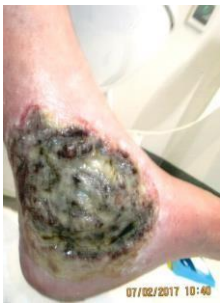
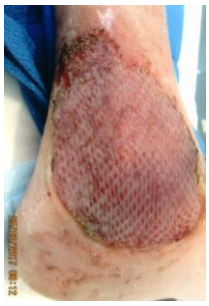
KEEPING YOU IN CIRCULATION

Geelong Vascular Service





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MANAGEMENT OF LOWER LIMB ULCERATION

At Geelong Vascular Service we often see patients with recalcitrant leg ulcers, who have failed to improve despite a variety of dressings. It may be instructive to consider how we might be able to assist patients at an earlier stage of their healing process.

Aetiology

All patients develop leg "ulcers", as this term is used for any loss in an epithelial surface, and all ulcers are caused by trauma. The trauma may be overt or innocuous, acute or chronic, iatrogenic or the result of unrelieved pressure. Over an ulcer, in healthy tissue, complete epithelial cover should take place **within 4 weeks**; the surface dressing choice dictated by whether the wound is wet or dry. If an ulcer persists beyond this time frame, underlying pathology must exist which inhibits epithelial cell growth. **In 85% of leg ulcers prolonged healing is the consequence of arterial or venous disease;** the former responsible for impaired oxygen delivery to the skin, and the latter for limb oedema or scarring that limits oxygen diffusion to the ulcer base. It follows that, in these patients, early vascular assessment is critical to limit tissue loss and to identify treatment options. In only a small percentage of patients is infection, malignancy, or neuropathy the primary problem.

The Vascular Ulcer

Leg ulcers are often described as being "arterial", "venous" or "mixed" if the reason for their persistence is arterial compromise, venous incompetence or obstruction, or a mixture of both, respectively. With the availability of minimally invasive techniques to manage vascular disease, usually under local anaesthetic, there are very few patients now who cannot be offered some therapy to improve the health of their legs and the capacity to heal their ulcers. Patients are never "too old" for treatment!

A Treatment Strategy

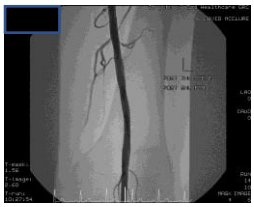
- Dedicated vascular assessment

Mapping of a patient's lower limb arterial supply and venous drainage is a necessary prelude to treatment. The safest, least invasive, and most cost-effective way of achieving this is by dedicated vascular ultrasound. In good hands this modality provides both structural and physiological information, on arterial flow dynamics and directional venous competence, that cannot be derived by CT angiography. Vascular ultrasound interpretation requires a specialised skill set, however, and the study results are very much dependent on the ultrasonographer's ability. **Geelong Vascular Ultrasound** is our dedicated Vascular Laboratory for accurate non-invasive vascular assessment; staffed by specialist Vascular Ultrasonographers. The clinic is open to outside referrals, which can be received by referral-net, or by fax to 03 52292819, and most patients with lower limb ulcers are offered mapping studies of their arteries and veins. Pensioners, and health-card holders are bulk billed for all studies.

- Arterial disease

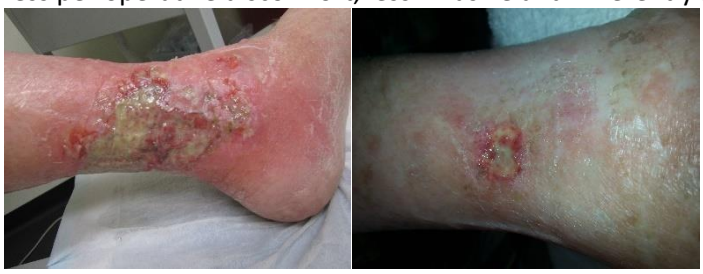
In most patients, now, arterial supply to the limbs can be improved by endovascular intervention; balloon angioplasty and intra-arterial stenting. Treatment is performed in hospital under local anaesthetic with sedation, and few patients require longer than an over-night stay before resuming normal activity. Open surgical revascularisation by arterial endarterectomy or bypass grafting remain options for consideration in some patients, but have been largely replaced by the broad application of angio-intervention.

Long length distal SFA occlusion recanalized and luminal calibre restored by intra-arterial stenting.



- Venous disease

There is a spectrum of venous disease that underlies the presentation of chronic venous ulceration. Patients may have deep venous incompetence or obstruction; most often the consequence of previous DVT, and best managed with appropriate application of graduated compression stockings. They may have superficial venous incompetence; the basis of varicose veins. They may have both. Superficial venous disease is best managed now by endovenous ablative therapies – tolerated by young and old alike. The practice of open vein surgery in hospital, performed under general anaesthetic and usually including deep groin dissection has been abandoned in most modern phlebology practices in the Western World. It has been replaced with ambulatory outpatient treatment; endovenous laser ablation of incompetent main-stem veins, ultra-sound guided sclerotherapy, microphlebectomies, and visual microsclerotherapy. This is in line with the National Institute of Health and Care Excellence (NICE) guidelines; published in July 2013; which recommend ambulatory treatment of lower limb vein disease by laser or radiofrequency ablation ahead of any consideration for open surgery. Treatments at our Laser Vein Clinic are all performed under local anaesthetic, with ultrasound guidance. This provides patients with walk-in walk-out therapy, less perioperative discomfort, less invasive and inherently safer therapy, and early return to normal activity.



Reduction of venous hypertension by laser ablation of superficial vein incompetence provides for improved healing.

Ulcer Care

Most patients, on having their underlying arterial or venous disease addressed, return to the clinic of their General Practitioner for ulcer dressings until healing is complete. As a specialist wound care service, we are happy to provide advice on an appropriate dressing regimen, and to help organise community nurse home visits for regular dressings. Some patients will require more intensive surgical attention to manage their tissue loss. This is particularly the case in diabetics with foot ulcers for whom the combination of microangiopathy, autonomic neuropathy and peripheral sensory neuropathy often leads to the cascade of chronic ulceration, osteomyelitis and mechanical derangement of the foot. They are a particular challenge, requiring a multidisciplinary approach which we are keen to coordinate. Ulcer debridement, VAC dressings, split skin grafting, foot remodelling surgery, total contact casting, compression stocking supply and fitting, and stem cell therapy are all adjuncts we offer to help improve leg health and heal leg ulcers.

A/PROF DAVID NEALE McCLURE

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Appointments and all enquiries can be made by contacting **GEELONG VASCULAR SERVICE** on 03 52290024.
Further information is available on our website: ***www.geelongvascular.com.au***