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Assignment for viva.

Question: Write a complete note on hip joint.

HIP JOINT

Articulation

It's the articulation between

- * Hemispherical head of the femur
- * Cup shaped acetabulum of the hip bone

Articular surfaces:

- * Covered with hyaline cartilage
- * Articular surface of acetabulum is horseshoe shaped
- * Deficient inferiorly at acetabular notch

Cavity of acetabulum:

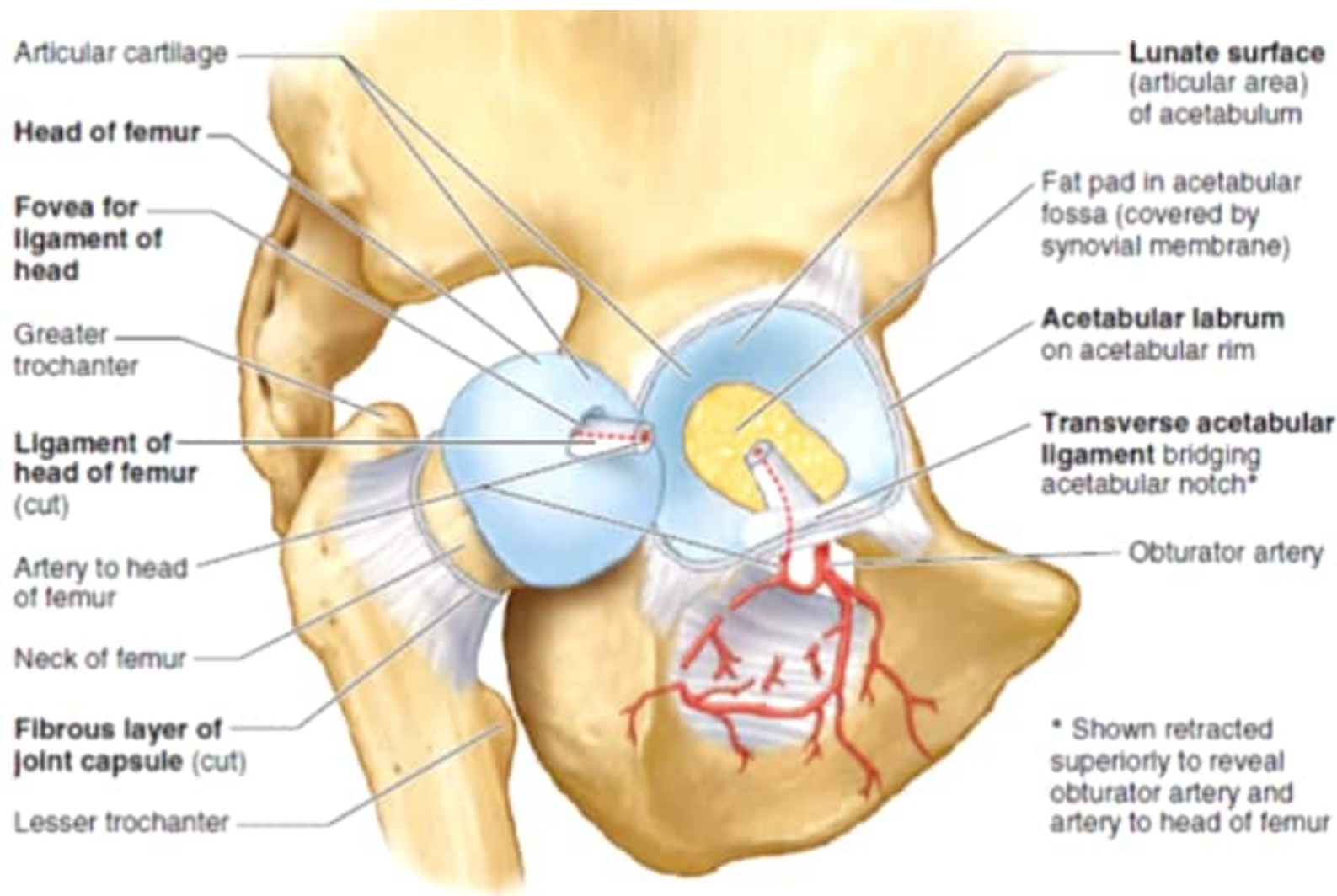
- * Deepened by the presence of fibrocartilaginous rim called acetabular labrum
- * The labrum bridges across the acetabular notch (transverse acetabular

