

Introduction

Peroneal neuropathy is one of a number of conditions that can cause 'foot drop', where the affected foot is unable to be moved upwards at the ankle joint. Peroneal neuropathy refers specifically to damage to the common peroneal nerve, leading to weakness in the muscles of the calf.

Common peroneal nerve

The common peroneal nerve, also known as the common fibular nerve, is made up of nerve roots coming from the lower middle of the spine. The nerve starts off as the sciatic nerve (the largest nerve in the body) before giving off various branches, of which the common peroneal nerve is one. The common peroneal nerve usually begins around the mid-thigh, running along the back of the leg. It then twists around the top of the fibula (the outer bone of the lower leg, adjacent to the shin bone), where it is easily damaged. It is possible to feel the nerve (like a thin cord) at this point on some people. The common peroneal nerve then divides into two daughter nerves: the deep peroneal nerve and the superficial peroneal nerve.

Symptoms

Patients with common peroneal nerve palsy will have problems lifting the foot off the ground at the ankle. This leads mainly to difficulty walking as the patient may frequently catch the tip of the foot on the ground. To counteract this effect, patients sometimes develop a characteristic walking pattern, where the whole hip is lifted high off the ground (as if climbing stairs). Numbness, tingling, or burning can develop over the outer aspect of the lower leg and on top of the foot.

Causes

The nerve is usually damaged as it crosses the top of the fibula, either by trauma or by compression. Examples of trauma include breaking the fibula, from surgery, or other injuries to the knee, as well as direct blows to this area (e.g. whilst playing sport). The nerve can also be damaged by an external compressive force such as use of a plaster cast that is too tight, continual leg crossing, or even regular use of high boots. Sometimes pressure on the knee during a very deep sleep or coma can result in damage to the nerve as well. Alternatively, the nerve can be damaged higher up, such as by an injury to the thigh (the childhood game of giving someone a 'dead-leg' is an example of this). Sometimes the nerve can be damaged as part of other diseases, such as rheumatoid arthritis or diabetes.

Tests

If a patient has very typical symptoms and has had compression to the fibula, then further tests may not be required as the diagnosis can be made then and there. If there has been any possible damage to the bone then an x-ray picture may be necessary to rule out any fractures. If the cause is not certain it may be important to look for other causes, using tests such as electrical tests of the nerves, blood tests, and scans.

Treatment

Treatment depends on the cause of the nerve injury. It is important to avoid whatever caused the injury in the first place – for example, making sure that a plaster cast is not too tight and pressing on

the nerve. If there is a fracture then this may need to be fixed with an operation. Non-traumatic common peroneal nerve palsy usually recovers over a period of a few months. In some cases, if the nerve is still not working properly after 3 months or more, surgery may be indicated but your doctor can discuss this with you. An AFO (Ankle-Foot-Orthosis) is a device that is used as a brace to prevent the foot dropping when the leg is lifted off the ground; many people find these helpful with walking.