

THE EFFECTIVENESS OF STATIC PROGRESSIVE SPLINTING FOR POST-TRAUMATIC ELBOW STIFFNESS

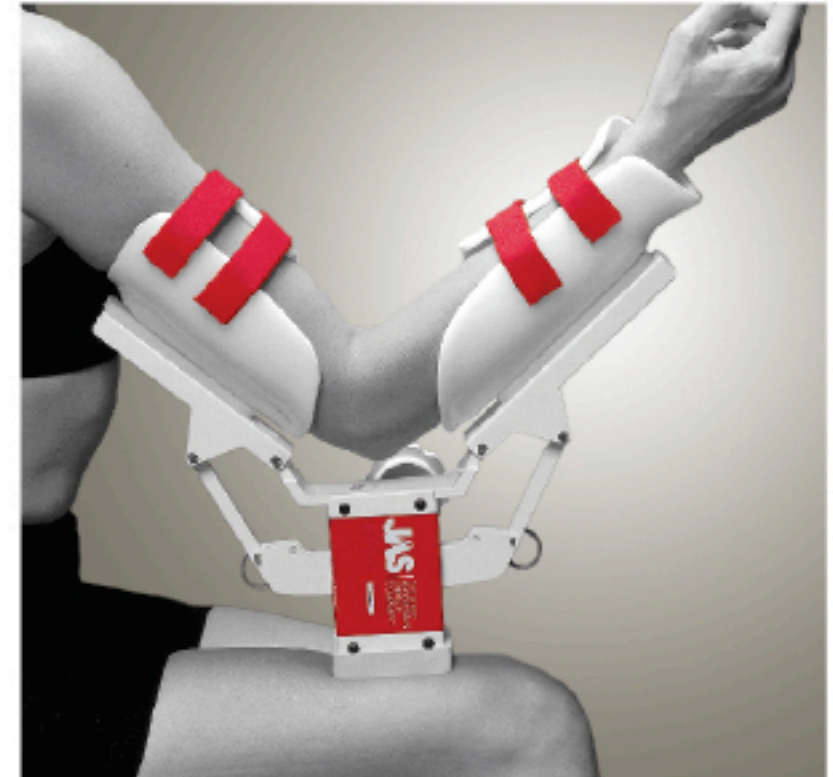
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Elbow stiffness is one of the most common complications of elbow trauma. A program of static progressive splinting is often used in an attempt to avoid surgery when a standard exercise program is no longer improving motion. It remains unclear how often splinting obviates the need for surgery.

The objective of this retrospective case series was to determine the value of static progressive stretch (SPS) splinting in helping patients with posttraumatic elbow stiffness regain functional motion and avoid operative treatment.

Conclusions revealed that SPS splinting can help gain additional motion when standard exercises prove inadequate. Operative treatment was avoided in over three-fourths of patients.



Patient Population

- 29 consecutive patients with post traumatic elbow stiffness (flexion contracture greater than 30° or flexion less than 130°).
- Subjects were not achieving gains in motion with occupational therapist-directed standard exercise program.
- Three subjects enrolled after nonoperative treatment of initial injury, 14 after operative treatment and 12 after open capsulectomy for post-traumatic stiffness.

Materials and Methods

- Patients were treated with an SPS elbow device (Joint Active Systems, Effingham, Ill.).
- General wearing protocol consisted of three 30-minute treatment sessions per day, in each direction of motion loss.
- SPS device use averaged four months, and was initiated on average of 52 days after surgery or injury.
- Pre-splinting and final elbow motion was measured by an occupational therapist, the treating surgeon or a medical student researcher using a goniometer.

Results

- The average flexion arc improved from 71° to 112° (41°).
- 66% of patients regained a functional arc of motion as defined by Morrey and colleagues.
- Only three patients – two with heterotopic bone and one with an ulnar neuropathy – requested operative treatment to address elbow stiffness.
- Patients initiating SPS splinting after initial injury gained greater ROM than those who initiated SPS splinting after capsulectomy.

Conclusions

- Data suggests that when a standard therapy course no longer shows ROM progress, a trial of SPS splinting should be considered.
- Operative treatment was avoided in most patients.
- In the authors' opinion, those who ultimately require surgery will be well-prepared to use an SPS device after surgery, if necessary.



Full Study Available.

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