

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

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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

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- 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

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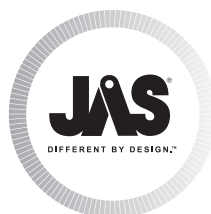
- Mean gain in total elbow ROM was 26° (range, 2°-60°).
- Mean gain in extension ROM was 10°, and in flexion ROM was 16°.

- 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

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- 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.**

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