

RESTORING RANGE OF MOTION VIA STRESS RELAXATION AND STATIC PROGRESSIVE STRETCH IN POSTTRAUMATIC ELBOW CONTRACTURES

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Slif D. Ulrich, MD, Peter M. Bonutti, MD, Thorsten M. Seyler, MD, David R. Marker, BS, Bernard F. Morrey, MD, Michael A. Mont, MD.

Elbow joint stiffness and loss of motion develops in many patients following trauma. Restoring range of motion (ROM) and function remains a costly and time consuming challenge. A variety of mobilization splints have been suggested as useful tools to improve elbow ROM when standard exercises alone seem insufficient.

This study is a clinical retrospective review of SPS orthosis use, in 37 patients with persistent posttraumatic elbow joint stiffness despite a full course of therapy. Subjects had undergone standard therapy and home stretching for a mean of 12 weeks prior to initiation of orthosis use.



Materials and Methods

- 37 consecutive patients with persistent posttraumatic elbow stiffness were treated with a bi-directional SPS elbow orthosis (Joint Active Systems Inc, Effingham, IL).
- Elbow ROM loss was defined as a loss of 15° or more of elbow extension, and / or 120° or less of elbow flexion.
- SPS orthosis use consisted of 30- minute sessions up to 3 times daily per direction of ROM loss.
- SPS orthosis use was stopped following a 2-week plateau in ROM gains.
- Gains in elbow ROM, patient satisfaction via an 11 point Likert scale, and use of anti-inflammatory and analgesic medications were measured.

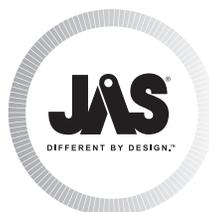
Results

- Mean gain in total elbow ROM was 26° (range, 2°-60°).
- Mean gain in extension ROM was 10°, and in flexion ROM was 16°.

- All patients completed the suggested treatment course in a mean duration of 10 weeks (range, 2-23 weeks).
- Mean satisfaction score was 8.5 out of 10; 94% of patients scored 8 points or higher.
- Analgesic use was lowered during course of SPS orthosis use.

Discussion and Conclusion

- Results demonstrate that SPS therapy can increase ROM effectively in patients with persistent post traumatic elbow stiffness.
- Use of adjunctive SPS orthosis therapy can potentially lower cost of overall treatment.
- Success rates in this study compared favorably with published studies utilizing dynamic or static progressive splint therapy.



Full Study Available.

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