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## **VENOUS LEG ULCERS - a patient's guide**

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### **Overview**

This is an unfortunately common problem in which ulcers form usually on the lower leg (often next to the ankle).

They cause much suffering as they may be very slow to heal and often do not heal at all.

Early assessment of underlying problems in the veins may lead to prevention.

Careful wound care, pressure stockings and surgery to correct the underlying problem are the mainstays of treatment.

### **How does it happen?**

The veins are thin low pressure blood vessels which carry blood back to the heart. The venous system in the legs consists of a superficial system (just below the skin) and a deeper system within the leg muscles. Blood flows from the superficial system into the deeper system, aided by the pumping effect of the muscles. Valves in the veins connecting the two systems (perforator veins) are crucial in preventing backflow and increased pressure in the superficial system.

A failure at some point in this system (usually the connecting perforator valves), sets in place the raised pressure in the surface veins which leads to the tissue damage which increases the risk of ulcers forming.

White blood cells, which become trapped in the damaged small veins, set off a chain of local chemical damage to the skin tissues which may lead to ulceration. These changes are usually age related, but there may be a history of a previous clot in the leg which has damaged the veins and valves. A previous fracture may also have led to damage in the veins.

### **Diagnosis**

Usually there will be changes to the surrounding skin due to the high pressure in the venous system; this includes darkening and thickening of the skin and swelling (oedema). There is often a dull aching sensation, especially with prolonged standing.

It is important to exclude other conditions which may also cause and aggravate ulcers. These include problems with arteries (arterial ulcers) and nerves, and your doctor will usually be able to detect these by careful examination.

Occasionally leg ulcers may be caused by skin cancers and a biopsy may be needed in suspicious ulcers.

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Blood tests are needed to check for underlying conditions, for example a sugar test for diabetes.

Doppler ultrasound is a very good test, which can show where in the vein system there are problems with reflux backwards through the crucial valves. This test is useful in determining whether surgery may be helpful.

### **Treatment options**

In patients with the changes in the skin of venous problems, prevention is better than cure as treatment is more beneficial if carried out early, before ulceration develops.

Great care to avoid minor trauma should be taken and early treatment for cuts and bumps on the lower leg should be sought, especially in patients with existing varicose veins.

### **For established ulcers, the following is important:**

Weight loss if overweight as ulcers tend to heal more slowly if you are overweight. Gentle exercise is encouraged.

Elevation of the leg when resting helps reduce swelling.

Careful cleaning of the ulcer and dressings. There are many options for dressings - in general it is best to keep these very simple. Non-adhesive absorbent dressings are best in the early stages when the ulcer is moist. As healing takes place, dry non-adherent dressings may be used.

The frequency of dressing is determined by how much ooze and material there is in the ulcer. If there is a lot of pus, daily dressings may be needed. As the ulcer heals and dries, less frequent changes (e.g. weekly) are adequate.

Topical antibiotics applied to the ulcer are not helpful and may make things worse. Bacteria are always present in ulcers, but antibiotics are generally not helpful unless there is evidence of infection spreading beyond the ulcer (hot, painful red skin).

Pressure bandaging (elastic stockings). These have been shown to speed healing if properly applied. In general higher pressures are better, but great care needs to be taken, particularly if there are also problems with the arteries.

The skin surrounding the ulcer may be dry and itchy (venous eczema). The regular use of moisturisers and careful use of steroid creams is helpful. Steroid creams should not be applied into the ulcer itself.

### **Surgery**

Occasionally there will be a place for skin grafting to speed healing.

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Doppler ultrasound testing will show those patients who may benefit from surgery to reduce the venous pressure and thus aid healing. A significant portion of patients (approximately 30%) may potentially be helped by simple surgery.

Endoscopic (keyhole) surgery to connecting veins is a growing alternative in some centres, and is a less invasive surgical option.

### **Future trends**

Drugs which control how the white cells get trapped and damage tissues may be helpful in future. At present early detection and correction of the underlying problem (high venous pressure) is the best option. Surgery to correct problems in the veins will become less invasive with use of endoscopes (small telescopes).