Anatomy of the Hip Joint



Anterior (front)
view of the pelvis





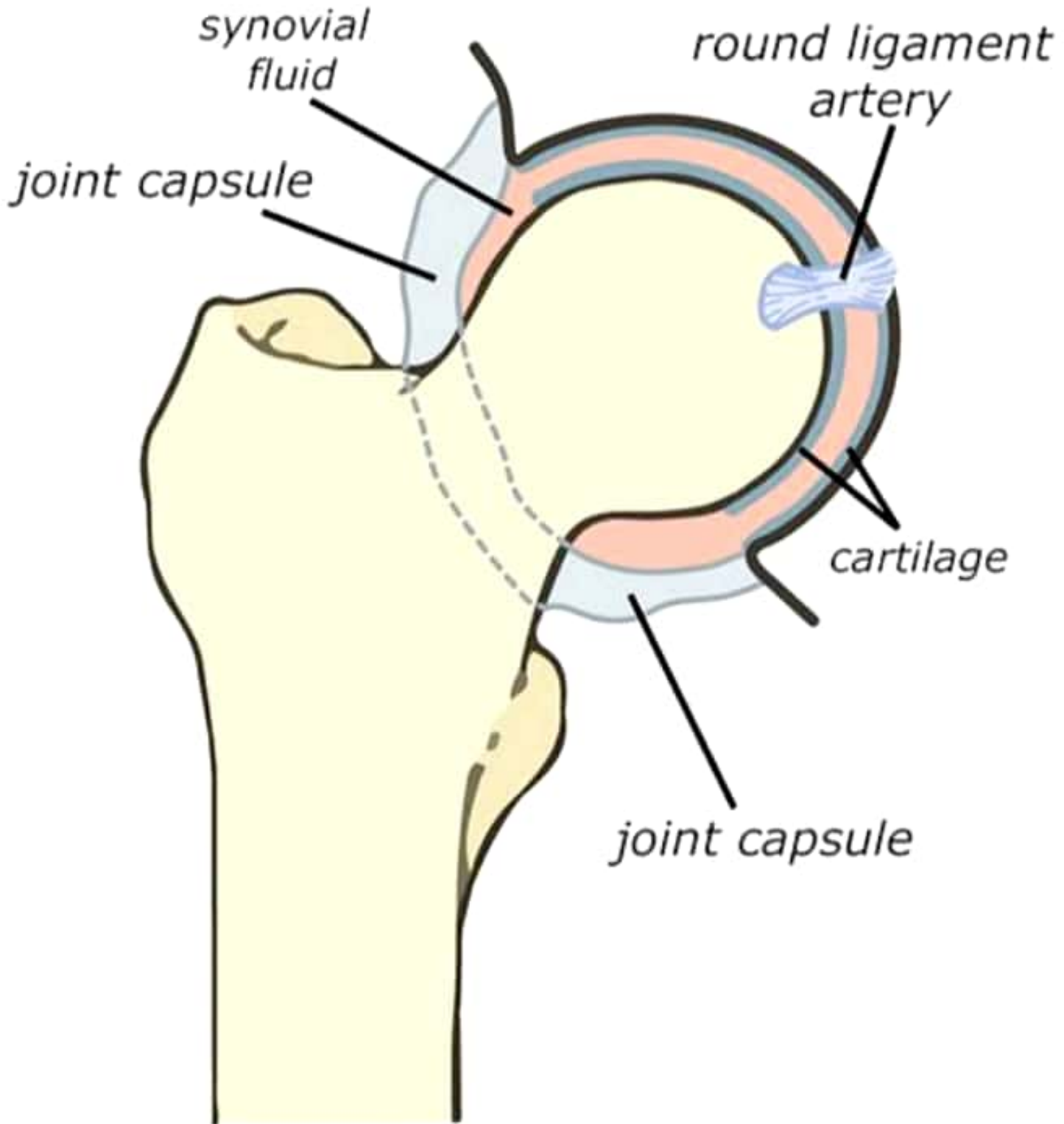
Lateral view

- * Articular surface of acetabulum is horse shoe shaped
- * Deficient inferiorly at acetabular notch

