

Manual Therapy Research Review



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Welcome

In the issue papers are reviewed on the effectiveness of manual therapy and exercise in the treatment of OA of the knee and hip, and the cost effectiveness of manual therapy in the treatment of OA of the knee and hip, and a paper on the early use of thrust and non-thrust techniques in the management of low back pain. Enjoy!

About the author: Dr Duncan Reid is a manipulative physiotherapist with 30 years of clinical experience. He is the current Vice President of the International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT). This publication is a part of Duncan's portfolio of research on the IFOMPT executive.



Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee: a randomized controlled trial. 1: Clinical effectiveness.

Authors: Abbott HA, Robertson MC, Chapple C, Pinto D, Wright AA, De la Barra SL, Baxter GD, Thesis JC, Campbell AJ, On behalf of the MOA Trial Team

Osteoarthritis and Cartilage 21 (2013) 525-534

Study Design: A 2 x2 factorial randomized controlled trial.

Objective: To evaluate the clinical effectiveness of manual physiotherapy and/or exercise physiotherapy in addition to usual care for patients with osteoarthritis (OA) of the hip or knee.

Summary:

Participants were 206 adults (mean age 66 years) with hip or knee OA randomly allocated to receive manual physiotherapy (n =54), multi-modal exercise physiotherapy (n =51), combined exercise and manual physiotherapy (n =50), or no trial physiotherapy (n= 51). The primary outcome was change in the Western Ontario and McMaster osteoarthritis index (WOMAC) after 1 year. **Results:** 193/206 participants (93.2%) were retained at follow-up. Mean (SD) baseline WOMAC score was 100.8 (53.8) on a scale of 0-240. WOMAC scores at 1 year compared with the usual care group of 28.5 for usual care plus manual therapy, 16.4 for usual care plus exercise therapy, and 14.5 for usual care plus combined exercise therapy and manual therapy. There was an antagonistic interaction between exercise therapy and manual therapy ($P < 0.027$). **Conclusions:** Manual physiotherapy provided benefits over usual care that was sustained to 1 year. Exercise physiotherapy also provided physical performance benefits over usual care. There was no added benefit from a combination of the two therapies.

Commentary

This study is important to manual therapist across the world. Most countries are now facing a growing population of patients who are living longer with more chronic disease, OA being one of these. There are a number of guidelines that strongly advocate physiotherapy in the management of OA. This study provides strong evidence of the effectiveness of manual therapy in particular over usual care. Usual care was offered by their own general practitioner or health care provider. The other interventions (manual therapy, exercise or the combination) were provided along with usual care. Results indicated that the manual therapy was superior in outcomes to the usual care, exercise therapy and the combinations. These findings are consistent with another studies in people with OA hip by Hoeksma et al (2004) that also demonstrated superiority of manual therapy including HVT to the hip over exercise. In fact, the authors of this study recommend that the two interventions of manual therapy and exercise are not delivered concurrently but that adequate time is given to the patient to have these interventions delivered separately. The challenge for many therapists across the world is to ensure people with OA have good access to physiotherapy to receive such effective treatments.

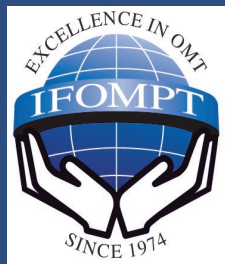
Reference: Tseng et al *Man Ther.* 2006;11:306-315. [http:// dx.doi.org/10.1016/J.math.2005.08.009](http://dx.doi.org/10.1016/J.math.2005.08.009)Source: *J Orthop Sports Phys Ther* 2012;42(7):577-592, Epub 14 May 2012. doi:10.2519/jospt.2012.4243
Journal of Manual and Manipulative Therapy 2011; 19(3): 135-142.

This issue:

Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee: a randomized controlled trial 1: Clinical effectiveness. P.1

Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee 2: economic evaluation alongside a randomized controlled trial. P.2

Early use of thrust manipulation versus non-thrust manipulation: A randomized clinical trial. P.3



Manual therapy, exercise therapy, or both, in addition to usual care, for osteoarthritis of the hip or knee 2: economic evaluation alongside a randomized controlled trial.

Pinto D, Robertson MC, Abbott JH, Hansen P, and Campbell AJ on behalf of the MOA Trial Team. *Osteoarthritis and Cartilage* 21 (2013) 1504-1513

Study design: Economic Evaluation

Objective: To evaluate the cost effectiveness of manual physiotherapy, exercise physiotherapy, and a combination of these therapies for patients with osteoarthritis of the hip or knee.

