

Efficacy of Spencer's Technique on Shoulder Mobility and Disability across Stages of Adhesive Capsulitis

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ABSTRACT

Introduction: Frozen shoulder, also known as adhesive capsulitis, is a common musculoskeletal disorder characterised by pain, progressive stiffness, and restriction of shoulder joint movements, leading to significant functional disability. The condition progresses through painful, frozen, and thawing stages, each requiring appropriate therapeutic management. Spencer's Technique, an osteopathic manipulative approach, has been increasingly used in physiotherapy practice for improving shoulder mobility and reducing pain; however, limited evidence exists regarding its effectiveness across different stages of frozen shoulder.

Aim: To evaluate the effectiveness of Spencer's Technique combined with conventional physiotherapy on pain, shoulder Range Of Motion (ROM), and functional disability among patients with different stages of frozen shoulder.

Materials and Methods: A quasi-experimental study was conducted on 30 participants diagnosed with frozen shoulder. Participants were categorised equally into Stage 1, Stage 2, and Stage 3 groups. All participants received Spencer's Technique along with conventional physiotherapy interventions for six weeks. Outcome measures included the Visual Analogue Scale (VAS) for pain assessment, shoulder ROM measured using universal goniometry, and the Shoulder Pain and Disability Index (SPADI) for functional

disability. Assessments were performed at baseline, 3 weeks, and 6 weeks. Data were analysed using Repeated Measures ANOVA and Bonferroni post hoc comparisons.

Results: The study demonstrated statistically significant improvements in pain, ROM, and functional disability across all stages over time ($p < 0.001$). Mean shoulder flexion improved from $107.50 \pm 28.73^\circ$ at baseline to $143.67 \pm 29.91^\circ$ at 6 weeks, while abduction improved from $96.50 \pm 28.65^\circ$ to $136.00 \pm 25.48^\circ$. External rotation showed a 94.07% improvement, and internal rotation improved by 57.5%. Mean SPADI scores decreased from $60.50 \pm 19.39\%$ at baseline to $36.30 \pm 16.82\%$ at 6 weeks, indicating clinically meaningful functional recovery. Significant Stage $\times$ Time interactions were observed, with Stage 3 participants demonstrating the greatest improvements.

Conclusion: Spencer's technique, combined with conventional physiotherapy, is effective in reducing pain, improving shoulder ROM, and enhancing functional ability in patients with frozen shoulder. The intervention was beneficial across all stages, with the greatest improvements observed during the thawing stage (Stage 3). The findings support the use of Spencer's technique as an effective rehabilitation approach in the management of frozen shoulder.

Keywords: Frozen shoulder, Physiotherapy, Range of motion, Rehabilitation, Shoulder pain.

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