

Manual Therapy Research Review



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This issue:

Supervised exercise with and without spinal manipulation performs similarly and better than home exercise for chronic neck pain - P.1

Surgery versus non-surgical treatment of cervical radiculopathy: A prospective, randomised study comparing surgery plus physiotherapy with physiotherapy alone with a 2-year follow-up. - P.2

Care referral of patients with low back pain to physical therapy - P.3

Welcome

In this fourth edition of Manual Therapy Research Review: In this issue we review a paper on exercise and spinal manual therapy for the management of chronic neck pain, a study comparing surgery plus physiotherapy with physiotherapy alone for the management of cervical radiculopathy, and a study investigating the utilisation of physiotherapy for LBP in the primary care setting.

Enjoy!



Paper One

Evans R, Bronfort G, Schulz C, Maiers M, Bracha Y, Svendsen K, Grimm R, Garvey T and Transfeldt E (2012). Supervised Exercise With and Without Spinal Manipulation Performs Similarly and Better Than Home Exercise for Chronic Neck Pain. Spine 37 (11) 903-914

Summary:

Purpose: To evaluate the relative effectiveness of high-dose supervised exercise with and without spinal manipulation and low-dose home exercise for chronic neck pain.

Design: RCT. 275 patients with chronic neck pain were studied at an outpatient clinic. Patients were randomly assigned one of the following interventions: (1) high-dose supervised strengthening exercise with spinal manipulation (exercise therapy combined with spinal manipulation therapy [ET + SMT]), (2) high dose supervised strengthening exercise (ET) alone, or (3) low-dose home exercise and advice (HEA).

Outcome measures: The primary outcome was patient rated pain at baseline and at 4, 12, 26, and 52 weeks. Secondary measures were disability, health status, global perceived effect, medication use, and satisfaction.

Results: At 12 weeks, there was a significant difference in patient rated pain between ET + SMT and ET and HEA. Although there were smaller group differences in patient-rated pain at 52 weeks (ET + SMT vs . HEA, and ET vs . HEA), there was a significant advantage for the 2 supervised exercise groups (ET + SMT vs . HEA, ET vs . HEA). Similar results were observed for global perceived effect and satisfaction.

Conclusions: Supervised strengthening exercise with and without spinal manipulation performed similarly, yielding better outcomes than home exercise particularly in the short term.

Comment:

The management of chronic neck pain is an on-going problem for manual therapists. This well-designed study compares a good combination of multi-modal approaches. The exercise regimes in this study are well described with progression relevant to good strength parameters. The manipulation is delivered in chiropractic model with high velocity small amplitude techniques delivered to the cervical and thoracic joints with 20 sessions over 12 weeks. The results indicate the two exercise groups (with and without spinal manual therapy) are more effective than the home exercise programme in reducing pain. However, one of the nice features of this study was the qualitative analysis undertaken with the patients. These data indicate that pain relief is an important outcome (55% of patients expressed this view) but even more patients (62%) felt that for overall satisfaction the interaction with the staff who delivered the SMT and the exercise programme was very important. As many of us know, personal human factors are very strong in determining a good outcome.



Paper Two

Engquist M, Löfgren H, Öberg B, Holtz A, Peolsson A, Söderlund A, Vavruch L and Lind B (2012). Surgery Versus Nonsurgical Treatment of Cervical Radiculopathy: A Prospective, Randomized Study Comparing Surgery Plus Physiotherapy With Physiotherapy Spine Vol 38(20) pages 1715 -1722 Alone With a 2-Year Follow-up. Spine 38(20) 1715-1722

Summary:

Purpose: To study the outcome of anterior cervical decompression and fusion combined with a structured physiotherapy program compared with the same physiotherapy program alone for patients with cervical radiculopathy.

Methods: 63 patients were randomized to surgery with postoperative physiotherapy (n = 31) or physiotherapy alone (n = 32). The surgical group was treated with anterior cervical decompression and fusion. The physiotherapy program included general/specific exercises and pain-coping strategies.

Outcomes: The outcome measures were disability (Neck Disability Index), neck and arm pain intensity (visual analogue scale), and the patient's global assessment. Patients were followed for 24 months.

Results: There were no significant between-group difference for Neck Disability Index. For neck pain intensity, there were significant between-group difference during the study period in favour of the surgical group. For arm pain intensity, no significant between-group differences were found. 87% of the patients in the surgical group rated their symptoms as "better/much better" at the 12-month follow-up compared with 62% in the nonsurgical group. At 24 months, the corresponding figures were 81% and 69%. The difference was significant only at the 12-month follow-up in favor of the surgical group. A significant reduction in Neck Disability Index, neck pain, and arm pain compared with baseline was seen in both groups.

