

How can podiatrists help with peripheral neuropathy?

The inability to recognise specific sensations at the end of the body is associated with a condition called peripheral neuropathy. These are the symptoms:

- Numbness or tingling
- Diminished or absent temperature sensitivities
- Reduced ability to discriminate between temperature, sharp and blunt, light touch, vibration
- Altered muscle strength which can lead to imbalance and an increase due to loss of ground awareness

Patients who have other risk factors such as diabetes mellitus and obesity, as well as those with vitamin B12 anaemia are at a higher risk of developing peripheral neuropathy. For example, some cancer drugs affect blood sugar levels of diabetic patients which can affect the nerves further. Our podiatrists can assist patients with peripheral neuropathy in two ways:

1. Recognising the extent of numbness by testing sensations with special fibres and
2. Providing advice how to care for the foot

The following are important issues to consider:

- It is relatively common for patients to complain of a **burning** sensation in their hands and feet and some have found this to be so severe that they have had to take morphine to help manage the pain.
- Symptoms may include a **sensation as if wearing a thick glove** or stocking that can extend to the knee. The severity depends on the dosage, frequency and length of each treatment cycle.
- Peripheral neuropathy negatively affects awareness of what position each joint is in. This is called **proprioception** and the messages to the brain are interrupted affecting how patients move.
- Mobility associated with **walking is affected** as the patient can't walk comfortably and abnormal pressure is created. This increases the risk of neuropathic ulceration and infection developing. Your podiatrist will be able to monitor the risk, provide support or padding to reduce the ulcer forming and advice on how to handle the burning sensation.
- The **style of walking** changes so that increased pressure results in certain areas on the foot, causing footwear to feel uncomfortable or painful. This might sound strange when numbness is present but not all sensations disappear, creating confusion for the patient. Elderly patients particularly experience such symptoms.
- Patients affected with peripheral neuropathy are more likely to suffer from **falls and injuries** as the foot and body hasn't had time to adapt to the neurological changes. Equally patients are more susceptible to **neuropathic ulcerations**. In these cases, it may be necessary to suspend or reduce the dosage of anticancer treatment in order to mitigate the risks associated with these side effects¹. Vitamin B12 deficiencies have been found to increase the onset and severity of chemically induced peripheral neuropathy while supplements of vitamin B12 can be very beneficial in reducing the pain felt.



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¹ Any changes suggested to medication will be conducted through the lead clinician.

Shoes

Patients who have lost sensation will tend to wear **shoes** that are too small, in order to be able to feel the shoe on the foot. They also wear the wrong shape shoe evidence by deformities forming and exacerbating problems. As a simple solution, patients with some peripheral neuropathy prefer lightweight sandals with a moulded foot bed and a tight fit to help their awareness of balance, often absent. The use of wider footwear can be invaluable in assisting sufferers with pain.

The principal of good podiatry is to prevent skin (tissue) damage and this can be achieved with reducing pressure from poorly designed shoes. It is particularly important as patients often start wearing trainer-like shoes in the hope of gaining comfort. Still, patients must first assess the sole of the shoe known as the last. The optimum last shape for the foot is a straight last, which allows the foot to stay in its best position. However, there have a growing trend of shoes and trainers being designed with a semi-curved or curved shape. This can cause the foot to form an abnormal (banana) shaped position and affect normal pressure distribution through the arch and midfoot.

- Highlight if shoes are too tight/ loose (causing potential nail damage or ulcerations)
- Put memory Poron into footwear to aid cushioning, particularly if soles are too hard
- Add anti-shearing materials such as fleecy web on the feet
- Use deflective pressure padding on areas of high pressure (such as the balls of the feet) or orthotics to provide additional support
- Advise on different shape shoes or different depth toe box to accommodate any new deformities
- Provide advice on seam free shoes and hosiery (such as recommending bamboo fibre or rich cotton Socks to help improve comfort and reduce shearing)

Socks

Bamboo fibre socks can help with moisture management, preventing both drying out and moisture water logging the skin. Heat control management with socks helps with air circulation preventing the foot from overheating helps, also reducing the risk of **hand foot syndrome**. Reducing friction and anti-bacterial infection can be assisted due to the bacteriostatic bio-agent, Bamboo Kun. Footwear advice from our podiatrist can minimise the risk of neuropathic ulcerations. This is crucial as ulceration and infection can stop treatment cycles and, due to the delayed healing time of the patient, lead to hospital admissions for treatment and potential amputation. Where ulcerations have already formed, our podiatrists are trained in surgical debridement and will apply appropriate dressings specific for foot ulceration.

Please read other articles by Afni Shah-Hamilton & David R Tollafeld published in Footlocker (www.Consultingfootpain.co.uk) by Busypencilcase Communications Ltd

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