

Name

Arshad Ali

ID

16013

Department

DPT

Paper

Anatomy

Submitted to

Dr. Attaullah

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(1)

Q: No - 1

Enumerate muscle in the posterior compartment of the lower leg with clinical significance also write action & innervation of each posterior compartment muscle.

Ans

The posterior compartment of the leg is usually subdivided into superficial & deep parts

Superficial Muscles

There are three superficial muscles -

(i) Gastrocnemius

The gastrocnemius is the most superficial muscle of all posterior leg. This muscle is primarily involved in running, jumping & other fast movement in the leg.

~~Action~~ ^{Origin}

Medial & Lateral condyles of femur

Action -

Plantar flexion of foot & flexion knee.

Innervation :- Tibial Nerve

(ii)

Plantaris

The plantaris is one of the superficial muscles of the posterior compartment of the leg.

Action

Plantar flexes at the ankle joint & the knee.

Innervation

Tibial nerve.

(iii)

Soleus

The soleus is located deep to the gastrocnemius. It is large & flat.

Action

Plantar flexes the foot at the ankle joint.

Innervation

Tibial nerve

Clinical significant

Rupture of this of calcaneal tendon refers to a complete tear of the tendon.

The injury is usually sustained during forceful plantar flexion of the foot. The patient is unable to the again the plantar flexion of foot.

Treatment

Physiotherapy, except in those with active lifestyles.

Deep muscles

There are four muscles in deep compartment of P-Lower leg. One muscle the popliteus, act only on the knee joint, the remaining three muscles act on the ankle & foot.

The popliteus

It is located superiorly in the leg. It arises behind the knee joint, forming the base of the popliteal fossa.

Action -

Laterally rotates the femur on the tibia 'unlocking' the knee joint so that flexion can occur.

Innervation - Tibial nerve.



Q: No - 2

- Explain the following
- Foot drop
 - Deep venous thrombosis

(u)

Ans (a)

Foot drop

Foot drop, sometimes called drop foot, is a general term for difficulty lifting the front part of the foot.

If you have foot drop, the front of your foot might drag on the ground when you walk. Commonly we see fibular nerve damage.

This condition muscle in the anterior compartment are damaged but they are up support the permanent plantar flexion.

Causes

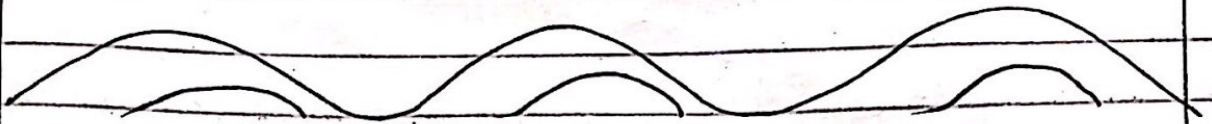
- Nerve injury
- Muscle or nerve disorder
- Brain & spinal cord disorder.

(b)

Deep venous thrombosis

Deep vein thrombosis (DVT) occur when a blood clot forms in one or more of the deep veins in your body leg. Deep vein thrombosis can cause leg pain, swelling, but also can occur with no symptoms. A deep vein thrombosis can break

loose & cause a serious problem in the lung called a pulmonary embolism. Most of patient were seen in this ~~condition~~. (DVT)



Q: No - 3

Explain blood supply of thigh & gluteal region with the help of diagram.

Ans Blood supply of thigh ::

The arterial blood supply of the thigh comes directly the external iliac artery. The external iliac artery becomes the femoral artery after it passes beneath the inguinal ligament & enters the femoral triangle.