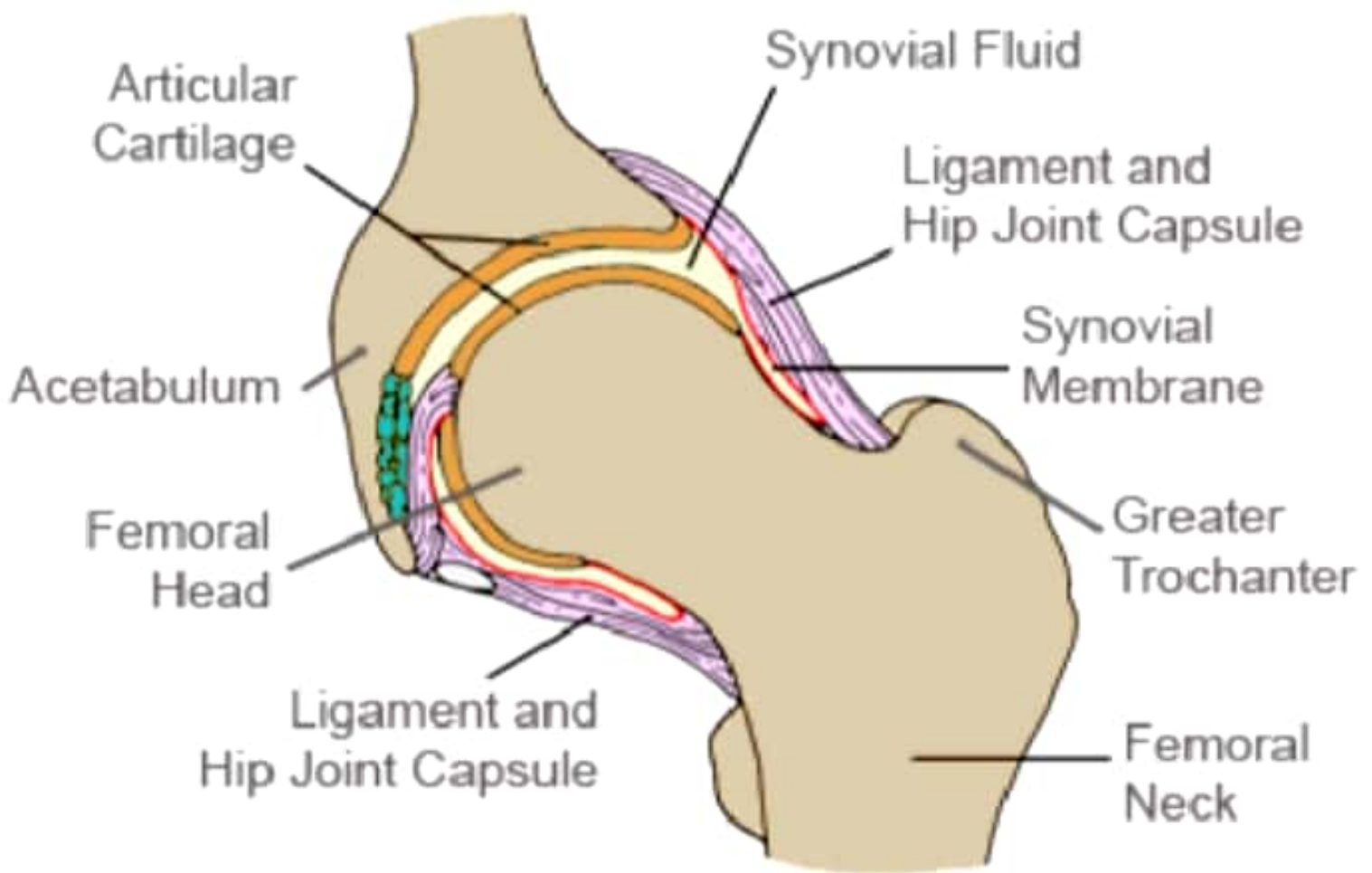
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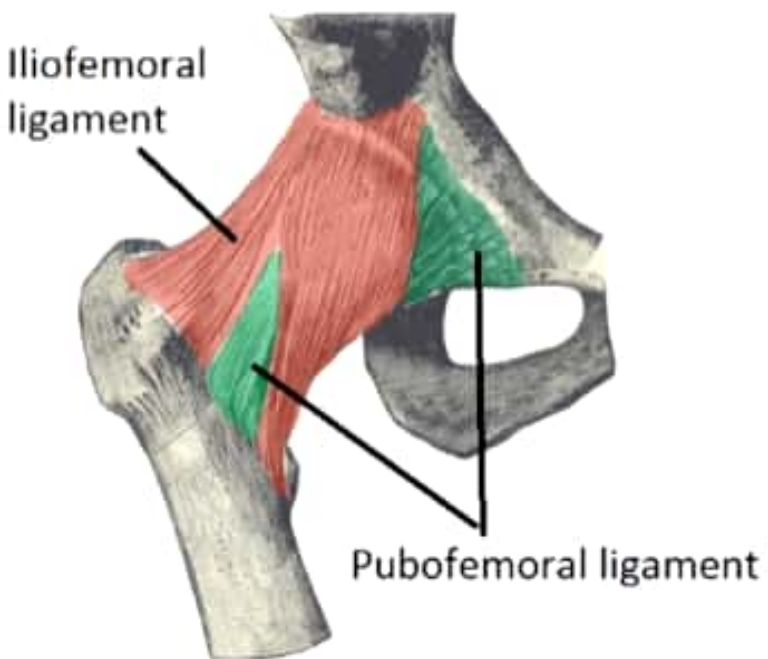
Hip joint capsule



