

Manual Therapy Research Review



ISSUE 13
MAY 2017

This issue:

How should we teach lumbar manipulation? A consensus study - P1

Psychological factors are important to return to pre-injury sport activity after anterior cruciate ligament reconstruction: expect and motivate to satisfy - P2

Patients' expectations impact their satisfaction following total hip or knee arthroplasty - P2

Cost-Effectiveness of primary care management with or without early physical therapy for acute low back pain economic evaluation of a randomised clinical trial - P3

Welcome

Welcome to the 13th edition of Research Review. Sorry this has been a little slow getting out this year, life seems to have got busier for some reason! In this edition, we have a couple of papers on the effects of patient expectations on outcomes, one on the best way to teach lumbar manipulation and a review of the cost effectiveness of physiotherapy in the management of non-specific low back pain from Dr Annalie Basson (recently completed PhD). Enjoy!

Duncan



Paper One

O'Donnell M, Smith JA, Abzug A, Kulig K. How should we teach lumbar manipulation? A consensus study. Manual Therapy. 2016 Sep;25:1-10. doi: 10.1016/j.math.2016.05.003. Epub 2016 May 28.

BACKGROUND: Spinal manipulation is an effective intervention for low back pain, yet there is little consistency in how this skill is taught.

OBJECTIVES: The purpose of this study was to identify what educators and clinicians believe are important characteristics of the patient and operator position prior to side-lying lumbar manipulation and the patient position and operator motion during the manipulative thrust.

DESIGN: A multi-disciplinary correspondence-based Delphi method.

METHODS: Three rounds of questionnaires were sent to physical therapists, osteopaths and chiropractors. Consensus was established in Round 3 if at least 75% of respondents identified a characteristic as very important/extremely important on a 5-point Likert scale.

RESULTS: 265 educators and clinicians completed the three rounds of questioning. There was consensus that localisation to target segment, patient comfort, table height, and logrolling the patient towards the operator are important characteristics of patient position during the preparatory phase. During the manipulation phase, respondents agreed that it is important to maintain localisation to the segment and rotate the patient's pelvis and lumbar spine. For the operator characteristics, consensus was reached for the following items; moving up and over the patient, maintaining contact using forearms, and close contact between the operator and patient (preparatory phase); generating force through the body and legs, dropping the body downwards, maintaining localisation, and providing a high-velocity and low-amplitude thrust (manipulation phase).

CONCLUSIONS: This Delphi study successfully identified key characteristics of patient position and operator position and motion for effective delivery of side-lying lumbar spine manipulations.

Commentary

This is a good Delphi study investigating the key factors for effective teaching of lumbar manipulation. At the IFOMPT Teachers Meetings held in conjunction with the Conference there is always interest in the practical elements of teaching. The key features outlined in this study will resonate with all teachers who wish to improve the delivery of the techniques. To have 265 educators agree on what is effective is a powerful message and those teaching these techniques should aspire to deliver the technique in this way.



Paper Two

Sonesson S, Kvist J, Ardern C, Österberg A, Silbernagel KG. Psychological factors are important to return to pre-injury sport activity after anterior cruciate ligament reconstruction: expect and motivate to satisfy. Knee Surg Sports Traumatol Arthrosc. 2016 Aug 25. [Epub ahead of print]

PURPOSE: To describe individuals' expectations, motivation, and satisfaction before, during, and after rehabilitation for ACL reconstruction and to explore how these factors were associated with return to pre-injury sport activity at 1-year follow-up.

METHODS: Sixty-five individuals (34 males), median age 22 (15-45) years, scheduled for ACL reconstruction participated. Participants completed the International Knee Documentation Committee Subjective Knee Form (IKDC-SKF) and questions about expectations, satisfaction, and motivation pre-operatively and at 16 and 52 weeks after surgery.

