

CLINICAL OVERVIEW

STATIC PROGRESSIVE STRETCH IS EFFECTIVE IN TREATING SHOULDER ADHESIVE CAPSULITIS: PROSPECTIVE, RANDOMIZED, CONTROLLED STUDY WITH A TWO-YEAR FOLLOW-UP

Full study appeared in European Journal of Physiotherapy. 2015: Vol 17, Issue 3, 138-147. <http://dx.doi.org/10.3109/21679169.2015.1057863>.
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Static progressive stretch (SPS) devices are used to restore shoulder functional mobility in patients with adhesive capsulitis. This prospective, randomized, controlled clinical study compared traditional physical therapy (PT) alone with a combination of traditional PT and SPS device use in the treatment of shoulder adhesive capsulitis. Sixty patients were randomly assigned to either the control or experimental group; both groups received three physical therapy sessions per week for 4 weeks, while the experimental group used in addition a SPS device for 4 weeks. Shoulder active and passive abduction, and passive external rotation range of motion (ROM), Disabilities of the Arm, Shoulder and Hand (DASH) functional scores, and visual analog scale (VAS) pain scores were recorded for all patients at baseline and at 4, 12, 24, 52 and 104 weeks. At all follow-up intervals, including 104 weeks from baseline, statistical analysis demonstrated that traditional PT and SPS device use resulted in significantly increased mean shoulder active and passive abduction, and passive external rotation ROM, and significantly reduced mean DASH scores compared to traditional PT alone ($p < 0.001$). In conclusion, this study showed lasting favorable effects of SPS device use with traditional PT in treating subjects with shoulder adhesive capsulitis.



Methods

- A prospective, pre-post-test, two-group, randomized, controlled study was conducted
- 60 subjects diagnosed with adhesive capsulitis (stage 3 or 4) were randomly assigned into traditional PT alone (control group) or traditional PT combined with SPS device use (experimental group)
- All subjects in both groups received three PT sessions per week for 4 weeks, and were instructed to perform home exercises (pulley, wand and pendulum exercises) three times per day
- The experimental group additionally used a JAS SPS shoulder orthosis (Joint Active Systems, Effingham IL, USA) up to three times per day for 4 weeks
- Abduction (active and passive) passive external rotation, DASH scores, and VAS pain scores were measured at baseline, 4, 12, 24, 52 and 104 weeks

Results

- After intervention (4 weeks), the experimental group (PT and JAS SPS) demonstrated significantly greater improvement in ROM and functional outcome measures
- Mean active abduction ROM gains: 76° vs 46° (control)
- Mean passive abduction ROM gains: 64° vs 37° (control)
- Mean external rotation ROM gains: 53° vs 30° (control)
- Mean decrease in DASH scores: 68 vs 58 points (control)
- Mean decrease in VAS pain scores: 3 vs 4 points (control). At further follow up intervals VAS scores continued to decrease in the experimental group but increased in the control group
- At the 12, 24, 52 and 104 week follow-up intervals, the significant difference between the two groups remained in favor of the experimental group for all ROM and DASH scores
- At 52 week follow-up, the differences between groups were maintained and even increased for all outcome measures, all in favor of the experimental group
- At 104 week follow-up, the differences between groups decreased but the overall results remained in favor of the experimental group for all outcome measures

Conclusions

- Study results for the 2 year follow-up period showed that long-term, significant, favorable improvement may be seen in the functional and clinical outcomes of treatment of shoulder adhesive capsulitis with the use of an adjunctive SPS device when compared to treatment with traditional PT alone.
- This study shows more promising results than a previous study using dynamic splinting combined with traditional PT.
- Authors recommend the addition of SPS device use to the PT regimen of all patients with adhesive capsulitis of the shoulder in order to improve clinical outcomes and functional mobility.



Full Study Available

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

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