

Deep peroneal nerve

The deep [peroneal nerve](#) (deep fibular nerve) begins at the bifurcation of the [common peroneal nerve](#) between the fibula and upper part of the peroneus longus, passes infero-medially, deep to extensor digitorum longus, to the anterior surface of the interosseous membrane, and comes into relation with the anterior tibial artery above the middle of the leg; it then descends with the artery to the front of the ankle-joint, where it divides into a lateral and a medial terminal branch.

Dysfunction of the lower limb's muscles can cause severe impairment and immobilisation of the patient. As one of the leg's major motor and sensory nerves, the deep peroneal nerve plays a very important role in muscle innervation in the lower extremities.

Lesion

A 19-year-old female patient, who suffered from a brace-like exostosis 6-cm underneath her left fibular head causing a partially irreversible paresis of her deep peroneal nerve. This nerve damage resulted in complete atrophy of her extensor digitorum longus and extensor hallucis longus muscle, and in painful sensory disturbance at her left shin and first web space. The tibialis anterior muscle stayed intact because its motor branch left the deep peroneal nerve proximal to the nerve lesion. Diagnosis was first verified 6 years after the onset of symptoms by a magnetic resonance imaging (MRI) scan of her complete left lower leg. Subsequently, the patient was operated on in our clinic, where a neurolysis was performed and the 4-cm-long osteocartilaginous exostosis was removed. Paralysis was already irreversible but sensibility returned completely after neurolysis. The presented case shows that an osteocartilaginous exostosis can be the cause for partial deep peroneal nerve paresis. If this disorder is diagnosed at an early stage, nerve damage is reversible. Typical for an exostosis is its first appearance during the juvenile growth phase ¹⁾.

¹⁾

Paprottka FJ, Machens HG, Lohmeyer JA. Partially irreversible paresis of the deep peroneal nerve caused by osteocartilaginous exostosis of the fibula without affecting the tibialis anterior muscle. J Plast Reconstr Aesthet Surg. 2012 Aug;65(8):e223-5. doi: 10.1016/j.bjps.2012.03.017. PubMed PMID: 22495012.

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Last update: **2025/05/13 02:18**

