

Post-operative edema prevention

Preventing the build-up of post-operative edema following orthopaedic surgery.



A new approach

Providing lower limb muscle contraction for the prevention and treatment of edema

Easy-to-use, the geko™ is a battery powered, disposable neuromuscular electrostimulation device designed to increase blood flow in the deep veins of the leg.¹⁷

The geko™ device gently stimulates the common peroneal nerve contracting the calf and foot muscle pumps to prevent and treat edema.

60%

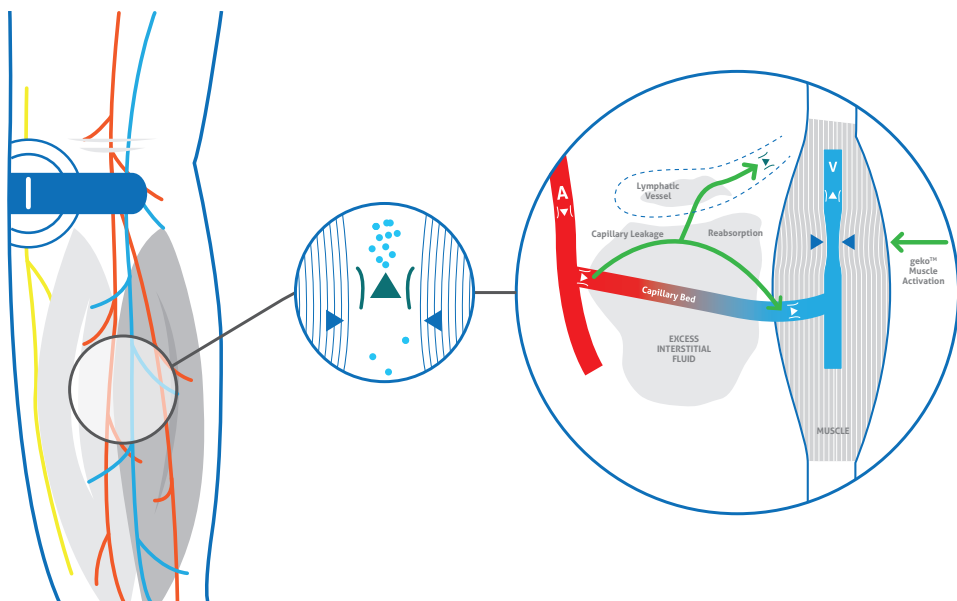
The increase in blood flow is equal to 60%¹⁸ of walking without a patient having to move.

Zero

No wires or leads.
Small, light and comfortable to wear.
Silent in operation.

10g

Weights just 10g.
Quick and easy to fit.



Swelling in the knee, in the acute recovery period following TKR*, can impair quadriceps muscle strength and rehabilitation^{1,2,3}

Knee swelling after TKR can influence the post-operative results.²

- One month after TKR, quadriceps muscle strength drops 50% to 60% of pre-operative levels, despite the initiation of rehabilitation within 48 hours after surgery.^{4,5}
- Muscle weakness, particularly in the quadriceps muscle, has profound functional consequences, especially in older individuals and can be associated with decreased gait speed, balance, stair-climbing ability, and ability to rise from a seated position, as well as an increased risk for falls.^{6,7}
- Impaired functional performance can also be associated with length of stay and patient-reported outcomes⁸ - and the associated knee swelling is known to increase rates of wound dehiscence and infection⁹ and can delay rehabilitation.

Causality:

Impairments in quadriceps muscle strength are caused by edema.¹⁰

Spinal reflex activity from swelling can diminish quadriceps muscle strength. Over time, the fibres of the muscles can atrophy due to the lack of use.¹

Strategies to address **early** quadriceps muscle weakness should address the underlying edema.¹⁰

The geko™ device is clinically proven to prevent the build-up of post-operative edema¹¹

- The geko™ device delivers mechanical compression by activating the calf and foot muscle pumps resulting in increased blood flow and the reduction of edema.¹¹
- The highly portable geko™ device can lower Ambulatory Venous Pressure (AVP) and Venous Transit Times (VTT) transferring tissue fluid back into the veins.¹²
- The geko™ device can prevent edema and promote functional activity following foot surgery.¹³
- The geko™ device is well tolerated.¹⁴

Associated geko™ benefits

The geko™ device also provides venous thrombosis prevention (VTE). NICE guidance (MTG19) supports use of the geko™ device for people who have a high risk of VTE and for whom pharmacological or other methods of VTE prevention are impractical or contraindicated.^{15,16}

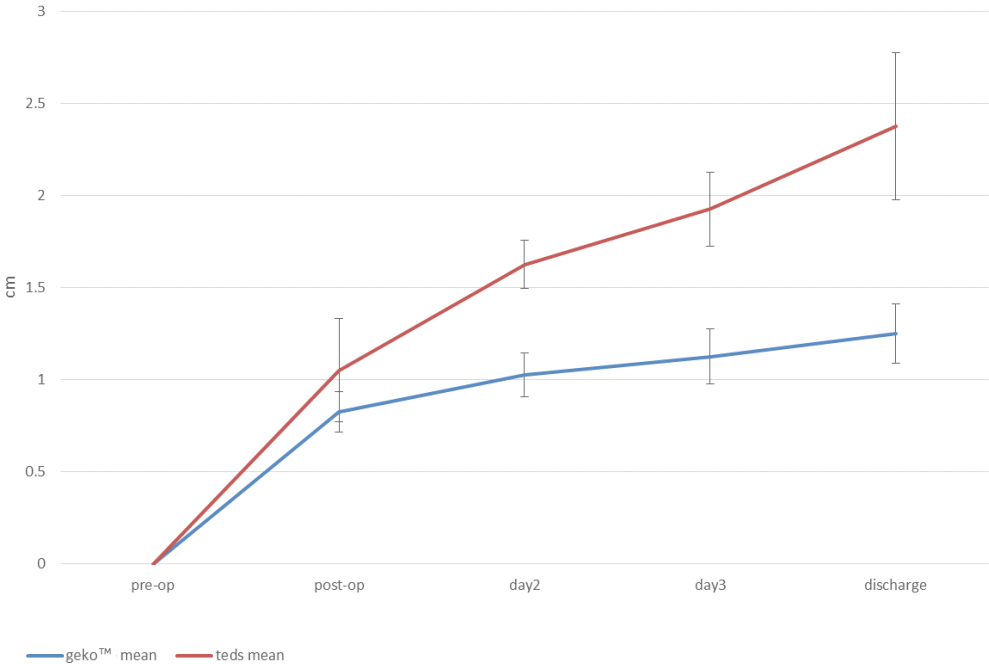


Related geko™ evidence

An RCT comparing the effect of the geko™ device on post-operative edema in Total Hip Replacement patients, demonstrates geko™ efficacy in preventing the build-up of post-operative edema.¹³

The graph shows the change in knee circumference on the hip patient's operated leg.

Change in knee circumference, operated leg



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Self-contained and wearable, the geko™ device is:

- Simple and easy to use.
- Small and light (weighing just 10g) with no wires or leads, enables the patient to be as mobile as possible.

References

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