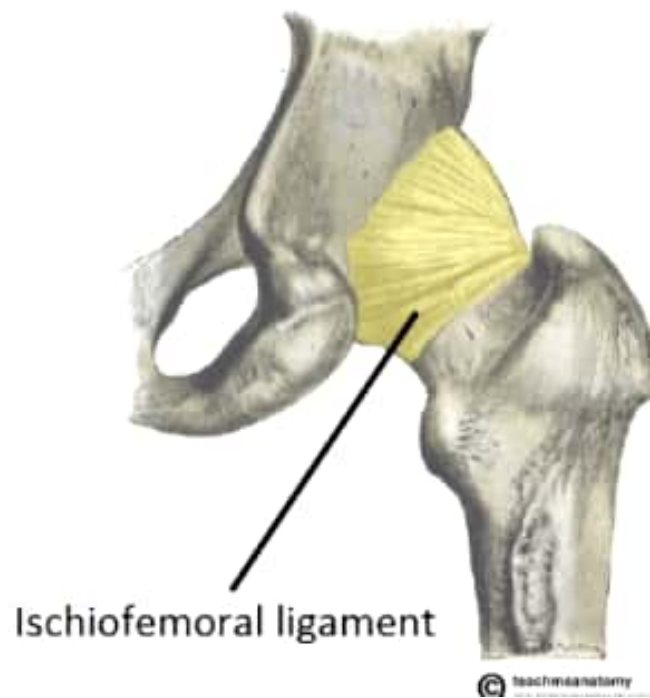
HIP JOINT



Anterior

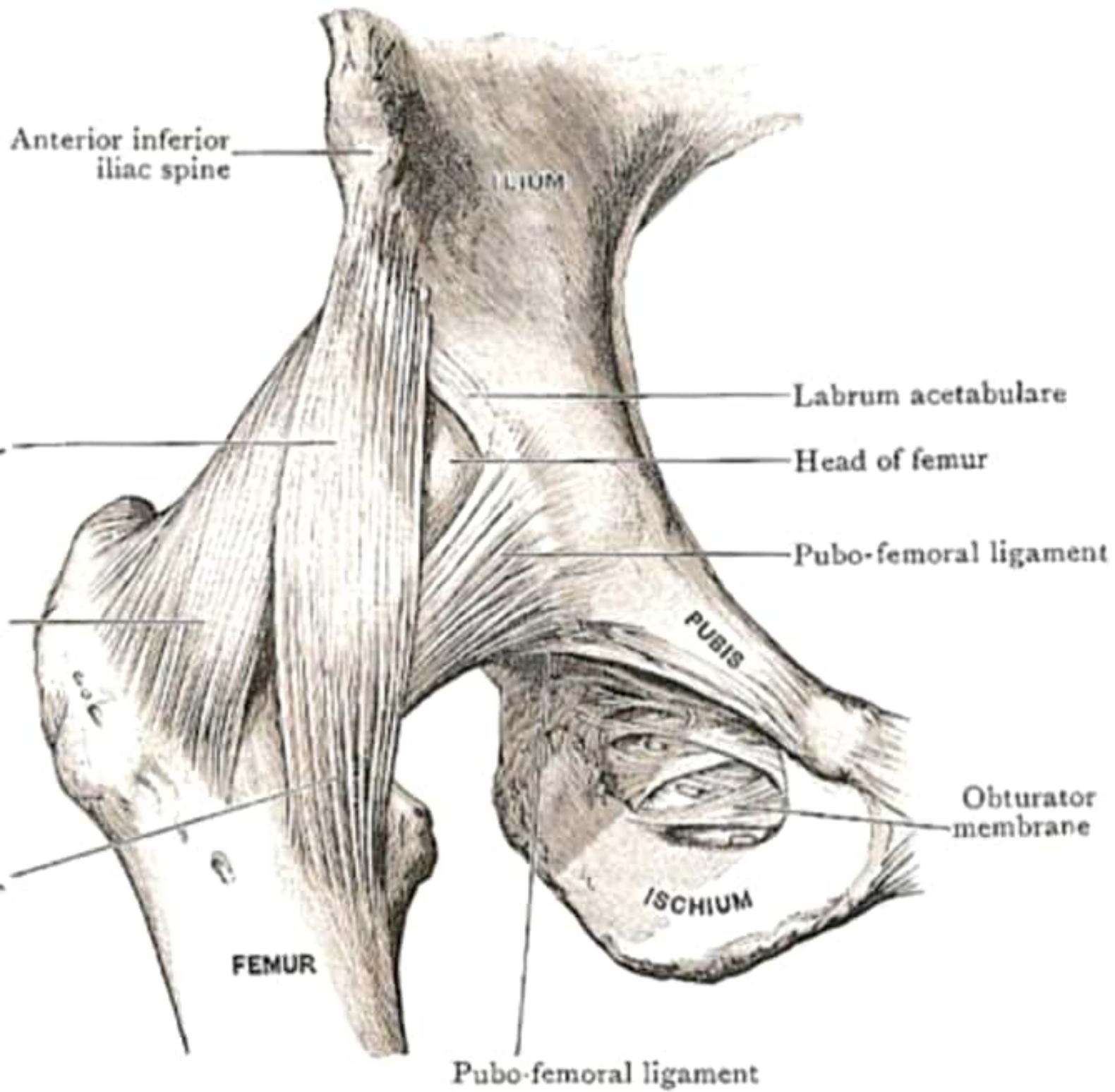


Posterior



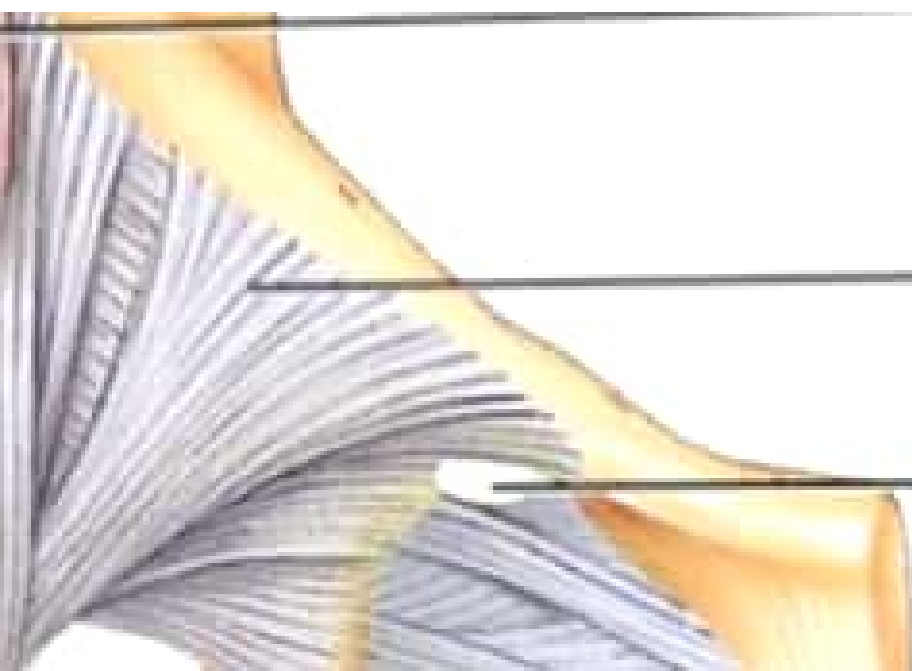
Iliofemoral ligament

- * Strong, inverted Y shaped ligament
- * Base is attached to the anterior inferior iliac spine ab
- * Below the 2 limbs of Y are attached to upper and low parts of intertrochanteric line of the femur
- * Prevents over extension during standing.