Conclusions: In this prospective, randomized study of patients with cervical radiculopathy, it was shown that surgery with physiotherapy resulted in a more rapid improvement during the first post-operative year, with significantly greater improvement in neck pain and the patient's global assessment than physiotherapy alone, but the differences between the groups decreased after 2 years. Structured physiotherapy should be tried before surgery is chosen.

Comment:

The management of patients with neck and radiating arm pain has always been a clinical challenge. The ability for well-constructed research to offer guidance in this area has also been lacking as often studies into the management of patients with neck pain exclude those with radiating arm pain. This study has now provided a good comparison between surgery with follow up physiotherapy and physiotherapy alone. The follow-up period for the study is also important (2 years) as this accounts for the natural history of the condition. The results are positive for physiotherapy both post-surgery and in isolation. The detail of the physiotherapy programme is not given in the paper which is a shame. There is a brief mention of the neck exercises and procedures utilised to relieve pain but no specifics of the actual techniques are provided. It is also unknown if there was a manual therapy component in the pain relieving procedures. Whilst always having to fit within word limits for paper publication, for research to transfer into practice details of the interventions are most helpful for clinicians. Still, this is a positive study for physiotherapy in this patient group.



The theme for Glasgow 2016 will be **Expanding Horizons.**

This exciting conference invites delegates to explore 5 themed strands, covering key areas relevant to orthopaedic manipulative physical therapists across the world.

In recent years, manual therapists have pushed the traditional boundaries of the profession, and this conference will build on these advances, bringing together leaders and innovators in the clinical, academic and research fields. The 5 programme strands will be:

Advanced assessment/practice and managing complex patients

Integrating Research into practice

Health promotion/Public health

Changing roles and scope of practice

Teaching, Learning and Professional Development

The programme also includes pre- and post-conference workshops which will be held at Glasgow Caledonian University.



Paper Three

Fritz J, Childs J, Wainner R and Flynn T (2012). Primary Care Referral of Patients With Low Back Pain to Physical Therapy. Spine 37 (25) 2114 -2121

Summary:

Purpose: To describe physical therapy utilisation following primary care consultation for low back pain (LBP) and evaluate associations between the timing and content of physical therapy and subsequent health care utilisation and costs.

Design: A retrospective cohort study. Data were extracted from a national database of employer-sponsored health plans. A total of 32,070 patients with a new primary care LBP consultation were identified and categorized on the basis of the use of physical therapy within 90 days. Patients utilising physical therapy were further categorised based on timing (early [within 14 d] or delayed)] and content (guideline adherent or non-adherent). LBP-related health care costs and utilisation in the 18-months following primary care consultation were examined.

Results Physical therapy utilisation was 7.0% with significant geographic variability. Early physical therapy timing was associated with decreased risk of advanced additional physician visits, surgery, injections, and opioid medications compared with delayed physical therapy. Total medical costs for LBP were \$2736.23 lower for patients receiving early physical therapy. Physical therapy content showed weaker associations with subsequent care.

Conclusion: Early physical therapy following a new primary care consultation was associated with reduced risk of subsequent health care compared with delayed physical therapy. Further research is needed to clarify exactly which patients with LBP should be referred to physical therapy; however, if referral is to be made, delaying the initiation of physical therapy may increase risk for additional health care consumption and costs.

Comment:

These types of papers are critical for physiotherapy to continue to justify its place in the health care system of any country. As a profession we have devoted a significant amount of time and energy to prove that physiotherapy is effective from a clinical perspective. Studies that demonstrate that we are cost effective are even more powerful. When the many guidelines into the management of low back pain were introduced around the world, the delay to getting early interventions was of great concern to therapists. The guidelines all had a similar message that given the natural history of acute LBP, people did not need to seek care (other than to get this initial assessment and rule out red and yellow flags) and that advice to stay active would be sufficient. Many therapists were not happy with this approach as a consultation with a therapist could provide so much more than this basic advice. This study demonstrates that delaying physical therapy interventions increases the cost of the on-going health care, particularly in the use of strong medication, injections and further imaging. Using data from studies like these that demonstrate cost effectiveness of physiotherapy should also be factored into future guidelines.

Thank you to Annelies Pool for providing the papers reviewed in this edition. Thank you also to Jillian Caldwell who is the co-editor of the review.

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