

Medial cutaneous nerves of leg (branches of saphenous nerve) - **Skin of the Leg** Cutaneous Nerves 1-Anteromedially: **The saphenous nerve**, a branch of the femoral nerve supplies the skin on the anteromedial surface of the leg

2- Anterolaterally: <u>Upper part</u> <u>The lateral cutaneous</u> <u>nerve of the calf</u>, a branch of the <u>common peroneal</u> nerve supplies the skin on the upper part of the lateral surface of the leg

Lower part

Lateral sural cutaneous nerve

Superficial fibular (peroneal) nerve

Deep fibular (peroneal) nerve

The superficial peroneal nerve, a terminal branch of the common peroneal nerve supplies the skin of the lower part of the anterolateral surface of the leg

Posteriorly: <u>The posterior</u> <u>cutaneous nerve</u> of the thigh

descends on the back of the thigh In the popliteal fossa, it supplies the skin over the popliteal fossa and the upper part of the back of the leg

The saphenous nerve, a branch of the femoral nerve gives off branches that supply the skin on the posteromedial surface of the leg Common fibular (peroneal) nerve via lateral sural cutaneous nerve (from sciatic nerve)

Medial sural cutaneous nerve (from sciatic nerve) -

Superficial fibular (peroneal) nerve (from sciatic nerve)

Sural nerve (from sciatic nerve)

Tibial nerve via medial calcaneal branches, (from sciatic nerve)

The lateral cutaneous nerve of the calf, a branch of the common peroneal nerve supplies the skin on the upper part of the posterolateral surface of the leg

The sural nerve, a branch of the tibial nerve supplies the skin on <u>the lower</u> <u>part of the</u> <u>posterolateral</u> <u>surface of the</u> <u>leg</u>

FASCIAL COMPARTMENTS OF THE LEG

➤The deep fascia of the leg forms Two intermuscular septa (anterior and posterior) which are attached to the fibula These, together with the interosseous membrane divide the leg into:

Three compartments; Anterior Lateral Posterior

(in the posterior compartment, a superficial and deep transverse septum further divide the posterior compartment into layers of superficial and deep muscles)
≻Each having its own muscles, blood supply, and nerve supply.

Fascial Compartments of the Leg



Retinacula of the Ankle ≻The retinacula are thickenings of the deep fascia that keep the long tendons around the ankle joint in position and act as pulleys.

Superior Extensor Retinaculum

>Inferior Extensor Retinaculum The inferior extensor retinaculum is a Y-shaped band located in front of the ankle joint.





flexor digitorum brevis



All the muscles of the anterior compartment of the leg originate from
Lateral surface of the shaft of tibia (tibialis anterior) or
The anterior surface of shaft of fibula (extensor surface) the remaining three
Insertion? muscles

The main actions of these muscles are Extension of the foot at the ankle joint (dorsiflextion) to raise the toes up (in other words to stand up on the heels)

In addition any muscle that got (tibialis) in its name will invert the

foot at subtalar and transverse tarsal joints

while any muscle got (peroneus) in its name will

Everts foot at subtalar and transverse tarsal joints

Nerve supply of all the muscles of the anterior compartment of the leg: deep peroneal nerve





Muscle	Origin	Insertion	Nerve Supply	Nerve Rootsa	Action
Tibialis anterior	Lateral surface of shaft of tibia and interosseous membrane	Medial cuneiform and base of first metatarsal bone	Deep peroneal nerve	L4, 5	Extendsb foot at ankle joint; inverts foot at subtalar and transverse tarsal joints; holds up medial longitudinall arch of foot
Extensor digitorum longus	Anterior surface of shaft of fibula	Extensor expansion of lateral four toes	Deep peroneal nerve	L5; S1	Extends toes; extends foot at ankle joint
Peroneus tertius	Anterior surface of shaft of fibula	Base of fifth metatarsal bone	Deep peroneal nerve	L5; S1	Extends foot at ankle joint; everts foot at subtalar and transverse tarsal joints
Extensor hallucis longus	Anterior surface of shaft of fibula	Base of distal phalanx of great toe	Deep peroneal nerve	L5; S1	Extends big toe; extends foot at ankle joint; inverts foot at subtalar and transverse tarsal joints
Extensor digitorum brevis	Calcaneum	By four tendons into the proximal phalanx of big toe and long extensor tendons to second, third, and fourth	Deep peroneal nerve	S1, 2	Extends toes

Contents of the Lateral Fascial Compartment of the Leg

≻Muscles:

Peroneus longus: *Origin*: from the lateral surface of shaft of fibula

Insertion: **Base of first metatarsal and the medial cuneiform bone** (passes through **a groove** in the Cuboid bone.

peroneus brevis: Origin: Lateral surface of shaft of fibula Insertion: Base of fifth metatarsal bone Flood Supply: Branches from the peroneal artery (branch from posterior tibial artery)

> Nerve supply: Superficial peroneal nerve

 Actions: both flex the foot at the ankle joint
 Evert the foot at the subtalar and transverse tarsal joints



Contents of the Posterior Fascial Compartment of the Leg

The transverse septa of the leg divides the muscles of the posterior compartment into <u>superficial</u> and <u>deep</u> groups



Deep group of muscles

Popliteus

Flexor digitorum longus

Flexor hallucis longus

Tibialis posterior

Blood supply: Posterior tibial artery

Nerve supply: Tibial nerve

<u>Superficial group of muscles</u> *****Gastrocnemius

Origin: Lateral head from lateral condyle of femur Medial head from above medial condyle Insertion: Via tendo calcaneus into posterior surface of calcaneum Nerve supply: Tibial nerve Actions: Plantar flexes foot at ankle joint Flexes knee joint

*Plantaris

This muscle some times is absent

Nerve supply: Tibial nerve

*****Soleus

Origin: Shafts of tibia and fibula *Insertion:* Via tendo calcaneus into posterior surface of calcaneum *Nerve supply:* Tibial nerve

Actions: Together with gastrocnemius and plantaris is powerful plantar flexor of ankle joint; provides main *propulsive force in walking and running*





Deep Group	Origin	Insertion	Nerv	e	Actions
Popliteus	Lateral surface of lateral condyle of femur	Posterior surface of shaft of tibia above soleal line	Tibial nerve	L4, 5; S1	Flexes leg at knee joint; unlocks knee joint by lateral rotation of femur on tibia and slackens ligaments of joint
Flexor digitorum longus	Posterior surface of shaft of tibia	Bases of distal phalanges of lateral four toes	Tibial nerve	S2, 3	Flexes distal phalanges of lateral four toes; plantar flexes foot at ankle joint; supports medial and lateral longitudinal arches of foot
Flexor hallucis longus	Posterior surface of shaft of fibula	Base of distal phalanx of big toe	Tibial nerve	S2 , 3	Flexes distal phalanx of big toe; plantar flexes foot at ankle joint; supports medial longitudinal arch of foot
Tibialis posterior	Posterior surface of shafts of tibia and fibula and interosseous membrane	Tuberosity of navicular bone and other neighboring bones	Tibial nerve	L4, 5	Plantar flexes foot at ankle joint; inverts foot at subtalar and transverse tarsal joints; supports medial longitudinal arch of foot

