

Perfuse Medtec Sponsored Learning:

The geko[®] Device: The Body Of Evidence Continues To Grow

Presenters: Dr. Robyn Evans BSc Med CCFP FCFP, Dr. Keith Harding CBE FRCGP FRCP FRCS FLSW, Dr. Gary Sibbald MD MEd DSC (Hon) FRCPC (Med (Derm) FAAD MAPWCA JM and Dr. Michael Stacey MBBS FRACS Doctor of Surgery

Failure of the calf muscle pump is one of the main contributing factors to venous insufficiency and Venous Leg Ulcers (VLUs). Optimal compression and calf muscle activation are paramount to achieving wound healing in these patients. However, not all patients can tolerate or are indicated for compression – for example, patients may have reduced ABPI (but >0.5) or congestive heart failure that require cardiologist evaluation.*

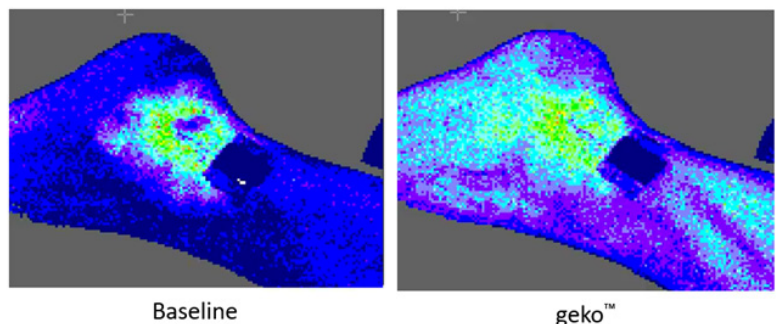
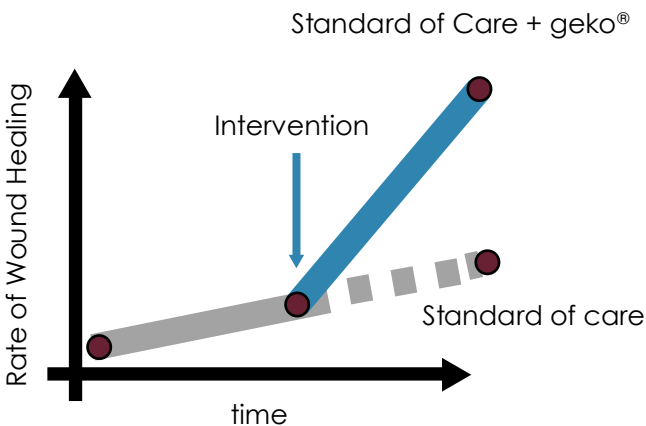
According to the Canadian Consensus Statement (CCS) on the Management of VLUs* such patients may benefit from lower compression plus the use of a muscle pump activator (MPA or geko[®] device).* For patients who are not able to tolerate any compression at all, the CCS suggests the use of geko[®] with the aim to progress toward adding lower compression and then optimal compression.*

It is also recommended that, when there is no wound size reduction in 2-4 weeks or if the reduction is less than 30% at 4 weeks after initiating treatment, clinicians should add geko[®] to the management plan if it's not already in place.*

What Is geko[®] Wound Therapy And How Does It Work?

The geko[®] wound therapy device is lightweight (10g) and is the size of a wristwatch. It is self-adhesive and is easy to apply, whether by the patient or a caregiver. It is worn for 12 hours/day and geko[®] stimulates the common peroneal nerve to deliver 1Hz of painless stimulation that results in isometric muscle contraction to the lower leg. This causes the foot to move outwards (evert) and upwards (dorsiflex). In essence, it addresses the issue related to an inadequate calf muscle pump to move fluid and blood (60% of what is achieved by walking).

Studies have shown that geko[®] has beneficial effects on blood circulation in patients with ischemic ulcers, diabetic foot ulcers (DFUs) and VLUs. The geko[®] can increase arterial and venous blood flow in major vessels (both in volume and velocity) when patients were assessed with ultrasound. It has also been demonstrated that geko[®] can increase microcirculatory perfusion not just to the wound bed but to the periwound area (as seen in the figure under laser speckle contrast imaging).



The Growing Body Of Evidence

Bull et al. published a randomized controlled study in 2023 to evaluate the change in rate of wound healing when geko® was added to the standard of care (SoC) in the management of VLU's.* Subjects enrolled in the study received SoC for 28 days.* Subjects were then randomized into two groups – one continued with SoC while the other received SoC plus geko® for 12 hours/day for another 28 days.* The study found that there was a greater than 2.2 fold increase (see figure) in healing rate for the group with SoC plus MPA compared to the SoC group.* A statistically significant reduction of pain was observed in the group with MPA as well.* Murray et al. (Ontario) in 2025 demonstrated similar results – the prospective cohort with SoC with MPA had a shorter mean healing time compared to the retrospective cohort with SoC alone (40 days vs. 77 days, p=0.005).*

Case Study (Courtesy: Dr. G. Sibbald)

A male patient between the age of 70-79 y.o. presented to clinic with multiple areas of necrotic wounds on his right foot. Patient had multiple comorbidities, including peripheral vascular disease, congestive heart failure, chronic anemia and alcohol-related hepatitis. He has had a bilateral femoral artery stent procedure in August 2023 and had been receiving home nursing care for 3-4 months.

A below knee amputation had been suggested before he was first seen by Dr. Sibbald in September 2023. At that time, the patient had extensive pain (15/10) and could not tolerate the foot being touched. He had been sitting/sleeping on the couch with his legs dependent due to pain. He was unable to go up the stairs nor drive. The patient was treated with a tubular compression garment, with 12 hours of the geko® alternating with nitroglycerin 0.4mg for 12 hours. By Jan 2024, his pain improved (8/10) and could tolerate regular sharp surgical debridement of his wounds. His pain was managed with acetaminophen, pregabalin and nortriptyline. By November 2024, his pain was infrequent (only for a few seconds). He was out of the wheelchair and ambulating. All toe ulcers had healed.



Sept 2023

Jan 2024

Nov 2024

Dr. Michael Stacey MBBS FRACS Doctor of Surgery is a vascular surgeon at Hamilton Health Sciences and Professor at McMaster University.

Dr. Robyn Evans BSc Med CCFP FCFP is the Medical Director of the Wound Healing Clinic at Women's College Hospital and a full-time family physician in the community.

Dr. Keith Harding CBE FRCGP FRCP FRCS FLSW retired from Academic and Clinical practice in the United Kingdom in 2022 and was appointed as an Independent member of the Cardiff & Vale University Health Board in January 2023.

Dr. Gary Sibbald MD Med DSC (Hon) FRCPC (Med (Derm) FAAD MAPWCA JM is a professor of Medicine and Public Health at the University of Toronto and an international wound care key opinion leader (educator, clinician and clinical researcher).

*** References available on request**

To access the full presentation, click here:
[Perfuse On-Demand Sponsored Presentation](#)

Perfuse
Medtec

geko™
wound therapy

Presentation Digest is a production of Wounds Canada. The views expressed in this report are those of the presenter and do not necessarily reflect those of Wounds Canada, which has neither reviewed nor endorsed this report. © 2025 Wounds Canada. All Rights Reserved.