Pubofemoral ligament

- * Triangular shaped ligament.
- * Base is attached to superior ramus of pubis.
- * Apex attached to lower part of intertrochanteric line.
- * Limits extension and abduction.



tendon

PUBOFEMORAL
LIGAMENT

Obturator
canal

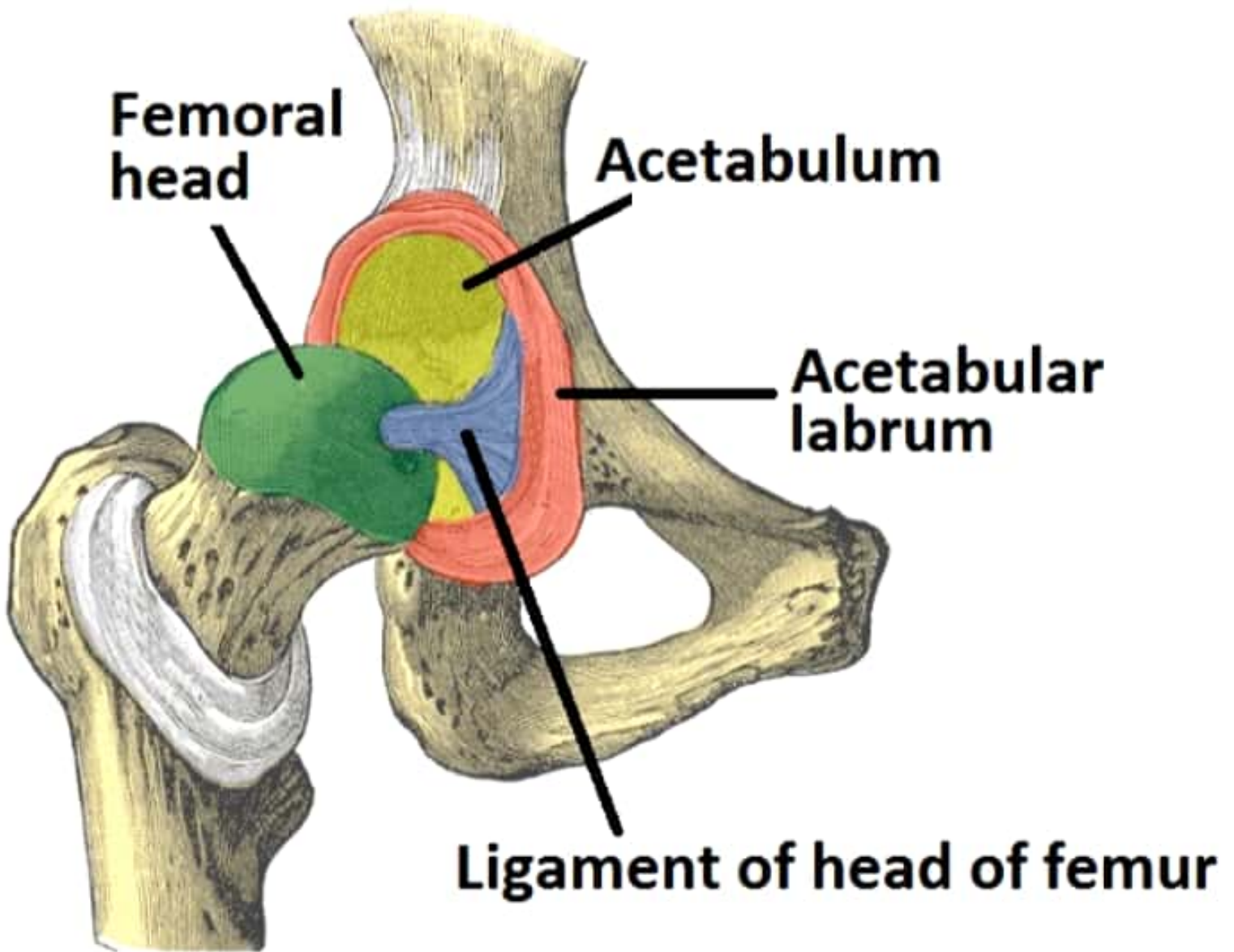
Obturator

Ischiofemoral ligament

- * Spiral shaped ligament.
- * Attached to body of ischium near acetabular margin.
- * Fibers pass upward and laterally and are attached to the trochanter.
- * Function: limits extension.

