Welcome

Welcome to the 11th edition of Research Review. This will be the last review before we all meet up at the IFOMPT conference in Glasgow. It will be up to the new executive appointed after the conference to decide if they want to continue with this Research Review but for my part, I am keen to keep this going. I am also keen to grow the number of people who contribute to the commentaries so don’t be shy and feel free to get involved.

All you need to do is select an abstract from the papers listed in the Evidence Release, read the paper and make a comment that clinicians would enjoy. In this edition there are a range of papers reviewed; one looks at therapist and patient factors that influence our interactions, and another paper demonstrated that early and intense intervention in whiplash patients is actually not that helpful! Enjoy and see you all in Glasgow!     Duncan
**Paper One**

**Abstract**

**Aim:** To determine whether the results from previous research suggesting that early intensive health care delays recovery from whiplash-associated disorders (WADs) were confounded by expectations of recovery and whether the association between early health care intensity and time to recovery varies across patterns of health care.

**Study design:** Population-based inception cohort.

**Methods:** Setting: All adults (≥18y) injured in motor vehicle collisions who received treatment from a regulated health professional or reported their injuries to the single provincially administered motor vehicle insurer. Population Participants with WAD (N=5204). Self-report visits to physicians, chiropractors, physiotherapists, massage therapists, and other professionals during the first 42 days post collision were used to define health care intensity. Main outcome measure: Self-perceived recovery.

**Results:** Individuals with high utilisation health care had slower recovery independent of expectation of recovery and other confounders. Compared with individuals who reported low utilisation of physician services, recovery was slower for those with high health care utilisation, regardless of the type of profession. For instance, those with high physician (hazard rate ratio [HRR]=.56; 95% confidence interval [CI], .42-.75), and high massage therapy utilisation (HRR=.74; 95% CI, .64-.85), and physician and high massage therapy utilisation (HRR=.78; 95% CI, .68-.90) had significantly slower recovery.

**Conclusion:** Our study adds to the existing evidence that early intensive care is associated with slower recovery from WAD, independent of expectation of recovery. The results have policy implications and suggest that the optimal management of WADs focuses on reassurance and education instead of intensive care.

**Commentary:** Often the findings of this type of study is seen as a negative when in other areas early intervention seems to be a useful treatment approach. In the case of whiplash though it seems that too much too soon is associated with a poorer outcome. These results still support the original findings and recommendations of the Quebec Taskforce on Whiplash Associated Disorders, Spitzer (1995), where the guidelines suggested reassurance about good prognosis is important. Self exercise, having a positive attitude and beliefs are also helpful in regaining activity levels. Sterling et al (2005) have also shown that both physical and psychological factors play a role in recovery or non-recovery from whiplash injury.

**References:**


**Paper Two**


**Abstract**

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**Paper Three**


**Abstract**

**Background:** There are few level 1 or 2 evidence studies that examine rehabilitation after rotator cuff repair. Pulleys have been used in postoperative shoulder rehabilitation with the intention of improving range of motion and developing strength. There is a concern that the use of pulleys in rehabilitation of rotator cuff repairs may contribute to excessive scapular motion (scapular substitution) and potentially inferior outcomes.
Hypothesis: Rotator cuff repair patients treated with pulley exercises would have increased scapular substitution and inferior patient-determined outcome scores, range of motion, and strength compared with patients treated with an alternative rehabilitation program without pulleys.

Study design: Randomised controlled trial; Level of evidence, 1.

Methods: A total of 27 patients who underwent rotator cuff repair were randomised to a rehabilitation group that used pulleys initiated 6 weeks postoperatively, and 26 patients followed a rehabilitation protocol without pulleys. Inclusion criteria were patients undergoing arthroscopic rotator cuff repair. Exclusion criteria were large to massive rotator cuff tears, revision rotator cuff repair, glenohumeral osteoarthritis, adhesive capsulitis, and a symptomatic contralateral shoulder. Outcomes of intervention were patient-determined outcome scores (Western Ontario Rotator Cuff Index [WORC], American Shoulder and Elbow Surgeons [ASES] Shoulder Score, Single Assessment Numeric Evaluation [SANE], Shoulder Activity Level, and Simple Shoulder Test [SST]), range of motion, scapular substitution, and strength. Outcomes were determined at 6, 12, 18, 26, and 52 weeks. A power analysis determined that 22 patients were needed per group to have a power of 0.80, α = 0.05, and effect size of f = 0.5.

Results: Both groups had statistically significant improvements in WORC, ASES Shoulder Score, SST, and SANE scores over time after rotator cuff repair (P < .0001). There were no differences between the interventions for WORC (P = .18), ASES Shoulder Score (P = .73), SANE (P = .5), Shoulder Activity Level (P = .39), or SST (P = .36). Both interventions demonstrated improvements in shoulder flexion (P = .002), abduction (P = .0001), external rotation (P = .02), strength (P ≤ .0002), and scapular substitution (P ≤ .07) over time after rotator cuff repair. However, there was no difference in range of motion (P ≥ .26), strength (P ≥ .20), or scapular substitution (P ≥ .17) between interventions.

Conclusion: A rotator cuff repair rehabilitation program that uses pulleys does not result in inferior outcomes, as determined by patient-determined outcome scores, measurements of scapular substitution, range of motion, and scapular strength.

Commentary

I found this a useful paper as often surgeons are comfortable with patients using pulleys in the post-operative rehabilitation of rotator cuff repairs but we as therapist often feel there is a need to do more to restore normal range of motion and scapula control in these patients. The results of this study demonstrate that in fact over the time of the rehabilitation, the addition of the pulley did not create any abnormal movement patterns and all the main variables of range of motion, scapular substitution and strength were equally restored in both treatment groups.

Paper Four


Abstract

Objective: This study investigated the effect of Kinesio taping on the functionality, pain, range of motion (ROM), and muscle strength in patients with knee osteoarthritis compared with a placebo Kinesio tape (KT) application.

Design: Forty-two consecutive patients were randomised to a KT group and a placebo taping group. The assessments were performed at baseline, after the initial KT application, the third KT application, and 1 month later. The functional status of patients was evaluated using the Aggregated Locomotor Function Score and the Western Ontario and McMaster Universities Osteoarthritis scale. Pain level, muscle strength, and active ROM were measured using the Visual Analog Scale (VAS), a handheld dynamometer, and digital goniometer, respectively.

Results: Patients receiving the KT application demonstrated large decrease in VAS activity and walking task scores compared with the placebo taping group from the initial taping application to after the third taping application (P = 0.009 and P < 0.001, respectively) to the 1-month follow-up (P = 0.007 and P < 0.001, respectively). The KT group exhibited short-term improvement in VAS night and knee-flexion ROM after the 1-month follow-up (P < 0.05). There was no statistically significant difference in outcome measures in ROM and muscle strength between 2 groups.

Conclusion: This study demonstrates that Kinesio taping resulted in superior short-term effects on walking task, pain, and knee-flexion ROM compared with placebo taping in patients with knee osteoarthritis.

Commentary

Whilst I have often been a little sceptical of the use of kinesio tape and certainly other reviews have not supported this approach (Parreira et al 2014), this study does show a very positive effect of the kinesio tape in people with OA of the knee. The flexibility of the tape application I think is useful in the knee joint where range of motion is large. Patients often state there is less skin irritation with the Kinesio tape which also must help with compliance. Further studies of this type will help build the evidence for the effectiveness of Kinesio tape.

Reference