 2. Synovial joint with examples.

5M QUESTIONS:

- 1) Explain the physiology of muscle contraction.
- 2) Write in details about structure and functions of skin.
- 3) Write a note on different types of joints.
- 4) Write features and functions of bones of axial and appendicular skeletal system.
- 5) Write in details about synovial joints and their function with the help of diagram.

10M QUESTIONS:

- 1) Write a note on different types of joints.
- 2) Write features and functions of bones of axial and appendicular skeletal system.
- 3) Write in details about synovial joints and their function with the help of diagram.