

Combined Effect of End Range Mobilization (ERM) and Mobilization with Movement (MWM) Techniques on Range Of Motion and Disability in Frozen Shoulder Patients: A Randomized Clinical Trial

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Abstract

The purpose of the study was to find out the combined effect of end range mobilization and mobilization with movement in patients with frozen shoulder. A total of 30 patients (male =16; female=14) were selected as subjects and they were further divided into 3 groups respectively (Group A=ERM; Group B=MWM; Group C=ERM+MWM). Each group comprising of 10 subjects (Group A & B male=6, female=4; Group C male= 4, female= 6). The results of the present study suggest that there was an improvement in the mean values of Range of Motion (both active & passive) and Shoulder Pain Disability Index scores after treatment in all the 3 groups. But it was found that an improvement was statistically significant more in the group C than the group A & B respectively. It was concluded that the combination manual therapy (ERM+MWM) should be incorporated in the treatment protocol of frozen shoulder patients to achieve better gain in the ROM & SPADI scores.

Keywords: ERM, MWM, Frozen Shoulder, ROM, Disability

Introduction

Frozen shoulder syndrome is a condition of uncertain etiology characterized by a progressive loss of both active and passive shoulder motion (*Yang et al, 2007*). It occurs in the general population with an incidence of approximately 2% and of these 20 to 30% develop the condition bilaterally (*Binder et al, 1984*). The condition is characterized by an insidious and progressive loss of active and passive mobility in the glenohumeral joint due to joint contracture (*Vermeulen et al, 2000*). It is more common in females, age between 40-60 years (*Khan et al, 2009*) and in the non-dominant arm. Pain and stiffness noted in these patients was not due to arthritis, but rather, was due to soft tissue pathology of

the periarticular structures. There is slow onset of pain felt near the insertion of deltoid, inability to sleep on the affected side, painful and restricted elevation and external rotation, with a normal radiological appearance (*Bunker, 1997*). The loss of passive range of external rotation has remained pivotal to the diagnosis of frozen shoulder. *Kelly et al (2009)* described the classification system identifying primary frozen shoulder as idiopathic and secondary shoulder as posttraumatic and proposed the classification where primary frozen shoulder and idiopathic adhesive capsulitis are considered identical and not associated with a systemic condition or history of injury. Capsule and synovium thickness greater than 4 mm is a specific and sensitive criterion for diagnosis of frozen