

Leg ulcers

Around one per cent of the Australian population suffers from leg ulcers (chronic venous leg ulceration). The most common cause is poor blood circulation, particularly the inability of the veins to return deoxygenated blood from the legs back to the heart. Other causes or exacerbating factors include relentless pressure (bed sores), badly managed diabetes, high cholesterol, smoking, dietary problems and poor arterial circulation.

Older people are at greater risk and although chronic venous leg ulceration afflicts both sexes equally, women are slightly over-represented because of their increased life span. Treatment options include compression bandages, medication, surgery and (more recently) hyperbaric oxygen therapy.

Symptoms of leg ulcers

The features of a leg ulcer include:

- Commonly found on the lower leg and ankle
- Sunken, asymmetrically shaped wound
- Edges of the ulcer clearly defined from the surrounding skin
- Surrounding skin intact, but inflamed
- Surrounding skin may be pigmented, hardened or calloused
- Yellowish-white exudate (pus)
- Pain, particularly while standing
- Varicose veins in the leg.

The calf muscle and poor circulation

Generally, veins carry deoxygenated blood from the body to the heart, where it can be sent to the lungs. Veins have one-way valves to prevent blood from running backwards. The contraction of muscles helps to massage blood along the veins. The calf acts as a pump, using muscular contraction in combination with deep veins and chambers to help counteract gravity and push the blood back up through the veins. This pumping action can be hindered by a variety of problems, including blockages in the deep veins, venous insufficiency or venous disease.

It is not known how poor vein circulation triggers a leg ulcer. One current theory proposes that white blood cells are trapped inside the narrowed capillaries, the smallest blood vessels of the circulatory system. These immune system cells then attack and destroy the nearby skin tissue. Evidence for this theory includes high numbers of white blood cells and their by-products found in the pus of leg ulcers.

Risk factors for leg ulcers

A number of different factors can increase a person's risk of chronic venous leg ulceration, including:

- **Age** - peripheral circulation becomes less efficient with old age.
- **Varicose veins** - the one-way valves that stop blood from travelling backwards in the vein stop working. The pooling of blood stretches and distorts the vein.
- **Cigarette smoking** - tobacco is known to constrict the vessels of the circulatory system.
- **Arterial disease** - vein problems are more likely if the person already has other associated diseases of the arteries.
- **Certain disorders** - these include diabetes and arthritis.

- **Pressure sores** – bed-bound people are at risk of pressure sores, which are areas of damage to the skin caused by constant pressure or friction.
- **Medication** – some cardiovascular drugs can contribute to leg oedema (swelling due to a build-up of fluid) and altered circulation.

Treatment for leg ulcers

Treatment for chronic venous leg ulceration includes:

- **Cleaning the wound** – uses wet and dry dressings and ointments, or surgery to remove the dead tissue.
- **Specialised dressings** – a whole range of products are available to assist with the various stages of wound healing. Dressings are changed less often these days, because frequent dressing changes remove healthy cells as well as debris.
- **Occlusive dressings** – ulcers heal better when they are covered; dressings should be changed weekly.
- **Compression treatment** – boosts internal pressure, using either elasticised bandages or stockings. This is particularly effective if multiple layers are used.
- **Medications** – include painkillers, and oral antibiotics if infection is present.
- **Supplements** – there is evidence to suggest that leg ulcers may heal faster with mineral and vitamin supplements, but only if the person suffers from a deficiency. Zinc, iron and vitamin C may be used.
- **Skin graft** – is a surgical procedure, where healthy skin is grafted onto the prepared wound site.
- **Hyperbaric oxygen** – this is now an accepted management option for ulcers that resist other methods of healing, for example, diabetic ulcers.

Long-term outlook

Unless the underlying conditions are addressed and treated, the person is at risk of developing subsequent ulcers. Options can include treatment for varicose veins, quitting cigarettes, improving the diet and taking regular exercise (such as 30 minutes of walking every day). The person should avoid hot baths, and sitting still for too long. It can help to keep the affected leg elevated above the level of the heart whenever practical.

Where to get help

- Your doctor

Things to remember

- Leg ulcers affect around one per cent of the Australian population.
- The most common cause is poor circulation.
- Treatment options include compression bandages, dressings and surgery.

This page has been produced in consultation with, and approved by:

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