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 Foot & Ankle Reconstructive Surgery



## Peroneal Nerve Compression Syndrome

### Anatomy

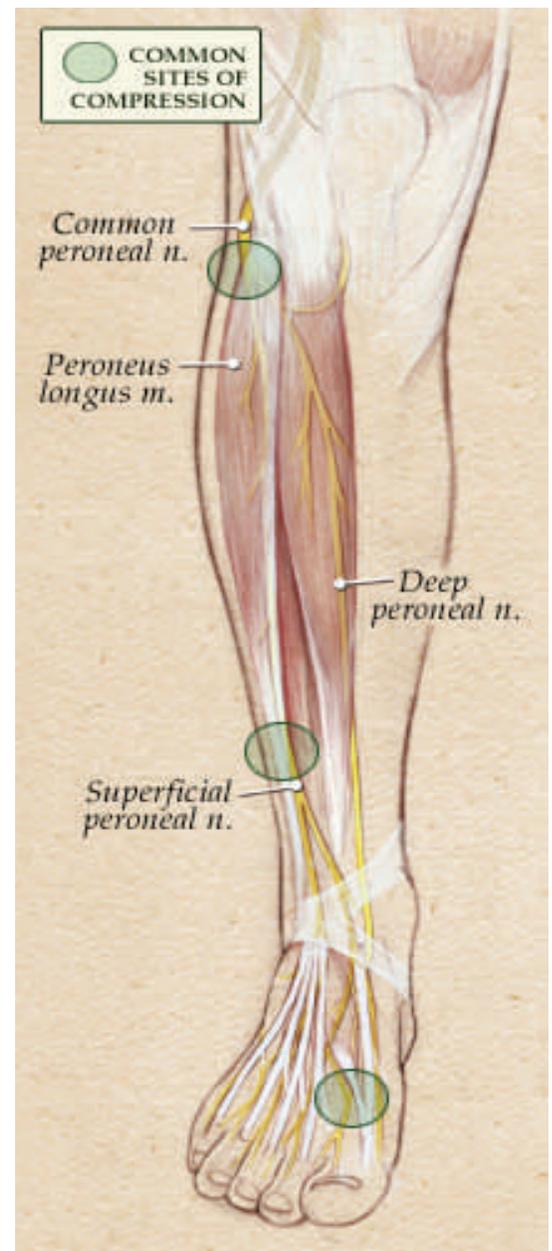
The **common peroneal nerve** innervates the lateral side of the lower leg and the ankle. It leaves the sciatic nerve behind the knee, and it enters a tunnel at the lateral side of the knee, formed by the two heads of the peroneus longus muscle. It passes beneath the fibrous border of the peroneus muscle as it leaves the head of the tibia. This narrow region is where the nerve enters the front of the lower leg.

Compression of the peroneal nerve gives sensory symptoms related to numbness or burning pain from the knee to the top of the foot, and motor symptoms that range from "the leg giving out" to "restless leg syndrome". Compression of the peroneal nerve branches is most commonly seen in patients with neuropathy, like diabetes, or in those who have had a knee injury or knee surgery, or who have had a sports injury like a sprained or broken ankle or knee.

The most common site of compression is at the side of the knee where the common peroneal nerve is compressed by white fascial structures against the underlying fibula bone. The fascia is released at surgery.

The next most common site of compression is at the top of the foot where a small tendon compresses the deep peroneal nerve against the underlying bone. Symptoms here are only sensory, and may feel like a knife sticking in the top of the foot, and pain between the first and second toes. This happens after a crush injury to the foot, wearing tight shoes or tightly laced boots, a broken foot bone, or foot surgery. The treatment is to remove the small tendon and decompress the nerve.

The least common site is in the lateral leg where the superficial peroneal nerve can be compressed. This may occur in young athletes and require the white fascial covering of the muscles to be released. The symptoms are pain and burning on the outside of the foot while exercising. This area can be damaged in soccer or with a broken fibula or crush injuries.

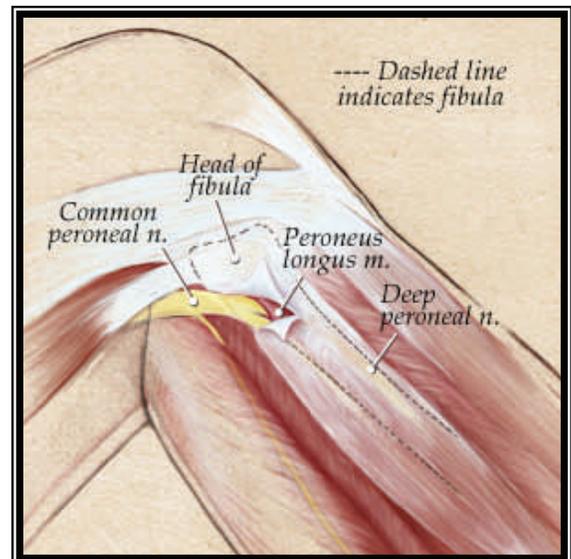


## *Surgical Treatment*

### **Peroneal nerve compression**

In the surgical treatment of peroneal nerve compression, an incision is made over the neck of the fibula. (*The fibula is indicated by a dashed line beneath the common peroneal nerve and its branches*).

Fascia surrounding the nerves to the lateral side of the leg is released. (*The fibrous edge of the peroneus longus m. is divided and the muscle is shown slightly pulled away from the nerve at the site of incision*).



### **Deep peroneal nerve compression**

In the surgical treatment of deep peroneal n. entrapment in the foot, a ligament from the extensor digitorum brevis m. that crosses over the deep peroneal nerve, putting pressure on it and causing pain, is released, as indicated by the dashed lines in the inset to the right.

