TIME COURSE AND THE EFFECTS OF TAPING OF A MULLIGAN’S MOBILIZATION-WITH-MOVEMENT MANUAL THERAPY TECHNIQUE IN PAIN LIMITED SHOULDERS

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Purpose: To investigate the time course of effects of Mulligan’s mobilization-with-movement (MWM) technique and tape on shoulder pain and range of movement (ROM) in patients with pain-limited shoulder movement.

Relevance: Shoulder pain with a subsequent restriction of movement is a common problem in both the sporting and working population, with approximately 6% of primary care visits related to neck and shoulder pain. MWM techniques have been shown to reduce pain (pressure pain threshold 20.2%, $F(2,46)=3.44\, P=0.04$) and increase ROM (15.3%, $F(2,46)=16.31\, P=0.00$) immediately following the application of the technique to the shoulder. It is unknown how long these effects last and whether the application of sports tape, very commonly used as an adjunct treatment, improved the effects of the technique.

Participants: 23 participants (13 males, 10 females, average age 44.7 years SD 12.7 years) participated in this study. Inclusion criteria included age (18-65 years), existence of shoulder pain for greater than 4 weeks, palpable tenderness over the antero-lateral aspect of the shoulder and pain that limited the participant’s ability to lift their arm overhead in the plane of the scapula.

Methods: This study was a cross over design with one week between treatment sessions to allow for washout of treatment effect. All participants were randomised to receive 3 sets of 10 repetitions of MWM with or without tape. Measures of ROM and PPT were taken at baseline, immediately post treatment, 1/2 hour, 24 hours and then 1 week post treatment. All participants then underwent one week’s washout period following which they then received the opposite intervention (i.e., no tape (NT) or tape(T) after the MWM).

Analysis: Repeated measures ANOVAs were used to analyse the change in ROM and PPT within and between groups and post hoc tests were performed where significant main and interaction effects were present.

Results: There was no significant difference between groups at baseline for any of the measures, suggesting that the washout period was sufficient. ROM significantly improved immediately following the treatment application for both groups, however it was only sustained for 30 minutes post-application for the NT group. The T group showed significant improvement after the intervention which was sustained to one week follow up. There was no order effect to the time of the taping.

Conclusions: MWM with and without tape produced significant improvements in ROM and PPT immediately post-intervention. However, only the MWM with Tape gave lasting improvement to one week follow up. Whether the participants received tape in the first or second intervention period did not influence the outcomes.

Implications: A multi modal approach combining MWM with tape is preferential to MWM alone in management of shoulder pain that limits ROM. Manual therapy may be beneficial initially to relieve pain and increase ROM but further treatments and other interventions are needed to maintain that improvement.

Key-words: 1. Mulligan’s mobilization-with-movement; 2. time course 3.

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