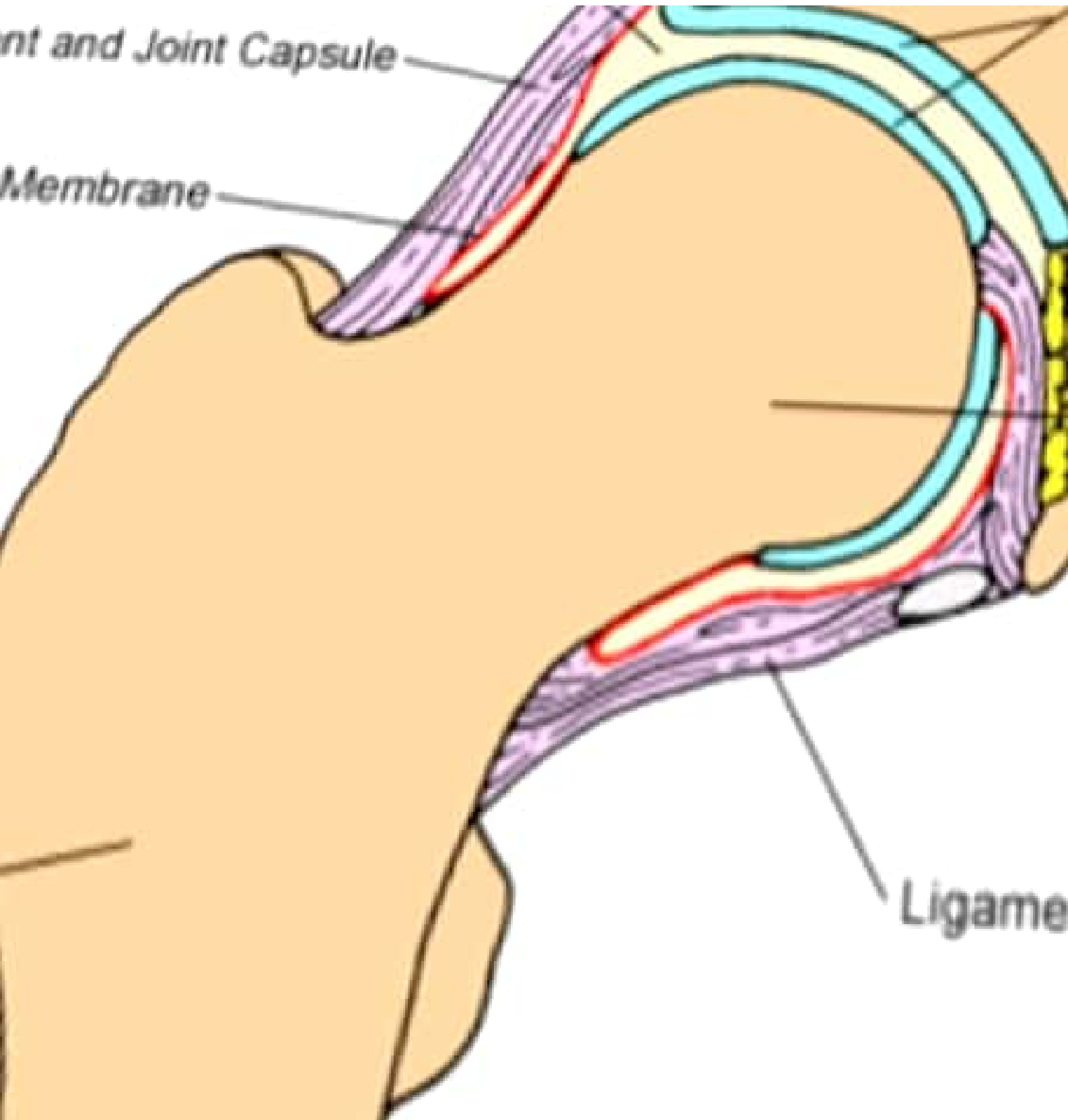
Ligament of the Head of the femur

- * Flat and triangular in shape.
- * Apex is attached to the pit on the head of the femur (fovea capitis).
- * Base is attached to the transverse ligament and the margins of the acetabular notch.
- * Lies within the joint.
- * covered by synovial membrane.



Synovial membrane of the hip joint

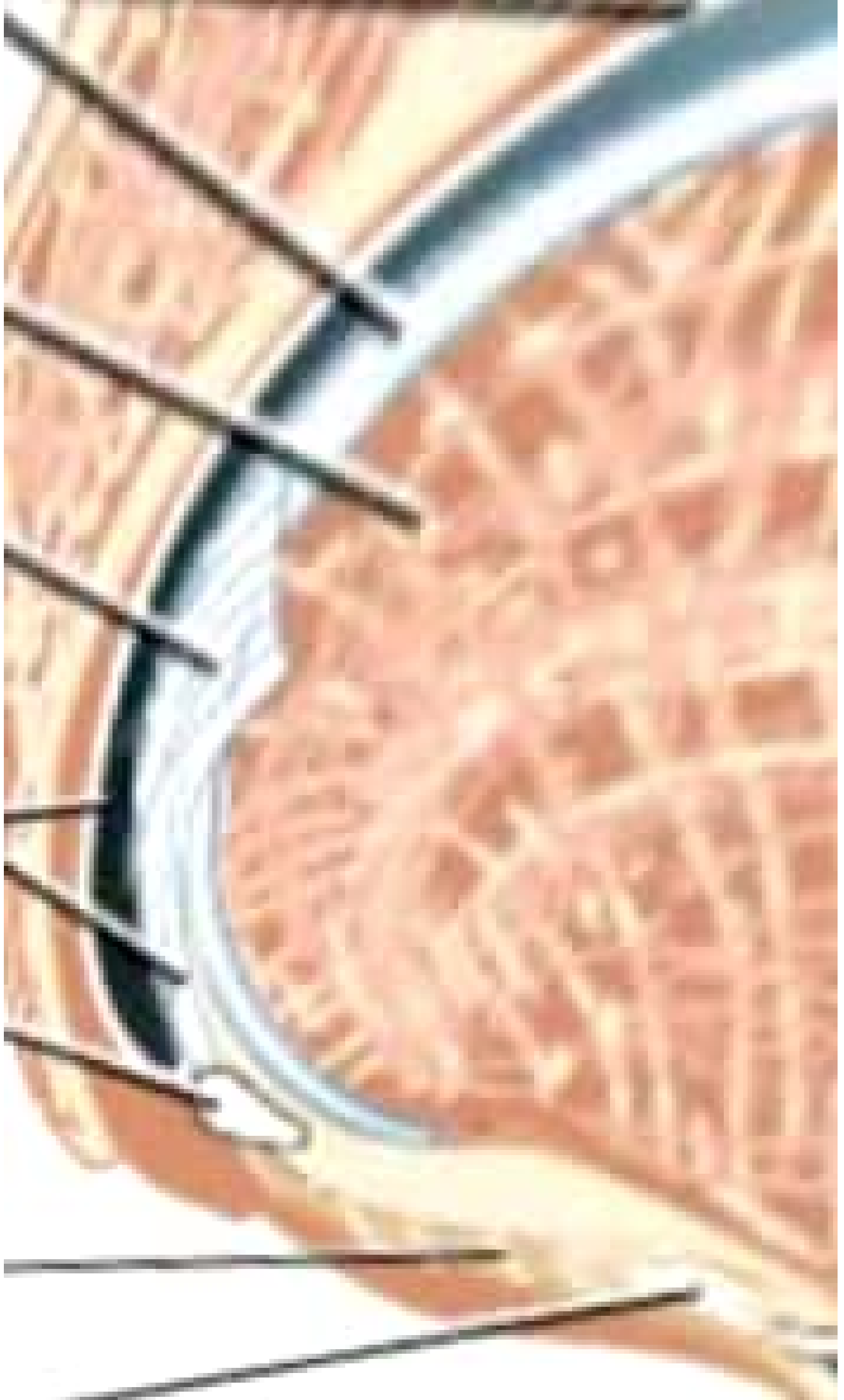
- * Lines the capsule.
- * the margins of the articular surfaces.
- * Covers the portion of the neck of the femur that lies within the joint capsule
- * Ensheathes ligament of the head of the femur.
- * Covers the pad of fat contained in the acetabular fossa.
- * Pouch of the membrane that protrudes through a gap in the anterior wall of the capsule between pubofemoral and iliofemoral ligaments forms psoas bursa beneath psoas tendon.



