Whalen Abstract

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Title: The Effects of Upper Thoracic and Cervical Thoracic Junction Manipulation on Rehabilitation of Internal Impingement Syndrome

Background

A systematic review was completed by the researchers in order to synthesize the evidence on the diagnosis, intervention and prognosis of internal impingement syndrome of the shoulder as it relates to physical therapy. The systematic review showed that there is limited research to support the effect of high velocity low amplitude thrusts on the thoracic spine for treatment for internal impingement syndrome of the shoulder. However, there is evidence to support the use of thoracic manipulations for external impingement to increase function and decrease pain. The aim of this study was to research the effects of thoracic manipulations and cervicothoracic junction manipulations in regard to functional outcomes and pain outcomes compared to patients who received traditional physical therapy treatment for patients with internal impingement. Our research project will add to the body of evidence and help guide future treatments of patients with internal impingement syndrome.

Methods

We first started with a review of the literature for studies relating to internal impingement of the shoulder. We will perform a randomized control study of two groups. The participants will be randomized into each group with the aim of at least fifty participants per group. One group will be receiving traditional internal impingement physical therapy and posterior and inferior shoulder mobilizations. Traditional physical therapy of internal impingement includes stretching of the posterior joint capsule and strengthening of scapular stabilizers. The other group will also receive traditional internal impingement physical therapy, however posterior and inferior mobilizations will be substituted by cervical thoracic junction manipulations and thoracic spinal thrust manipulation. Participants will receive treatment for two weeks, two times a week. The patient's external, internal, and flexion range of motion will be measured, along with pain, and shoulder function. These results will be compared at baseline, after the treatment protocol, and after a two week follow up.

Results:

We expect our results to show that cervical thoracic junction and upper thoracic spine manipulations in combination with traditional physical therapy will decrease pain, increase range of motion, and increase function in patients suffering from internal impingement syndrome more than patients who received traditional physical therapy treatment and posterior and inferior mobilizations. We will measure the effects of the manipulations on shoulder function and pain compared to the traditional physical therapy by using various outcome measures such as the quick DASH (Disability of Arm Shoulder and Hand) plus sports section and the Visual Analog scale (VAS Scale), which have been proven to valid and reliable measures. Shoulder range of motion will be measured using a goniometer.

Discussion and Conclusion

There is little evidence currently on whether or not high velocity low amplitude upper thoracic and cervical thoracic junction manipulations will affect the treatment of internal impingement syndrome. The results of this study will show the effect of upper thoracic spinal high velocity low amplitude manipulation and cervical thoracic junction manipulation and therapeutic exercise as compared to shoulder joint mobilization and therapeutic exercise. Our work may contribute to

the evidence on how to treat internal impingement syndrome of the shoulder efficiently and effectively. Internal impingement of the shoulder is a common injury in overhead athletes, especially in pitchers. The addition of our research to the evidence may help treat overhead athletes in the most effective way possible.

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