



STATIC PROGRESSIVE STRETCH TO REESTABLISH ELBOW RANGE OF MOTION

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Peter Bonutti, M.D.
Jeffrey Windau, B.S.
Brent Ables, M.S.
Bryan Miller, Ph.D.



Static progressive stretch (SPS) is a technique using the biomechanical principle of stress relaxation to restore range of motion.

Alternative techniques such as dynamic splinting and traction rely on a time-dependent material property, creep, which applies a continuous load. This and other techniques such as serial casting and splinting are time-intensive and usually require assistance by a therapist.

This study evaluates the effectiveness of an SPS device using a 30-minute, patient-controlled SPS protocol.

Patient Population

- 20 patients with contracture or stiffness at the elbow joint.
- Initial injuries causing contracture or stiffness were varied.
- All had limited success with other treatment modalities (dynamic splinting, serial casting, physical therapy and/or surgery).
- Duration of contracture ranged from one month to 42 years.
- Mean age was 33 years (7 to 77).

Materials and Methods

- Patients used the device three times per day following a 30-minute self-controlled SPS protocol.
- If patients needed both flexion and extension therapy, separate sessions were conducted, with a short rest in between.
- Therapy was discontinued when patients regained functional ROM or plateaued in making ROM gains for a two-week period.
- Duration of device use ranged from one to three months.

Results

- Patients gained an average of 17° extension and 14° flexion.
- Total average increase in ROM was 31° (69% increase).
- Patient compliance was 100%, with no complaint of pain during JAS device use.
- There was no decrease in ROM at one-year follow-up.
- The JAS Elbow device was effective in permanently restoring ROM.