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Case study 6: Using the geko™ device to prevent oedema and promote functional activity following foot surgery

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Abstract: The aim of surgery was to relieve pain and improve the alignment of the big toe. Surgery to correct Hallux Valgus is a largely successful operation1, with a good or very good outcome in 85% of patients1. However, the NHS Choices website advises patients that after bunion surgery, the foot and ankle may be swollen for three months or longer post-surgery. Swelling may occur because of the post-operative rehabilitation instructions that are necessary to ensure bone healing. In addition to swelling, impaired wound healing1 may also occur in 2-4% of patients. The geko™device was therefore chosen as a treatment modality to help accelerate the reduction of this oedema and also to increase blood flow. This is because Neuromuscular Electro-stimulation (NMES) has been found to be effective at increasing venous flow and reducing oedema in the lower limb. The Geko device has also been used successfully to heal wounds2. The small size and portability of the Geko device means that it is ideal for providing treatment to patients continuously throughout the day whilst they are active and at rest. The geko device is effective at providing up to 60% of the blood flow achieved with maximal effort dorsiflexion movements.

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