

# Nerves of the Lower Limb

Nerve	Origin	Supplies	Nerve Course	Notes
Subcostal nerve	T12	-Cutaneous supply to the upper lateral quadrant of the skin of the buttock, along with Ilio-hypogastric nerve.		-The upper medial quadrant of the skin of the buttock is supplied by the posterior rami of L1,L2,L3,S1,S2,S3.
Ilio-hypogastric nerve	Branch of the lumbar plexus. <b>Root value:</b> L1.	-Cutaneous supply to the posterolateral gluteal skin and it distributes to the skin in the public region.	-It emerges from the lateral side of the psoas major muscle.	
Ilio-inguinal nerve	Branch of the lumbar plexus. <b>Root value:</b> L1.	Provides cutaneous innervation to: -The upper medial thigh. - <b>In men:</b> the root of the penis and the anterior surface of the scrotum. - <b>In women:</b> the mons pubis and labium majus.	-It emerges from the lateral side of the psoas major muscle.	-The surgeon should be very careful to this nerve while giving incision and hernia repair as it could be injured during these procedures.
Genitofemoral nerve	Branch of the lumbar plexus. <b>Root Value:</b> L1,L2.	-The femoral branch: supplies the skin of the upper anterior thigh.	-It emerges from the anterior surface of the psoas major muscle.	-The femoral branch is one of the contents of the femoral triangle and it occupies the lateral compartment of the femoral sheath.
Lateral cutaneous nerve of the thigh	Branch of the lumbar plexus. <b>Root value:</b> L2,L3.	-It supplies the skin on the anterior and lateral thigh to the level of the knee, as well as the lower lateral quadrant of the buttock	-It emerges from the lateral side of the psoas major muscle. -It passes posterior to the inguinal ligament and enters the thigh.	-One of the contents of the femoral triangle. -Injury of this nerve has many causes such as: pregnancy, abdominal tumors, tight belts and obesity.
Obturator nerve	Branch of the lumbar plexus. <b>Root value:</b> L2,L3 and L4.	-Motor supply to the medial muscles of the thigh. -Sensory supply.	-It emerges from the medial side of the psoas major muscle.	-It divides into anterior and posterior divisions. - <b>Anterior division gives:</b> 1. Muscular branch to gracilis, adductor brevis, adductor longus and occasionally to the pectineus. 2. Sensory branch: articular branches to the hip joint, the skin on the medial side of

# Nerves of the Lower Limb

Nerve	Origin	Supplies	Nerve Course	Notes
Obturator nerve (Cont.)				the thigh and it contributes to the subsartorial plexus. <b>-Posterior division gives:</b> 1. Muscular branch to obturator externus, adductor part of adductor magnus and occasionally to the adductor brevis. 2.Sensory: the knee joint.
Femoral nerve	Branch of the lumbar plexus. <b>Root value:</b> L2,L3 and L4.	-Motor supply to the anterior muscles of the thigh (Sartorius, iliacus, pectineus, quadriceps femoris) <b>*Note: psoas major is supplied by the whole lumbar plexus.</b> <b>*Note: Iliacus muscle gets innervated by the femoral nerve before it passes behind the inguinal ligament.</b>	-It emerges from the lateral border of the psoas major muscle. -Enters the thigh lateral to the femoral artery and the femoral sheath, behind the inguinal ligament.	-It's the largest branch of the lumbar plexus. -It terminates by dividing into anterior and posterior divisions. <b>-Anterior division gives:</b> 1.Two cutaneous branches: medial cutaneous nerve of the thigh and the intermediate cutaneous nerve of the thigh. 2. Two muscular branches: nerve to sartorius and nerve to pectineus muscle. <b>-Posterior division gives:</b> 1. Cutaneous branch: the saphenous nerve. 2. Muscular branches to the quadriceps muscle.
The saphenous nerve	Branch of the posterior division of the femoral nerve.	-Supplies skin on the <b>medial</b> side of the knee and foot and on the <b>posteromedial</b> surface of the leg.	-Runs downward and medially. -It emerges between the tendons of Sartorius and Gracilis. -It then runs down in the company of the great saphenous vein. -It passes in front of the medial malleolus of the foot and terminates in the region of the ball of the big toe.	

