

**IMMEDIATE EFFECTIVENESS OF DRY NEEDLING THE LEVATOR SCAPULAE ON CERVICAL RANGE OF MOTION.** Rutland MD, Fisher KK, Lopez C, Pilcher LN, Rogers JL. Hardin-Simmons University Department of Physical Therapy, Abilene, TX.

**PURPOSE:** Deficits in cervical range of motion (ROM) can cause difficulties in the workplace, during daily activities, or even sleeping. The purpose of this study was to evaluate the immediate effects of dry needling the levator scapulae on cervical ROM. **SUBJECTS:** Individuals between 18-30 years of age were recruited from Hardin-Simmons University using email and word of mouth to serve as the subjects for this study. Exclusion criteria included exhibiting normal cervical ROM, pregnancy, previous cervical or back surgery, or blood pressure greater than 160/90mmHg. **METHODS:** Approval for this study was obtained from the Institutional Review Board. Prior to testing, subjects completed an informed consent, dry needling release form, health history form, and blood pressure assessment. Subjects were randomly assigned to a dry needling (DN) or sham dry needling (SDN) group. Cervical ROM measurements were assessed using a cervical range of motion (CROM) device pre- and immediately post-intervention. Pistoning DN or SDN technique was administered to the levator scapulae of the dominant arm for two sessions of one and a half minute treatments. DN consisted of insertion of a 40mm dry needle into the levator scapulae attachment at the superior angle of the scapula, a common location for trigger points, while SDN consisted of an empty guide tube applied firmly to the same location. Following intervention, all subjects were instructed in two cervical stretches as demonstrated by the researchers and were educated of possible residual effects of dry needling. **RESULTS:** Forty-two females and 26 males (n=68) with a mean age of 22.5 years (+/-1.9) were allocated to DN (n=34, M=20, F=14) and SDN (n=34, M=22, F=12) groups. Four subjects were left-hand dominant and all were randomly assigned to SDN. Significance was noted in DN left lateral flexion in the 3-way MANOVA interaction between pre/post-measurements, males/females, and DN/SDN groups ( $p \leq 0.05$ ). The two-way interaction between males/females and DN/SDN group, also significant ( $p \leq 0.05$ ), differed between pre- and post- intervention measurements. No significance was found in cervical flexion, extension, or rotation ROM. **CONCLUSIONS:** Trigger point dry needling of the dominant-side levator scapulae can be an effective treatment option to increase cervical lateral flexion to the opposite side. Limitations of this study included a convenience sample lacking diversity, lack of long-term follow-up, and potential physiological effects seen with the SDN intervention. **CLINICAL RELEVANCE:** Dry needling can be an immediately effective intervention in treating musculoskeletal dysfunction of the levator scapulae. When compared to traditional manual soft tissue techniques, dry needling offers an alternative treatment strategy and adds to the large array of therapeutic techniques currently available.