RESULTS: Prior to surgery, 86 % of participants stated that their goal was to return to their pre-injury sport activity. Those who had returned to their pre-injury sport activity at 52 weeks were more motivated during rehabilitation to return to their pre-injury activity level, more satisfied with their activity level and knee function at 52 weeks, and scored significantly higher on the IKDC-SKF [median 92.0 (range 66.7-100.0)] at 52 weeks, compared to those who had not returned [median 77.6 (range 50.6-97.7)].

CONCLUSION: Prior to ACL reconstruction, most participants expected to return to their pre-injury activity level. Higher motivation during rehabilitation was associated with returning to the pre-injury sport activity. The participants who had returned to their pre-injury sport activity were more satisfied with their activity level and knee function 1 year after the ACL reconstruction. Facilitating motivation might be important to support individuals in achieving their participation goals after ACL reconstruction.

Paper Three

Neuprez, A Delcour, J Fatemi, F Gillet, P Crielaard, JM Bruyère, O Reginster, J. Patients' Expectations Impact Their Satisfaction following Total Hip or Knee Arthroplasty PLoS ONE 11(12):e0167911. doi:10.1371/journal.pone.0167911

OBJECTIVE: The objective of this study was to assess the number and magnitude of pre-operative expectations and to correlate them with the degree of satisfaction expressed one year after Total Hip Arthroplasty (THA) or Total Knee Arthroplasty (TKA), in patients with severe and painful osteoarthritis (OA).

MATERIALS AND METHODS: Preoperative expectations (within 20 days prior to surgery) and postoperative satisfaction (one year after the intervention) were measured using the previously validated French version of the Hospital for Special Surgery Hip or Knee Replacement Expectations Survey. Postoperative satisfaction was measured using a specific scale, following the same methodology as that used for the assessment of expectations. Prediction of the satisfaction of the patients was performed using multivariate linear regression modelling.

RESULTS: A total of 138 patients (80 THA and 58 TKA) completed the two parts of the study. The expectations score (mean \pm SD) (range 0-100) was 72.58 \pm 12.63 before THA and 69.10 \pm 13.72 before TKA ($p = 0.13$). The number of expectations expressed was 14.34 \pm 1.32 (out of a potential maximum of 18) before THA and 14.70 \pm 2.29 (out of a potential maximum of 19) before TKA. After 1 year, THA generated a significantly higher degree of satisfaction compared to TKA (69.70 \pm 14.46 v 60.44 \pm 17.54, $p < 0.001$) (range 0-100). The pre-operative expectations score was the single best positive predictor of the post-surgery satisfaction assessment both for TKA and THA.

CONCLUSION: Patients undergoing total joint arthroplasty for end-stage OA have a high level of expectations, before both THA and TKA. While both types of interventions significantly improve essential and non-essential activities, the rate of satisfaction is significantly greater post THA. Preoperative expectations are a major contributor to the final degree of satisfaction, one year after surgery. These results re-emphasise the need for an optimal preoperative interaction between health care providers and patients, to allow patients a chance to foresee a reasonable outcome after TJA.

Commentary

These two studies by Sonesson et al and Neuprez et al, may be at different ends of the life span but have very clear similarities and messages. Patients' expectations of the outcome and good engagement with the rehabilitation process via the health provider are key determinants of the outcome. This may not seem anything new but sometimes it is easy to spend time learning new techniques on courses and forget that without an engaged patient there will be a poor outcome. Setting realistic expectations is also clearly part of the process. These might be seen as the 'soft skills' but clearly highly influential to the outcome!

Paper Four

Fritz, J Kim, M Magel, S and Asche, C. Cost-Effectiveness of Primary Care Management With or Without Early Physical Therapy for Acute Low Back Pain Economic Evaluation of a Randomised Clinical Trial. Spine 42(5):285-290, March 1, 2017.

STUDY DESIGN: Economic evaluation of a randomised clinical trial.