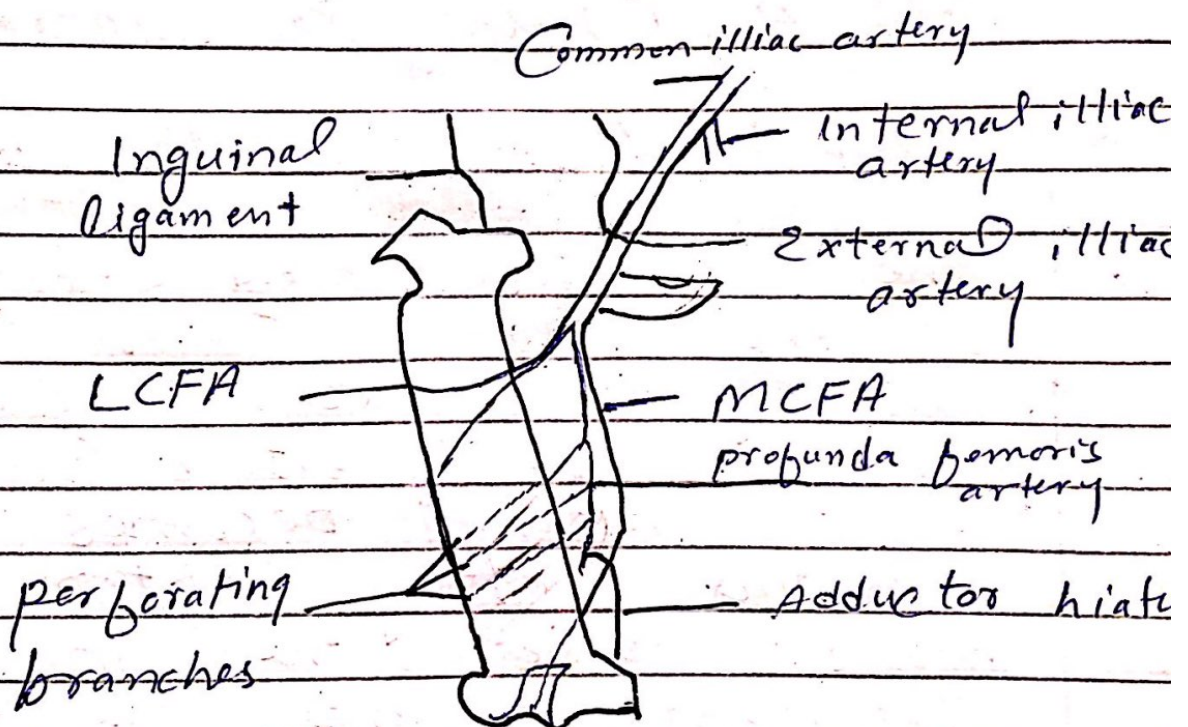
Arteries of the thigh
The femoral artery runs in the middle of the femoral triangle.

It supplies the anterior } anteromedial aspects of the thigh.

The profunda femoris artery is the largest branch of the femoral artery.

These are three main branches.

- o medial Circumflex femoral artery
- o lateral Circumflex femoral artery
- o Perforating branches.



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Blood Supply of the Gluteal Region

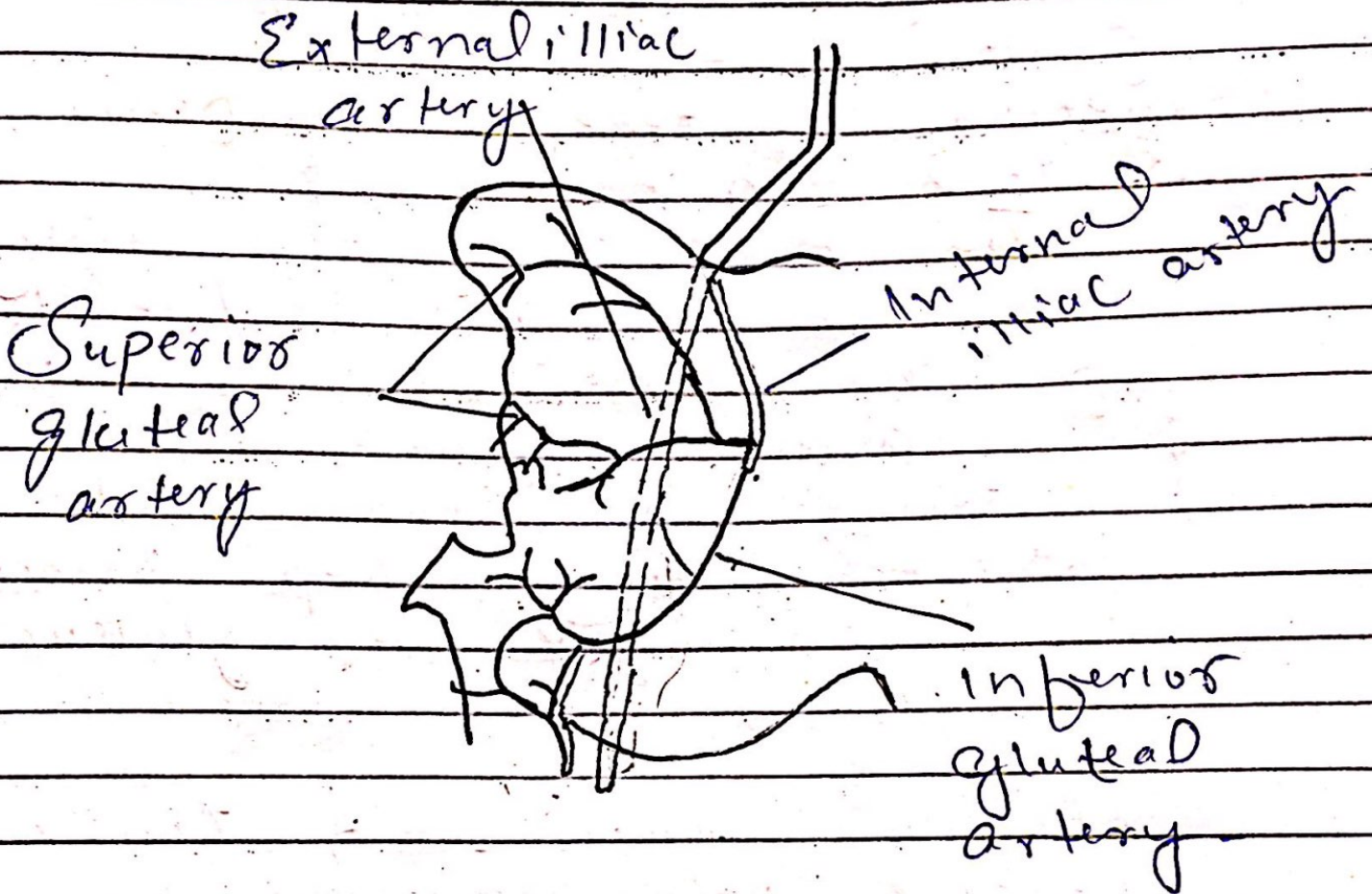
The main arteries of the gluteal region are the Superior gluteal & inferior gluteal artery.

