

1•The adult human skull consists of two regions of different embryological origins: the neurocranium and the viscerocranium.

The neurocranium forms the cranial cavity that surrounds and protects the brain and brainstem. The neurocranium is formed from the occipital bone, two temporal bones, two parietal bones, the sphenoid, ethmoid and frontal bones; they are all joined together with sutures while

The viscerocranium bones form the anterior and lower regions of the skull and include the mandible, which attaches through the only truly motile joint found in the skull. The facial skeleton contains the vomer, two nasal conchae, two nasal bones, two maxilla, the mandible, two palatine bones, two zygomatic bones, and two lacrimal bones.

2•

The femoral triangle is a hollow area in the anterior thigh. Many large neurovascular structures pass through this area, and can be accessed relatively easily. Thus, it is an area of both anatomical and clinical importance. The femoral triangle has some borders they include:

- Superior border – Formed by the inguinal ligament, a ligament that runs from the anterior superior iliac spine to the pubic tubercle.

- Lateral border – Formed by the medial border of the sartorius muscle.

- Medial border – Formed by the medial border of the adductor longus muscle. The rest of this muscle forms part of the floor of the triangle.

It also has a floor and a roof they include:

- Anteriorly, the roof of the femoral triangle is formed by the fascia lata.

- Posteriorly, the base of the femoral triangle is formed by the pectineus, iliopsoas and adductor longus muscles.

The inguinal ligament acts as a flexor retinaculum, supporting the contents of the femoral triangle during flexion at the hip.

The femoral triangle contains some of the major neurovascular structures of the lower limb. Its contents (lateral to medial) are:

- Femoral nerve – Innervates the anterior compartment of the thigh, and provides sensory branches for the leg and foot.

- Femoral artery – Responsible for the majority of the arterial supply to the lower limb.

- Femoral vein – The great saphenous vein drains into the femoral vein within the triangle.

- Femoral canal – A structure which contains deep lymph nodes and vessels.

The femoral artery, vein and canal are contained within a fascial compartment – known as the femoral sheath.

3•

The four main groups of hip muscles are gluteal, adductor, iliopsoas, and lateral rotator, defined by the type of movement they mediate.

Gluteal group

- Gluteus Medius:The fan-shaped gluteus medius muscle lies between the gluteus maximus and

minimus and performs a similar function to the gluteus minimus.

Attachments: Originates from the posterior of the pelvis and attaches to the femur.

Actions: Abducts and medially rotates the thigh and fixes the pelvis during walking.

- Gluteus Maximus: The gluteus maximus is the largest of the gluteal muscles and gives structure to the buttocks.

Attachments: Originates from the posterior of the pelvis and coccyx (tailbone) and attaches to the femur.

Actions: Extends of the thigh and assists with rotation. Is only used when the generation of force is required (e.g. when climbing).

- Gluteus Minimus: The gluteus minimus is the deepest and smallest of the superficial gluteal muscles and performs a similar function to the gluteus medius.

Attachments: Originates from the pelvis and attaches to the femur.

Actions: Abducts and medially rotates the thigh and fixes the pelvis during walking.

Adductor group

Adductor Longus: The adductor longus is a large, flat muscle covering the adductor magnus and adductor brevis.

Attachment: Originates from the pubis and broadly attaches to the femur.

Actions: Adduction and medial rotation of the thigh.

Adductor Magnus: The adductor magnus is the largest and most posterior of the adductor group muscles.

Attachments: Originates from the pubis and attaches to the femur.

Actions: Adducts, flexes, and extends the thigh.

- Adductor Brevis: The adductor brevis is a short muscle lying underneath the adductor longus.

Attachments: Originates from the pubis and attaches to the femur.

- Actions: Adduction of the thigh.

Obturator Externus: This is one of the smaller muscles of the medial thigh, and it is located most superiorly.

Attachments: Originates from the pubis and attaches to the femur.

Actions: Laterally rotates the thigh.

- Gracilis: The gracilis is the most superficial and medial of the adductor group muscles. Crossing both the hip and knee joints, it can induce movement at both the hip and knee.

Attachments: Originates from the pubis and attaches to the tibia.

Actions: Adduction of the thigh at the hip, and flexing of the thigh at the knee.

Lateral Rotator Group

- Piriformis: The piriformis is the most superior of the lateral rotator group muscles.

Actions: Lateral rotation and abduction of the thigh at the hip.

- Obturator Internus: The obturator internus lines the internal wall of the pelvis.

Actions: Lateral rotation and abduction of the thigh at the hip.

- Gemelli: The gemelli are two (superior and inferior) narrow and triangular muscles, separated by the obturator internus tendon.

Actions: Lateral rotation and abduction of the thigh at the hip.

- Quadratus Femoris: The quadratus femoris is a flat, square-shaped muscle (actually composed of four distinct muscles). It is the most inferior of the lateral rotator group muscles, located below the gemelli and obturator internus.

Actions: Lateral rotation of the thigh at the hip, plays a major role in extension of the lower leg at the knee as well.

Iliopsoas group

- Psoas Major: The psoas major is located deep in the back near the midline immediately adjacent to the spine. The iliacus and psoas major comprise the iliopsoas group.

Attachments: Originates from the base of the spine, combining with the iliacus to attach to the femur.

Actions: Flexing of the thigh at the hip joint.

- Iliacus: The iliacus muscle is a large, fan-shaped muscle which lines the interior of the pelvis. The iliacus and psoas major comprise the iliopsoas group.

Attachments: Originates from the pelvis and the base of the spine, combining with the psoas major to attach to the femur.

Actions: Flexing of the thigh at the hip joint.

4•

first infects the cells lining your throat, airways and lungs and turns them into "coronavirus factories" that spew out huge numbers of new viruses that go on to infect yet more cells also some people will eventually start coughing up sputum i.e a thick mucus containing dead lung cells killed by the virus. You also start having body aches, sore throat and headache.