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1. Discuss the differences between viscerocranium and neurocranium .
2. Femoral triangle is a special area of the thigh, Discuss.
3. Describe all the muscles of the lower limb that participates during 1/meter social distancing at the period of Covid 19.
4. What does corona virus affect in the body with your understanding of Gross Anatomy.

DIFFERENCES BETWEEN NEUROCRANIUM AND VISCEROCRANIUM

The neurocranium makes up the bony covering (case) of the brain and its membranous coverings (its cranial meninges), it is the brain box and consists of the calvaria (skullcap) and basicranium (cranial base). The viscerocranium consists of the facial bones fused together make up the fascial skeleton.

The neurocranium in adults is formed by a series of eight bones: four are singular bones and the other two sets of bones occur as bilateral pairs. The viscerocranium consists of 15 irregular bones: three are singular bones while 6 bones occur as bilateral pairs.

The viscerocranium forms the anterior part of the cranium. The neurocranium also contains proximal parts of the cranial nerves and the vasculature of the brain.

THE FEMORAL TRIANGLE

The femoral triangle is a triangular depression on the front of the upper one-third of the thigh immediately below the inguinal ligament. It is a triangular landmark useful in dissection and in understanding relationships in the groin. It is the region of the passage of the main blood vessels between The pelvis and the lower limb, as well as the nerve supplying the thigh..

CONTENTS OF THE FERMORAL TRIANGLE

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
* Great saphenous vein
* Femoral canal- A structure which contains deep lymph nodes and vessels.
* Femoral sheath- The femoral artery, vein and canal are contained within a facial compartment, known as femoral sheath.

BORDERS OF THE FEMORAL TRIANGLE

It has three borders:

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

2.Lateral border – Formed by the medial border of the Sartorius muscle.

3.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.

FLOOR AND ROOF OF FEMORAL TRIANGLE

It also has a floor and a roof:

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

--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.

CLINICAL SIGNIFICANCE OF THE FEMORAL TRIANGLE

FEMORAL PULSE : Just inferior to where the femoral artery crosses the inguinal ligaments, it can be palpated to measure the femoral pulse. The femoral artery crosses exactly mid way to the pubic symphysis and anterior superior iliac spine (known as the mid inguinal point).

ACCESS TO THE FEMORAL ARTERY : The femoral artery is located superficially within the femoral triangle and is thus easy to palpate. This makes it easy to perform a range of clinical procedure. One such procedure is angiography. Here, the femoral artery is catheterized with a long, and thin tube. This tube is navigated up the external iliac artery, common Iliac artery, aorta and into the coronary vessels. A radio opaque dye is then injected into the coronary vessels and any wall thickening or blockage can be viewed via X-ray.

FEMORAL HERNIA : A hernia is defined as a condition in which a part of an organ is displaced and protrudes through the wall of the cavity containing it. In the case of femoral hernia, part of the bowel pushes into the femoral canal, underneath the inguinal ligaments. This manifests clinically as a lump or bulge in the area of the femoral triangle. It usually requires surgical intervention to treat.

MUSCLES OF THE LOWER LIMB THAT PARTICIPATES DURING 1/METRE SOCIAL DISTANCING

A number of muscles are involved when practicing 1/meter social distancing in the period of covid-19 pandemic and this muscles are listed along with their mode of action. The process of practicing social distancing simply has to do with walking (gait) and hence the stages that produce locomotion will be discussed

WALKING ( GAIT )

The typical walk consists of a repeated gait cycle. The cycle itself contains two phases – a stance phase and a swing phase:

1.Stance phase: Accounts for 60% of the gait cycle. It can be divided into the heel strike, support, and toe-off phases.

2.Swing phase: Accounts for 40% of the cycle. It can be divided into the leg lift and swing phases.

STAGES OF WALKING

HEEL-STRIKE

In the heel-strike stage, the foot hits the ground heel first. Three muscles/muscle sets are involved, each acting at a different joint:

1.Gluteus Maximus – acts on the hip to decelerate the forward motion of the lower limb.

2.Quadriceps femoris –  keeps the leg extended at the knee and the thigh flexed at the hip.

3.Anterior compartment of the leg – This muscles include; Tibialis anterior, extensor digitorum longus, extensor hallucis longus, fibularis tertius and they control the ankle dorsiflexion, positioning the heel for the strike. They are innervated by deep fibular nerve.

SUPPORT

After the heel strike stage, the rest of the leading foot hits the ground, and the muscles work to cope with the force passing through the leg. This is known as the support stage.

4.Quadriceps femoris – Rectus femoris, vastus medals, vastus lateral is, vastus intermedius  keeps the thigh extended, accepting the weight of the body. They are innervated by the femoral nerve.

5.Foot inverters and everters – Tibialis anterior, fibularis tertius, fibularis longus and fibularis brevis contract in a balanced manner to stabilise the foot.

6.Gluteus minimus, gluteus medius and tensor fascia lata – abduct the lower limb. Their contraction keeps the pelvis level by counteracting the imbalance created from having most of the body-weight on one leg.

TOE-OFF

In the toe-off phase, the foot prepares the leave the ground – heel first, toes last.

7.Hamstring muscles – Bicep femoris, semimembranosus, semitendinosus all innervated by sciatic nerve extends the thigh at the hip.

8.Quadriceps femoris – maintains the extended position of the knee and is innervated by the femoral nerve.

9.Posterior compartment of the leg – plantarflexes the ankle. The prime movers include gastrocnemius, soleus, plantaris (all innervated by tibial nerve)and tibialis posterior.

LEG LIFT

Once the foot has left the ground, the lower limb is raised in preparation for the swing stage.

10.Iliopsoas and rectus femoris –  flexes the thigh at the hip, driving the knee forwards. Innervated by the femoral nerve

11.Hamstring muscles –  flexes the leg at the knee joint.

12.Anterior compartment of the leg – dorsiflexes the ankle.

SWING

In the swing phase, the raised leg is propelled forward. This is where the forward motion of the walk occurs.

13.Iliopsoas and rectus femoris – keep the thigh flexed at the hip, resisting gravity as it tries to pull the lower extremity down.

15.Quadriceps femoris – extends the leg at the knee, positioning the foot for landing.

16.Anterior compartment of the leg – maintains ankle dorsiflexion so that the heel is in place for landing.

Next, the heel hits the ground, and the whole cycle repeats.

WHAT DOES CORONA VIRUS AFFECT IN THE BODY

The novel virus Covid-19 affects the respiratory system of the patient, which is a group of organs and tissues that allow the body to breathe. Respiratory illnesses affect different parts of this respiratory system, such as the lungs. A coronavirus typically infects the lining of the throat, airways, and lungs. Early symptoms of coronavirus may include coughing or shortness of breath. In some cases, it can cause severe damage to the lungs. For example, some people might develop acute respiratory distress syndrome, leading to severe breathing difficulties.