The Superior gluteal artery is the longest branch of the internal iliac artery & arises from its posterior division. It has superficial & deep branches which supply the gluteus maximus, gluteus medius,

gluteus minimus & tensor fasciae latae muscles.

The inferior gluteal artery originates from the anterior division of the internal iliac artery. This artery supplies blood to the gluteus maximus, piriformis, internal obturator gemellus superior

(8)



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Q: NO - 4

Describe anatomical course, motor & sensory function of Sciatic Nerve.

Ans

Anatomical Course.

The Sciatic nerve is a major nerve of the lower limb.

It is a thick flat band, approximately 2 cm wide.

- The largest nerve in the body.

It is composed of 2 parts

- Tibial & Common peroneal nerves.

Ventral division of anterior primary rami

L₄, L₅;

S₁, S₂, S₃ Compose the tibial part.

Dorsal division of anterior primary rami L₄, L₅,

S₁, S₂ Composed the common peroneal part.

In the pelvis, it is located in front of piriformis under cover of its fascia.

It enters the gluteal region via greater sciatic.

In gluteal region it arises under cover of gluteals maximum.

It runs downward with small lateral convexity & enters between the ischial tuberosity & greater trochanters.

⇒ Motor Function

Innervates the muscle of the posterior thigh and the hamstring position of the adductor magnus.

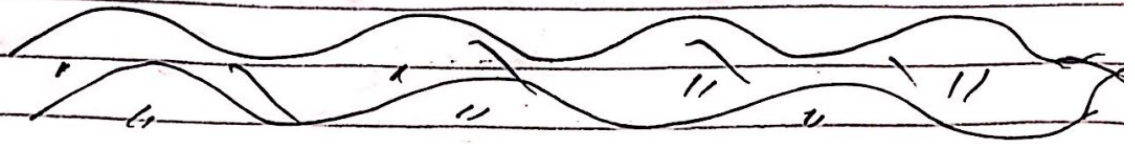
The sciatic nerves also indirectly innervates all the muscle of the leg and the foot.

⇒ Sensory Function

The sciatic nerve does not have any direct cutaneous function. Indirectly innervation the skin

(11)

of the lateral leg, heel & both the dorsal & plantar surface of the foot.



Q: No - 5

Enumerate Muscle of the medial compartment of thigh
What is tarsal tunnel syndrome?

Ans: There are five muscle in the medial compartment

- (i) Gracilis
- (ii) Obturator externus
- (iii) Adductor brevis
- (iv) Adductor longus
- (v) Adductor magnus

Tarsal Tunnel Syndrome
- - - - -

Tarsal tunnel syndrome in a condition caused by repeated pressure that results in

(12)

Damage on the posterior tibial nerve which is a narrow passage way inside your ankle that is bound by bone & soft tissue. Damage of tibial nerve typically occur when the nerve is compressed as a result of consistent pressure.