Joint and Joint Capsule

Membrane

Ligament



Medial and lateral circumflex femoral artery

Obturator artery

Superior and inferior gluteal artery.

Important relations

Anteriorly

- Iliopsoas, pectineus, rectus femoris muscles.
- Iliopsoas and pectineus separate muscles femoral nerves and vessels from the joint.

Posteriorly

- Obturator internus, gemelli, quadratus femoris.
- These muscle separate the joint from sciatic nerve.

Superiorly

- Piriformis

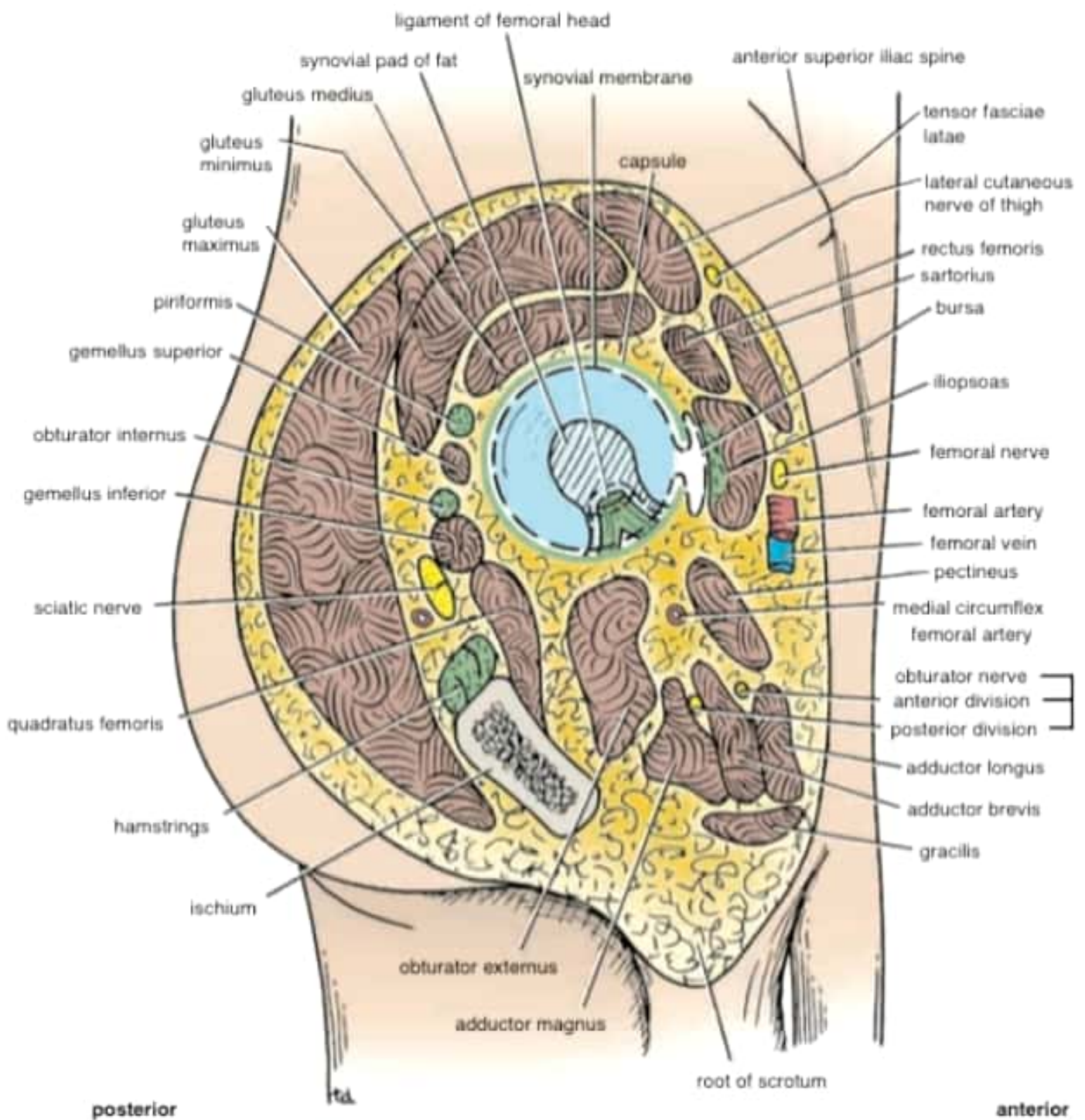


FIGURE 10.33 Structures surrounding the right hip joint.

Movements of hip joint

- * Wide range of movements.
- * Flexion and extension occur around transverse axis.
- * Medial and lateral rotation occur around vertical axis.
- * Abduction and adduction occur around horizontal axis.
- * **Flexion:**
 - * Bending of the trunk on extended lower limbs or bending of extended lower limbs on fixed trunk