# Nerves of the Lower Limb

Nerve	Origin	Supplies	Nerve Course	Notes
<b>Superior gluteal nerve</b>	Branch of the sacral plexus. <b>Root value:</b> L4,L5,S1.	-Motor supply to: tensor fascia latae, gluteus medius, gluteus minimus.	-Leaves the pelvis through the greater sciatic foramen <b>above</b> the piriformis.	>Injury to the superior gluteal nerve causes paralysis of gluteus medius and gluteus minimus. -Injury on one side causes Lurching gait. -On both sides causes Waddling gait. <b>(Positive Trendelenburg's test).</b>
<b>Inferior gluteal nerve</b>	Branch of the sacral plexus. <b>Root value:</b> L5,S1,S2.	-Motor supply to gluteus maximus.	-Leaves the pelvis through the greater sciatic foramen <b>below</b> the piriformis.	
<b>Posterior cutaneous nerve of the thigh</b>	Branch of the sacral plexus. <b>Root value:</b> S1,S2,S3.	-It supplies the skin over the back of the thigh (popliteal fossa) and upper part of the leg, as well as the lower medial quadrant of the skin of the buttock.	-Enters the gluteal region through the lower part of the greater sciatic foramen <b>below</b> the piriformis.	-One of the contents of the popliteal fossa.
<b>The sciatic nerve</b>	A branch of the sacral plexus. <b>Root value:</b> L4-S3.	-Motor supply to muscles of the posterior compartment of the thigh.	-Emerges from the pelvis through the lower part of the greater sciatic foramen <b>below</b> the piriformis muscle.	-It is the largest nerve in the body. -Commonly terminates in the middle of the thigh by dividing into the tibial and common peroneal nerves.
<b>The tibial nerve (medial popliteal nerve)</b>	A branch of the sciatic nerve. <b>Root value:</b> L4-S3.	Motor supply to: -Long head of the biceps femoris, semitendinosus, semimembranosus, hamstring Portion of adductor magnus. -Muscles of the posterior compartment of the leg.	-Arises in the lower third of the thigh. - It runs downward through the popliteal fossa. -Enters the posterior compartment of the leg by passing beneath the soleus muscle.	-The larger terminal branch of the sciatic nerve. -One of the contents of the popliteal fossa. <b>-Branches:</b> 1.Cutaneous: the sural nerve. 2.Muscular: branches supply both heads of the gastrocnemius and the plantaris, soleus, and popliteus. 3.Articular: supply the knee joint.

# Nerves of the Lower Limb

Nerve	Origin	Supplies	Nerve Course	Notes
The sural nerve	A branch of the tibial nerve.	-Skin of calf and lower part of posterolateral surface of leg.	-Descends between the two heads of the gastrocnemius muscle. -Accompanies the small saphenous vein behind the lateral malleolus and is distributed to the skin along the lateral border of the foot and the lateral side of the little toe.	
Medial plantar nerve	A terminal branch of the tibial nerve.	-Cutaneous branches: Plantar digital nerves run to the sides of the medial three and a half toes. -The nerves extend onto the dorsum and supply the nail beds and the tips of the toes		-Nerve of the sole of the foot. -It's like the median nerve.
Lateral plantar nerve	A terminal branch of the tibial nerve.			-Nerve of the sole of the foot.
The common peroneal nerve (lateral popliteal nerve/common fibular nerve)	A branch of the sciatic nerve. <b>Root value:</b> L4-S2.	<b>&gt;It gives supply through three branches:</b> - <b>Cutaneous:</b> It gives the sural communicating branch and the lateral cutaneous nerve of the calf which supplies the skin on the lateral side (anterior and posterior) of the back of the leg. - <b>Muscular:</b> short head of biceps femoris. - <b>Articular:</b> knee joint.	-Arises in the lower third of the thigh. -It runs downward through the popliteal fossa. -It leaves the fossa by crossing superficially the lateral head of the gastrocnemius muscle. -It then passes behind the head of the fibula, winds laterally around the neck of the bone and pierces the peroneus longus muscle.	-One of the contents of the popliteal fossa. -Divides into two terminal branches: the superficial peroneal nerve and the deep peroneal nerve. - When it winds laterally around the neck of the fibula it becomes <b>subcutaneous</b> and <b>exposed</b> to injury.

# Nerves of the Lower Limb

Nerve	Origin	Supplies	Nerve Course	Notes
Deep peroneal nerve	A branch of the common peroneal nerve.	-Motor supply to the muscles of the anterior compartment of the leg.		
Superficial peroneal nerve	A branch of the common peroneal nerve.	-Motor supply to the muscles of the lateral compartment of the leg (Peroneus longus and peroneus brevis).		-Also called the musculocutaneous nerve of the leg, supplies two muscles and then becomes cutaneous where it supplies the skin of the lower part of the anterolateral surface of the leg.

**Done by: Rama Abbady.**

**Corrected and edited by: Ameen Alsaras.**