

Pre-operative oedema reduction

The James Cook University Hospital, South Tees Hospitals NHS Foundation Trust

Accelerating readiness for theatre in ankle fracture patients



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Findings from our recent study have led us to adopt the geko™ device for all ankle and hind foot fractures in our unit. We are extremely pleased with the results we are getting.

We saw the potential to help ankle fracture patients become ready for theatre sooner and thought the geko™ device might provide the answer.

Working in partnership with Firstkind, we conducted a prospective and retrospective study to investigate use of the geko™ to reduce pre-operative oedema in ankle fracture patients requiring Open Reduction Surgical Fixation (ORIF).

We fitted the geko™ device above the backslab plaster cast and measured patient tolerance and readiness to theatre, matched to a historical cohort.

The study data was statistically significant in accelerating readiness for theatre: $p=0.001^1$.

Results show:

- 2 days improvement in readiness to theatre per patient (average)
- With geko™ use, 60% of patients ready for theatre in 2 days, compared to 27% in control arm, a 122% improvement.
- Current treatment = 3.66 days readiness to theatre (average)
- The geko™ + plaster cast = 1.66 days readiness to theatre (average)
- The geko™ was well tolerated and easy to use.
- Worn for 24 hours a day on the affected leg.

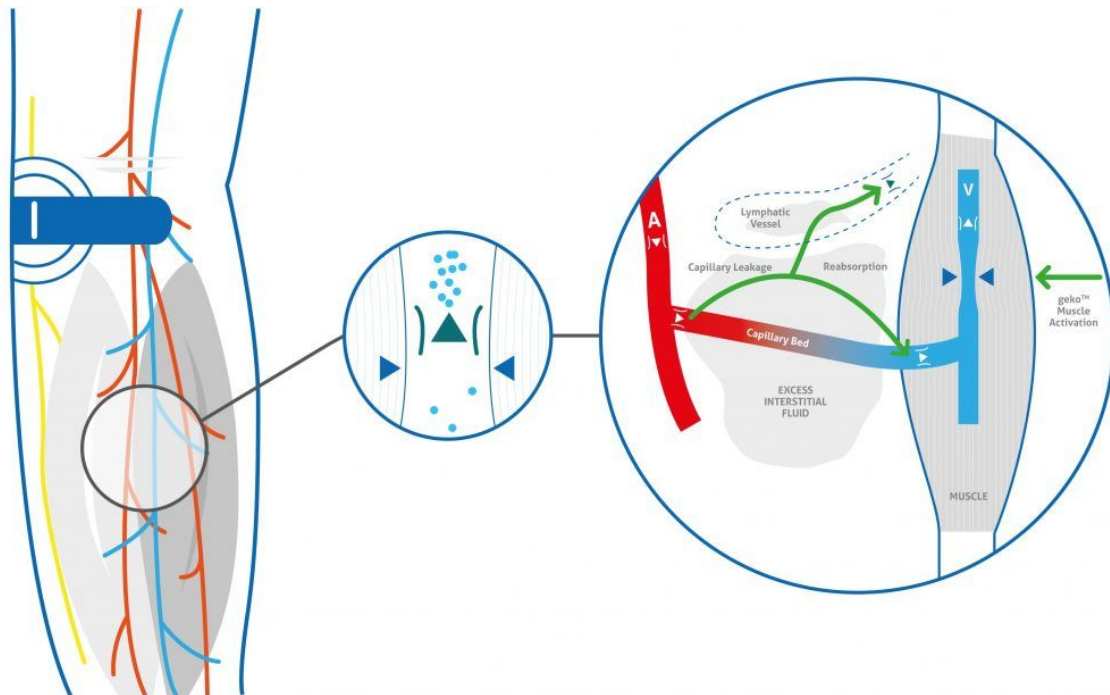


[Mr Paul Baker – NHS James Cook](#)

[Oedema reduction mechanism of](#)

[University Hospital](#)

[action](#)



The geko™ device is cost saving

Independent health economic analysis shows routine use the geko™ device + backslab plaster cast, to accelerate readiness to theatre, saves an average of £569² per patient, compared to current standards of care.

Benefits

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2 days improvement in readiness to theatre (average).

60%

With geko™ use, 60% of patients ready for theatre in 2 days, a 122% improvement.

£569

Cost saving of £569 per patient (average).

Downloads

- [Abstract - Oedema reduction \(ORIF\)](#)
- [Brochure - Oedema reduction \(ORIF\)](#)
- [Poster - Oedema reduction \(ORIF\)](#)

Related Studies & Guidance

- [Abstract - Warwick et al - geko™ plaster cast study](#)
- [Paper - Warwick et al - geko™ plaster cast study](#)
- [Wainwright et al- oedema reduction RCT](#)
- [Abstract - Nicolaidis et al - geko™ deep veins study](#)
- [Paper - Nicolaidis et al - geko™ deep veins study](#)
- [NICE guidance - geko™ VTE prevention](#)

References

1. James Cook, retrospective data on file, April 2017, Firstkind.
2. Health economic analysis performed subsequent to the completion of the study by Mtech Access Ltd, Bicester UK, 2017.
3. Warwick D, et al. Neuromuscular electrostimulation via the common peroneal nerve promotes lower limb blood flow in a below-kneecast: A potential for thromboprophylaxis. *Bone Joint Res* 2013; 2:179–85
4. Wainwright TW, Immins T, Middleton RG, Poster Physiotherapy UK, October 2014, Birmingham.
5. A.Nicolaides, M Griffin, Measurement of blood flow in the deep veins of the lower limb using the geko™ neuromuscular electro-stimulation device. *Journal of International Angiology* August 2016-04.
6. NICE medical technologies guidance (MTG19). Published date: June 20 2014.