CLINICAL OVERVIEW

USE OF A STATIC PROGRESSIVE STRETCH ORTHOSIS TO TREAT POST-TRAUMATIC ANKLE STIFFNESS

BMC Research Notes: 2012;5:348 Christopher R Costa, Mark J McElroy, Aaron J Johnson, Bradley M Lamm, Michael A Mont

Chronic ankle stiffness can develop for numerous reasons after traumatic injury, and may adversely affect gait, mobility, and function. The purpose of this study was to evaluate a static progressive stretch (SPS) orthosis for the treatment of chronic ankle stiffness.

Twenty-six patients (26 ankles) with chronic ankle stiffness were retrospectively studied. Patients began treatment at a mean of 47 weeks post initial injury, using an SPS orthosis. A protocol of 30 minute sessions, 1 to 3 times per day was followed, until range of motion gains were considered to have plateaued. Mean treatment time was 10 weeks. Mean overall gains in ankle motion were 17^{o}. There were no reports of skin problems or numbness.

Study outcomes suggest that a patient-directed treatment protocol using a SPS orthosis was an effective treatment method for post-traumatic ankle stiffness refractory to standard physical therapy (PT) techniques.

Subjects

- Twenty-six consecutive subjects with chronic post-traumatic ankle stiffness
- Subjects had loss of > 5^{o} ROM in plantar flexion or dorsiflexion for a minimum of 6 weeks post initial injury.
- Twenty-four subjects had undergone a course of PT. Mean time spent in PT prior to enrollment was 12 weeks.

Methods

- Subjects utilized a bi-directional SPS ankle orthosis (Joint Active Systems, Effingham IL), and were instructed to follow a protocol of 3 thirty- minute sessions per day, per direction of motion loss.
- Orthosis use was discontinued when gains in ROM ceased to occur for five consecutive days.
- Ankle Range of Motion (ROM) and evidence of complications were measured approximately 2 times per week during orthosis use, and at 3 month and 1 year follow up intervals.

Results

- Mean duration of orthosis use was 10 weeks.
- Mean increase in total ankle ROM was 17^{o}. Mean increase in dorsiflexion: 10^{o} and plantar flexion: 8^{o}.
- Subjects who initiated SPS orthosis use within 60 weeks of injury had a mean ROM gain of 17^{o}. Those who did so later than 60 weeks post injury had a mean ROM gain of 6^{o}
- There were no reports or physical findings of complications throughout the study or at follow up.
- 25 of 26 subjects reported compliance with orthosis use for at least 30 minutes / day.

Conclusions

- Study outcomes suggest using a SPS orthosis is effective for the treatment of chronic post –traumatic ankle stiffness that is refractory to standard PT.
- Authors urge practitioners to consider SPS earlier in the treatment course for optimal results.

Full Study Available

Please contact JAS at 800-879-0117 or info@jointactivesystems.com