 - * Performed by iliopsoas, rectus femoris, sartorius and adductor muscles.

Extension:

- * Backward movement of the flexed thigh
- * Performed by gluteus maximus and hamstring muscles.

Adduction:

- * Movement towards the other thigh
- * Performed by adductor longus, brevis and adductor fibers of adductor magnus.

Abduction:

- * Movement away from the other thigh
- * Performed by gluteus medius and minimus, assisted by sartorius, piriformis and tensor fasciae latae.

Lateral rotation:

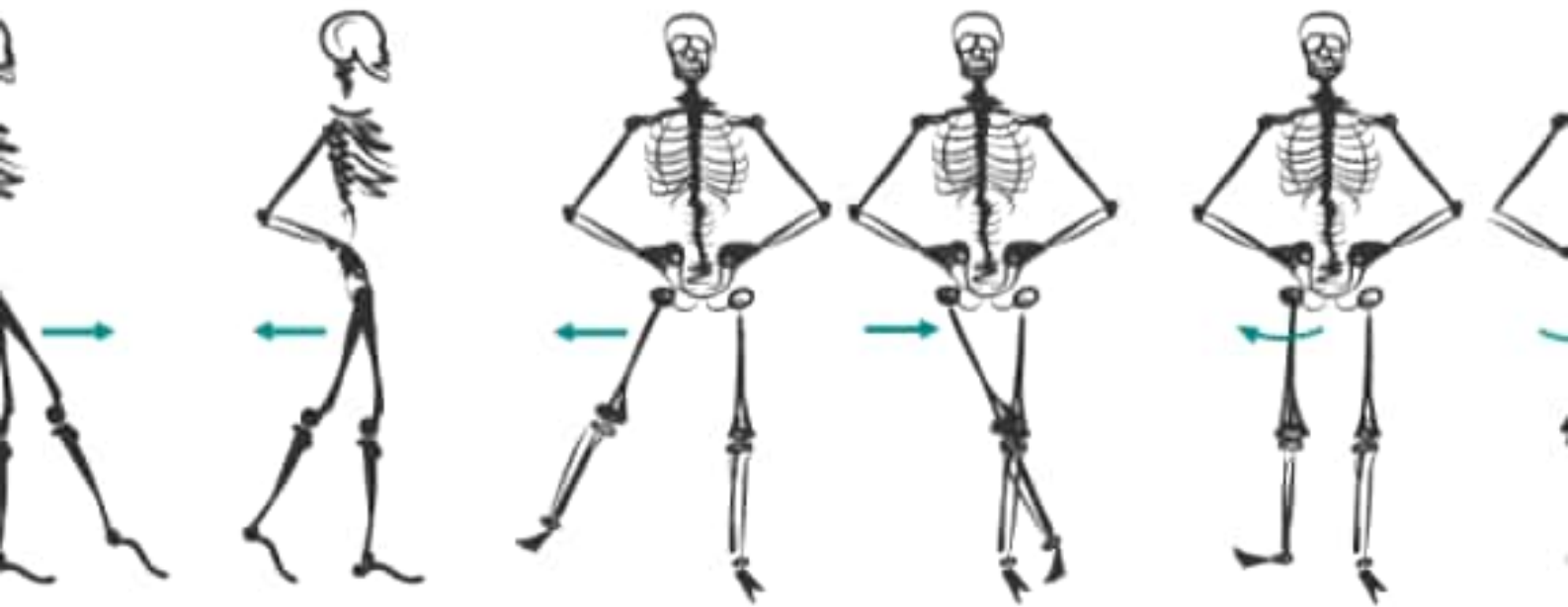
- * Twisting the thigh laterally
- * Performed by piriformis, obturator internus, externus, superior and inferior gemelli and quadratus femoris.

Medial rotation:

- * Twisting the thigh medially
- * Performed by anterior fibers of gluteus medius, gluteus minimus and tensor fasciae latae.

Circumduction :

- * Combination of the previous movements



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