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Effects of Mobilization with Movement (MWM) in Shoulder Impingement Syndrome Patients on Acromiohumeral Distance using Ultrasonography

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Abstract

Aim: To study the effect of MWM on acromiohumeral distance, pain and disability in patients with Shoulder Impingement Syndrome. **Method:** Fifteen subjects with shoulder impingement syndrome were selected. Participants were treated with MWM posterolateral glide for shoulder for 6 sessions. The main outcome measures include dultrasonographic measurement of the acromiohumeral distance, VAS, SPADI and DASH scale. **Results:** There were extremely significant changes seen in the acromiohumeral distance in patients with impingement pre and post MWM treatment with p value of <0.0001. Pain and disability also showed extremely significant changes with a p value of <0.0001. **Conclusion:** The study concludes that MWM is effective in increasing the acromiohumeral distance and in reducing pain and disability in patients with shoulder impingement syndrome.

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Introduction

Shoulder disorders are among the most common of all peripheral joint complaints (Chard et al,1991; Lo et al,1990). Shoulder Impingement Syndrome (SIS) is defined as the mechanical entrapment of the rotator cuff (mainly the supraspinatus tendon) or the subacromial bursa in the subacromial space between the humeral head and the acromion or coracohumeral ligament (Ellenbecker. et al,2010; Cools et al,2008).It is characterized by shoulder pain that is exacerbated by arm elevation or overhead activities(Ludewig et al,2000; Lukasiewicz et al,1999). The etiology of SIS is multifactorial. Two main contributing factors are: (1) Narrowing of the subacromial space (2) Enlargement of the subacromial tissues (bursae /tendons)(Cholewinski et al,2008; Wang et al,2005).The subacromial space was quantified by the acromiohumeral distance (Cholewinski et al,2008).The subacromial space or acromiohumeral distance could be measured using ultrasound which was found to be a technique that is non-invasive, radiation free and has high validity when compared with others (Azzoni et al,2004).More extensively studied is the subacromial space at the anterior outlet via the acromiohumeral distance measure on ultrasound images with the majority of studies reporting a smaller AHD in those with subacromial impingement syndrome (Bhatt et al,2013).Many factors have been proposed as contributors to the development of shoulder impingement syndrome (Michener et al, 2003).Mechanisms include intrinsic changes in the supraspinatus tendon and extrinsically