ABSTRACT

**Background:** Post-operative range of motion (ROM) loss and pain can limit quality of life, prolong functional return to activity, and may be sport/career threatening. Dry needling (DN) is intended as assist in the treatment of these complaints.

**Purpose:** To determine if the addition of upper quarter DN to a rehabilitation protocol is more effective in improving ROM, pain, and functional outcome scores when compared to a rehabilitation protocol alone after shoulder stabilization surgery.

**Study Design:** Single-Blind Randomized Clinical Trial

**Methods:** Thirty-nine post-operative shoulder patients were randomly allocated into two groups: (1) standard of care rehabilitation (control group) (2) standard of care rehabilitation plus dry needling (experimental group). Patient's pain, ROM, and functional outcome scores were assessed at baseline (4 weeks post-operative), and at 8 weeks, 12 weeks, and 6 months post-operative.

**Results:** Of 39 enrolled patients, 20 were allocated to the control group and 19 to the experimental group. At six-month follow up, there was a statistically significant improvement in shoulder flexion ROM in the control group. Aside from this, there were no significant differences in outcomes between the two treatment groups. Both groups showed improvement over time. No adverse events were reported.

**Conclusion:** Dry needling of the shoulder girdle in addition to standard of care rehabilitation after shoulder stabilization surgery did not significantly improve shoulder ROM, pain, or functional outcome scores when compared with standard of care rehabilitation alone. Both group's improvement was largely equal over time. The significant difference in flexion at the six-month follow up may be explained by additional time spent receiving passive range of motion (PROM) in the control group. These results provide preliminary evidence that dry needling in a post-surgical population is safe and without significant risk of iatrogenic infection or other adverse events.

**Level of Evidence:** Therapy, Level 2.

**Key Words:** Dry needling, glenohumeral instability, surgical shoulder stabilization, Movement System