

The role of the geko™ device in the reduction of oedema post ankle sprain: A clinical audit

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Aim

To evaluate the use of the geko™ device in reducing oedema in a typical physiotherapy practice setting for patients with an ankle sprain.

Objectives

To investigate the ability of the geko™ device, used in combination with other treatment modalities, to reduce oedema in patients with an ankle sprain, and to assess patient tolerability of wearing the device.

Method

9 consecutive ankle sprain patients who presented with swelling as one of their symptoms were given the geko™ device to wear as part of their treatment. In addition to the device, patients were also given relevant education, advice, and exercises to complete. Where appropriate, manual therapy techniques were also delivered. The improvement of relevant subjective and objective markers, collected by therapists as part of routine clinical practice were assessed before and after the device was applied. The subjective marker used in all cases was the Visual Analogue Scale (VAS) for pain, and for the objective marker, therapists measured either range of motion (ROM) or circumference of the ankle, or both. Feedback was taken from each patient about the wearing the device

Results

8 patients had complete datasets (one patient did not return for follow up) and all patients reported improvements to both subjective and objective markers (Table 1). Patient feedback about using the device was encouraging, and those patients who had suffered from previous ankle sprains unanimously thought that recovery with the geko™ device was quicker than with their previous injury. For example, Subject 6 reported that *"The geko™ felt good... It has helped my ankle improve faster than with a previous ankle sprain"*.

Conclusions

Whilst care must be given when interpreting and generalizing the results from this small cohort, the geko™ device was well tolerated by patients, and when used in combination with other interventions helped to improve subjective and objective markers of recovery used by the physiotherapists. The physiotherapists involved in the audit noted that using the geko™ is advantageous when patients are unable to manage their ankle oedema by using elevation and ice due to work or functional activities.

Although ankle sprains can be successfully treated without the geko™ device, the patients reported quicker recovery compared to previous injury. An increased amount of ankle stability reported by some of the subjects should also be investigated further. It may be that the geko™ mechanism of action, not only helps to activate the muscle pump and reduce swelling, but also helps to activate the peronei muscles that are vital when regaining proprioceptive function post injury.

The geko™ device was well tolerated by patients, contributed to clinical improvements in all patients, and undoubtedly has potential for use within this patient group. Formal research is now indicated to build on these encouraging findings.

Table 1 - Results

SUBJECT	PRESENTING COMPLAINT	TIME SINCE INJURY	ACUITY OF INJURY	INTENDED THERAPEUTIC EFFECT	PRESCRIBED USE	IMPROVED OBJECTIVE MARKER?	IMPROVED SUBJECTIVE MARKER?	PATIENT FEEDBACK
1	ANKLE SPRAIN	3 DAYS	ACUTE	REDUCE SWELLING	24 HOURS X 2	YES	YES	"Since wearing the geko my swelling has definitely reduced. I didn't wear it for the whole 24 hours each day".
2	ATFL SPRAIN	3 DAYS	ACUTE	REDUCE SWELLING	24 HOURS	YES	YES	"I think that it reduced the swelling significantly and that it helped reduce the swelling quicker than when I have sprained my ankle previously"
3	LATERAL ANKLE SPRAIN	4 DAYS	ACUTE	REDUCE SWELLING	24 HOURS X 2	YES	YES	"I definitely felt that it helped to reduce my swelling. I wore it for 12 hours at a time and didn't wear whilst sleeping due to it being annoying"
4	ANKLE SPRAIN	10 DAYS	SUB-ACUTE	REDUCE SWELLING AND PAIN	24 HOURS	UNKNOWN	UNKNOWN	PATIENT FAILED TO REPORT FOR FOLLOW UP
5	ATFL SPRAIN	5 DAYS	ACUTE	REDUCE SWELLING	24 HOURS X 2	YES	YES	"The geko was no bother to use and it helped to reduce my swelling"
6	ANKLE SPRAIN	3 DAYS	ACUTE	REDUCE SWELLING	24 HOURS	YES	YES	"The geko felt good. It has helped my ankle improve faster than with a previous ankle sprain"
7	ANKLE SPRAIN	8 WEEKS	CHRONIC	REDUCE SWELLING AND PAIN	24 HOURS X 2	YES	YES	"I wore it continuously for two days and my pain and swelling both decreased"
8	LATERAL LIGAMENT ANKLE SPRAIN	5 DAYS	ACUTE	REDUCE SWELLING AND IMPROVE ROM	1 HOUR X 4 PER DAY	YES	YES	"Very good - I took a little time to get used to wearing it but feel that it has helped my rehab. My swelling has decreased and my movements have improved"
9	R ANKLE SPRAIN	1 DAY	ACUTE	REDUCE SWELLING AND INCREASE PERONEI FUNCTION	24 HOURS X 4	YES	YES	"It helped reduce my swelling. My ankle feels much more stable compared to after a previous ankle sprain. I am very pleased, it feels much better"