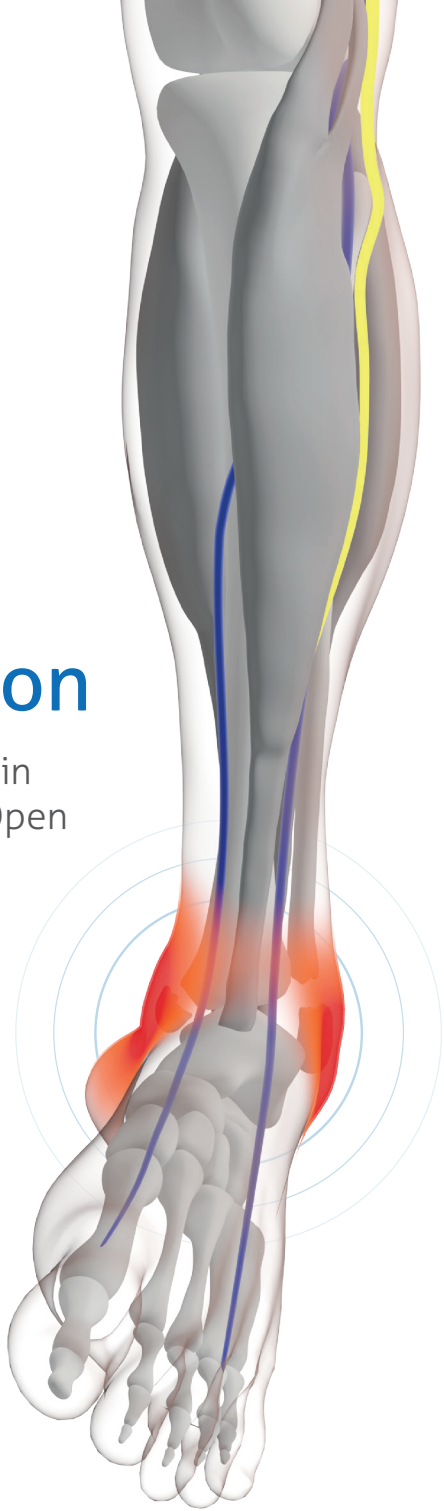
geko™
circulation support

Pre-operative oedema reduction

Accelerating readiness for theatre in ankle fracture patients requiring Open Reduction Internal Fixation (ORIF).



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A new approach using OnPulse™ technology

Managing pre-operative oedema

Due to their unstable nature, many ankle fracture patients will require Open Reduction Internal Fixation (ORIF)[1].

Ankle swelling can often delay surgical fixation due to risk associated with operating on swollen tissue, including wound dehiscence and subsequent infection[2].

Accordingly, interventions that reduce swelling and accelerate surgical fixation provide significant benefits to patients and healthcare providers[2].

Current care can be summarised as leg elevation plus:

- Backslab plaster cast.
- Backslab plaster cast + external fixation.
- Backslab plaster cast + mechanical pneumatic compression.

A new approach

The geko™ device accelerates the reduction of oedema.

Easy to use, the geko™ device is a battery powered, disposable **neuromuscular electrostimulation device** designed to increase blood flow in the deep veins of the leg[3].

The geko™ device gently stimulates the common peroneal nerve **activating the calf and foot muscle pumps**[4], resulting in increased blood flow, and the reduction of oedema[5,6].

60%

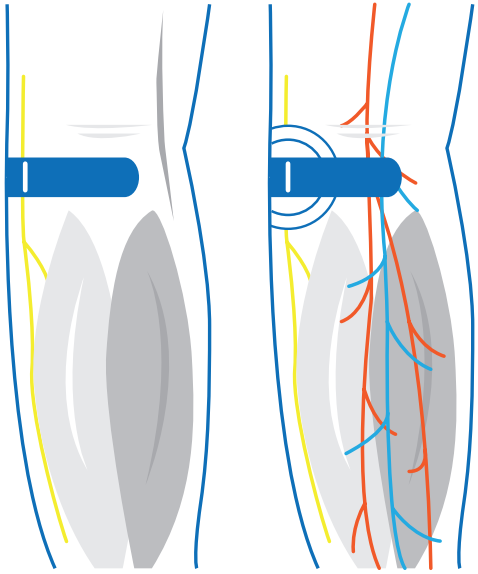
The increase in blood flow is equal to 60%[4] of walking without a patient having to move.

Zero

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

10g

Weighs just 10g. Quick and easy to fit.



Supported by NHS trauma centre[6]

Clinically proven to significantly reduce time to theatre.

A prospective and retrospective study investigated the use of geko™ to reduce pre-operative oedema in ankle fracture patients and compared the results to the current standards of care.

The study recruited ankle fracture patients requiring surgical fixation. The device was fitted above their backslab plaster casts. Patient compliance and readiness to theatre was recorded and matched to a historical cohort for comparison.

The study data was statistically significant: P=0.001[6].

The geko™ device was well tolerated and easy to use.

Results show:

2

2 days improvement in readiness for theatre per patient (average).

2

With geko™ use, 60% of patients ready for theatre in 2 days, compared to 27% in control arm, a 122% improvement.

3.66

Current treatment = 3.66 days readiness to theatre (average).

1.66

The geko™ + plaster cast = 1.66 days readiness to theatre (average).

NHS trauma centre study shows statistical significance

The geko™ device is cost saving

Health economic analysis shows pre-operative oedema reduction and accelerated readiness for theatre would release the following benefits:

- 2 pre-operative bed days saved per patient.
- Compared to the current standards of care, routine use of a backslab plaster cast + geko™ saves an average of £569[6] per patient.

2

Pre-operative bed days saved on average per patient.

£569

Backslab plaster cast + geko™ saves an average of £569 per patient compared to current care.

Scenario analysis shows that the routine use of backslab plaster cast + geko™ is cost saving when compared to the current standard of care options.

Current standard of care is elevation +	Substitute therapy is elevation +	Saving per patient
Backslab plaster cast	Backslab plaster cast +geko™	£565
Backslab plaster cast + mechanical pneumatic compression		£647
Backslab plaster cast + external fixation		£2,122
Backslab plaster cast + external fixation	Backslab plaster cast + external fixation + geko™	£565

Associated benefits

Successful oedema management promotes:

- Post-operative wound closure and surgical site infection reduction[2,7].
- Accelerated recovery - rehabilitation can begin sooner[7].
- Improved theatre time scheduling[8].

NICE guidance (MTG19) recommends use of geko™ for:

- Reducing the risk of DVT in patients who may be contraindicated to drugs or mechanical prophylaxis[9].

Clinically proven to increase blood flow velocity in the deep veins:

- Griffin and Nicolaides report that the geko™ significantly increases blood flow velocity in the deep veins of the calf (P=0.001-0.05), where early thombi form[9].
- Warwick et al report that geko™ significantly increases blood flow velocity in patients with plaster casts (P=0.001-0.003), where calf muscle activation is reduced[10].

Homecare:

- The geko™ device is suitable for hospital or homecare pre-operative oedema management.

Available on NHS supply chain: EGD9020

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