Leg Nerves

The nerves of the leg are numerous and branch from various segments of spinal roots. Here, we describe the femoral nerve, which gives off the saphenous nerve. The sciatic nerve is the biggest nerve in the body and splits into the tibial and common peroneal nerves. The common peroneal then segments into the deep and superficial peroneal nerves. Lastly, the posterior femoral cutaneous is the most medial of these nerves and branches independently.



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Femoral
Femur
This nerve is the largest of the lumbar plexus and arises from the ventral rami of L2-4, and runs under the inguinal ligament to enter the thigh. Anteriorly, it supplies anterior cutaneous branches and the pectineus and sartorius. Posteriorly, it supplies the quadriceps femoris and splits into the saphenous nerve. The femoral nerve functions to extend the knee, and is responsible for sensation over the anterior and medial aspects of the thigh, medial shin, and arch of the foot.

Saphenous
Sapphire
The saphenous nerve is the longest cutaneous branch of the femoral nerve. It travels beneath the sartorious and then descends vertically medial to the knee. This nerve functions to provide cutaneous sensation to the patella, as well as the anterior and medial sides of the leg.

Posterior Femoral Cutaneous
Post-terrier with Femur Skin-suit-man
The posterior femoral cutaneous nerve innervates the skin on the posterior thigh and leg, along with the perineum. This nerve arises from the sacral plexus, dorsal divisions of S1-2 and ventral divisions of S2-3. This nerve travels through the sciatic foramen below the piriformis, descends beneath the gluteus maximus and over the long head of the biceps femoris.

Sciatic
Scythe-attack
The sciatic is the largest nerve in the body and is derived from spinal nerves L4-S3 of the sacral plexus. It passes beneath the piriformis, exiting the sciatic foramen and pelvis. It travels down the posterior compartment of the thigh, behind the adductor magnus to split into the common peroneal and tibial nerves.

Tibial
Tibetan
The tibial nerve is a branch of the sciatic nerve, which passes through the popliteal fossa to pass below the arch of the soleus. This nerve supplies the tibialis posterior, flexor digitorum longus and flexor hallucis longus. Furthermore it provides cutaneous innervation to the sole of the foot and toes.

Common Peroneal
Comma Pear-on-eel
The common peroneal nerve, or common fibular nerve, arises from the dorsal branches of L4-5 and S1-2. It lies between the tendon of the biceps femoris and lateral head of the gastrocnemius muscle, winds around the neck of the fibula, between the peroneus longus and the bone, and divides beneath the muscle into the superficial peroneal nerve and deep peroneal nerve. The common peroneal innervates the peroneus longus, peroneus brevis, and the short head of the biceps femoris muscles.

Superficial Peroneal
Super-fish Pear-on-eel
The superficial peroneal nerve is a branch of the common peroneal nerve and works to innervate the fibularis longus and fibularis brevis muscles, as well as the skin over the dorsum of the foot. Injury to this nerve can lead to an inability to evert the foot or feel sensation over the dorsum of the foot.

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Deep Peroneal

Deep-diver Pear-on-eel

The deep peroneal nerve is a branch of the common peroneal nerve, and innervates the tibialis anterior, extensor digitorum longus, extensor hallucis longus and fibularis tertius. Damage to the deep fibular nerve or traumatic injury to the lateral knee, can result in foot drop. The deep fibular nerve is also subject to injury resulting from lower motor neuron disease, diabetes, ischemia, and infectious or inflammatory conditions.

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