Anterior Lower Leg Anatomy

There are four muscles in the anterior compartment of the foot; the tibialis anterior, extensor digitorum longus, extensor hallucis longus, and fibularis tertius (which isn't present in all individuals). These muscles collectively act to dorsiflex and invert the foot at the ankle joint. Extensor digitorum longus and extensor hallucis longus also extend the toes. Muscles in this compartment are innervated by the deep peroneal nerve.



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Innervation

Deep Peroneal Nerve
Deep-diver Pear-on-eel Nerve
The deep peroneal nerve, or deep fibular nerve, supplies the anterior compartment of the leg. It begins at the bifurcation of the common fibular nerve, between the fibula and upper part of the fibularis (peroneus) longus, passes infero-medially, deep to the extensor digitorum longus. Injury to this nerve results in foot drop, and can occur due to trauma to the lateral knee.

General Action

Dorsiflex Foot
Dorsal-fin-flexing Foot
Collectively, these muscles work to dorsiflex the foot at the ankle joint.

Muscles

Tibialis Anterior
Tibetan Anteater
The tibialis anterior is the strongest dorsiflexor of the anterior compartment and is located on the lateral surface of the tibia. It originates on the lateral surface of the tibia and inserts at the base of the first metatarsal, overlapping the deep peroneal nerve. Patients can be asked to stand on their heels to test the power of the tibialis anterior.

Invert Foot
Inverting Feet
As this muscle crosses from the lateral tibia to the medial foot, its flexion allows inversion of the foot. Specifically, the tibialis anterior allows for the ankle to be inverted giving the ankle horizontal movement allowing for some cushion if the ankle were to be rolled.

Extensor Digitorum Longus
Extension-cord Digital-man in Long-johns
The extensor digitorum longus lies lateral to the tibialis anterior and acts to dorsiflex the foot and extend (curl up) the 2nd, 3rd, 4th and 5th toes. It originates from the lateral condyle of the tibia and medial surface of the fibula, inserting four tendons, one into each toe.

Extend 4 Toes
Extending the 4 Toes
The extensor digitorum longus acts to dorsiflex the foot and extend (curl up) the 2nd, 3rd, 4th and 5th toes.

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Extensor Hallucis Longus

Extension-cord Halo-Zeus in Long-johns

The extensor hallucis longus is a thin muscle, situated between the Tibialis anterior and the extensor digitorum longus that functions to extend the big toe, dorsiflex the foot, and assists with foot eversion and inversion. It originates from the medial surface of the fibula and crosses the ankle joint to attach to the base of the distal phalanx of the great toe.

Extend Great Toe

Extending the Great Toe

The extensor hallucis longus acts to dorsiflex the foot and extend (curl up) the great toe.

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