OBJECTIVE: Compare costs and cost-effectiveness of usual primary care management for patients with acute low back pain (LBP) with or without the addition of early physical therapy. **SUMMARY OF BACKGROUND DATA:** Low back pain is among the most common and costly conditions encountered in primary care. Early physical therapy after a new primary care consultation for acute LBP results in small clinical improvement but cost-effectiveness of a strategy of early physical therapy is unknown.

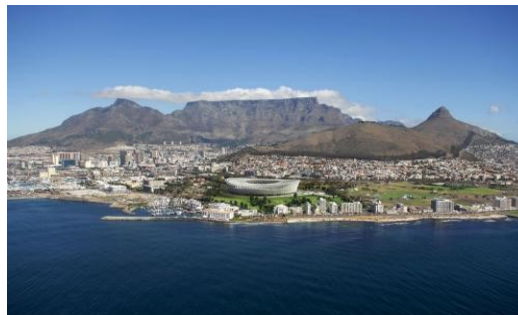
METHODS: Economic evaluation was conducted alongside a randomised clinical trial of patients with acute, nonspecific LBP consulting a primary care provider. All patients received usual primary care management and education, and were randomly assigned to receive four sessions of physical therapy or usual care of delaying referral consideration to permit spontaneous recovery. Data were collected in a randomised trial involving 220 participants age 18 to 60 with LBP <16 days duration without red flags or signs of nerve root compression. The EuroQoL EQ-5D health states were collected at baseline and after 1-year and used to compute the quality adjusted life year (QALY) gained. Direct (health care utilisation) and indirect (work absence or reduced productivity) costs related to LBP were collected monthly and valued using standard costs. The incremental cost-effectiveness ratio was computed as incremental total costs divided by incremental QALYs.

RESULTS: Early physical therapy resulted in higher total 1-year costs (mean difference in adjusted total costs \$580, 95% CI: \$175, \$984, P.0.005) and better quality of life (mean difference in QALYs 0.02, 95% CI: 0.005, 0.35, P.0.008) after 1- year. The incremental cost-effectiveness ratio was \$32,058 (95% CI: \$10,629, \$151,161) per QALY.

CONCLUSION: Our results support early physical therapy as cost-effective relative to usual primary care after 1 year for patients with acute, nonspecific LBP.

Commentary from Annalie Basson (PhD)

The authors randomised 220 non-specific low back pain (LBP) patients into a group that received usual care and an intervention group that received four early physiotherapy treatments. Both groups received advice about the favorable outcome of LBP, importance of remaining active despite pain and the lack of the utility of imaging such as x-rays and MRI. The physiotherapy consisted of manipulation and exercises over four weeks. The usual care group had to wait at least four weeks before considering additional referrals or treatment. Patients were followed up monthly and around 93% completed follow-up to 1 year. Outcomes assessed were quality of life, work absence and provider visits, procedures or tests, or medication purchased specifically for their LBP. The early physiotherapy group was more effective and reported better quality of life, however the cost was also higher. This study highlights the importance of not only measuring the cost of care, but also the clinical effectiveness thereof. The authors conclude that early physical therapy for non-specific LBP improves quality of life at one-year follow-up and is cost-effective relative to usual care.



IFOMPT will be hosting meetings for its MO and RIG Delegates who are present in Cape Town for the WCPT Congress. The meetings will take place at Zevenwacht Wine Farm, Langverwacht Road, Kuils River.

- ◆ Working Groups Meetings - 11am-1pm on Saturday, 1 July 2017
- ◆ MO/RIG Meeting - 1:30-4pm on Saturday, 1 July 2017
- ◆ SC Workshop for Interested MOs/RIGs - 4:30-6pm, Saturday, 1 July 2017
- ◆ Working Groups Meetings - Sunday or Monday during the Congress as needed

Also Please diarise the Manual Therapy Networking Session from 16:30-17:45 on Sunday 2 July 2017 in Room 1.61-1.62 at the WCPT Congress.