Foot care in diabetes: nerve damage

Prepared by Dr Angela Evans, a Podiatrist in private practice, Adelaide, and Lecturer in Podiatry, University of South Australia, Adelaide, and Dr Pat Phillips, Senior Director, Endocrinology, North Western Adelaide Health Service, The Queen Elizabeth Hospital, Woodville, SA.

People with diabetes are prone to nerve damage and blood vessel damage. The damage usually begins in the feet and can lead to minor foot injuries developing into foot ulcers that can take months to heal.

The first symptoms of nerve damage in the feet are abnormal sensations such as burning, pricking pain, tingling, electric shock-like feelings, aching, tightness, hypersensitivity to touch and feelings of things crawling on the skin. As the damage to the nerves supplying the feet increases, the feet become numb and all sensation is lost. Symptoms can move up the leg and can also occur in the fingers and hands.

The nerves supplying the muscles, the sweat glands and the small blood vessels are also affected. Damage to these nerves results in less secretion from the sweat glands and the skin becoming dry and cracked, and more fluid leaking from the blood vessels and the feet and ankles becoming swollen (known as oedema).

If you have abnormal sensation in your feet
- Symptoms are worse when blood glucose levels are high, so aim for blood glucose levels before meals of 6 mmol/L or less.
- Some prescription medications can help alleviate the abnormal sensations.
- Podiatrists can apply special dressings or recommend socks to reduce discomfort.

If you have little or no sensation in your feet
- Damage to your feet causes little or no pain, so wear shoes that protect your feet and give your toes plenty of room to move.
- Check your feet daily; you may need to use a mirror to see the soles.
- Before you put on your shoes, check there isn’t anything in them that might damage your feet or limit their movement.
- If you notice any red or thick skin, thick nails or breaks in the skin, contact your doctor, nurse or podiatrist immediately.
- If you have normal nails and you can reach them easily and see clearly, cut the nails carefully yourself; otherwise a carer or podiatrist should cut them for you.

If you have dry skin on your feet
- Wash your feet using warm (not hot) water and only a small amount of soap.
- Pat the skin dry and use lots of moisturiser.
- Wear socks or stockings made of natural fibres such as wool or cotton, and preferably with no seams.
- Wear shoes that have a low heel and a shock absorbing sole, and which hold the heel firmly, fasten over the foot and leave plenty of room for toes to move.

If you have swollen feet and/or ankles
- Wear medium strength knee-high support stockings from as soon as you get out of bed in the morning until you go to bed at night to help prevent the swelling. For best effect, put them on before getting out of bed; shower in the evening rather than in the morning.
- You may need the help of a carer or a device such as the Ezy-As compression stocking applicator when you are putting on the stockings.
- Stockings also protect the skin of the legs against knocks that might otherwise break the skin and lead to sores.