Summary: 206 Adults who met the American College of Rheumatology criteria for hip or knee osteoarthritis were included in an economic evaluation from the perspectives of the New Zealand health system and society alongside a randomized controlled trial. **Outcomes:** Resource use was collected using the Osteoarthritis Costs and Consequences Questionnaire. Quality-adjusted life years (QALYs) were calculated using the Short Form 6D. Willingness-to-pay threshold values were based on one to three times New Zealand's gross domestic product (GDP) per capita of NZ\$ 29,149 (in 2009).

Results: All three treatment programmes resulted in incremental QALY gains relative to usual care. From the perspective of the New Zealand health system, exercise therapy was the only treatment to result in an incremental cost utility ratio under one time GDP per capita at NZ\$26,400 (\$34,081 to \$103,899). From the societal perspective manual therapy was cost saving relative to usual care for most scenarios studied. Exercise therapy resulted in incremental cost utility ratios regarded as cost effective but was not cost saving. For most scenarios combined therapy was not as cost effective as the two therapies alone.

Conclusions: In this study, exercise therapy and manual therapy were more cost effective than usual care at policy relevant values of willingness-to-pay from both the perspective of the health system and society.

Commentary

I have included this follow-on study from the RCT covered in paper one as I feel that economic evaluation of what we do as physiotherapists and manual therapists in particular will become increasingly important as we go forward. A number of countries currently have shrinking economies but nearly all western world countries face increasing financial strain on their health budgets. Unless we can demonstrate what we do is cost effective, policy makers may not look as favourably on allied health services such as physiotherapy in their future fiscal decision making. In many countries physiotherapist are primary care practitioners and so going to the GP is not always the patient's first consultation. In countries where GP's are still the gate keepers to physiotherapy this research would indicate it is more effective to have care from a manual therapist for OA of the knee and hip compared to being managed by the GP or other health care providers. This type of information also needs to be given to patients so that they can make an informed choice as to which health care provider they choose to spend their health dollars on.

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Early use of thrust manipulation versus non-thrust manipulation: A randomized clinical trial.

Authors: Cook, C., Learman, K., Showalter, C., Kabbaz, V., and O'Hallaron, B. *Manual Therapy 18 (2013) 191-98*

Objective: To investigate the comparative effectiveness of early use of thrust (TM) and non-thrust manipulation (NTM) in sample of patients with mechanical low back pain (LBP).

Study design: A randomized multicentre controlled trial

Summary: Patients with mechanically reproducible LBP, age >18-years were recruited, then were randomized into two treatment groups TM and NTM. **Outcome measures:** The Oswestry Disability Index (ODI) and a Numeric Pain Rating Scale (NPRS), with secondary measures of Rate of Recovery, total visits and days in care, and the work subscale of the Fears Avoidance Beliefs Questionnaire work sub scale (FABQ-w) were used. **Statistics:** A two-way mixed model MANCOVA was used to compare ODI and pain, at baseline, after visit 2, and at discharge and total visits, days in care, and rate of recovery (while controlling for patient expectations and clinical equipoise). **Results:** A total of 149 subjects completed the trial and received care over an average of 35 days. There were no significant differences between TM and NTM at the second visit follow-up or at discharge with any of the outcome categories. Personal equipoise was significantly associated with ODI and pain. **Conclusion:** The findings suggest that there is no difference between early use of TM or NTM, and secondarily, that personal equipoise affects study outcome. Within-groups changes were significant for both groups.

Commentary

Cook and colleagues have designed a very pragmatic multi-centre study to investigate the effects of thrust and non-thrust techniques in the management of mechanical low back pain. There are a number of interesting features to this study. Firstly, once patients were allocated to the NT or TM groups, treatments were applied by the therapists commensurate with the group allocation. After these first two treatments were delivered, the pragmatic nature of the design meant the therapists were free to choose whatever manual therapy treatment approach they felt appropriate for the patient for the remainder of the treatment sessions and until discharge. This design more closely reflects clinical practice. Secondly, the concept of personal equipoise was examined in this study. Personal equipoise reflects the personal beliefs (preference or lack of a preference) of the clinicians who are involved in the trial toward one treatment arm or the other. This is an important variable to consider as we all have a bias towards interventions we think work or not, and often we are guilty of making patients fit our treatment biases rather than applying other treatments that may better suit the patient. The results of this study indicated that both NT and TM were effective in the management of mechanical low back pain. This result is not surprising as one would hope that any patient with mechanical back pain would respond well to manual therapy and exercise. However, the study also clearly demonstrated that personal equipoise did significantly influence the main dependent variables. Only 1/3rd of the clinicians in the study had a truly unbiased view that neither technique was more beneficial than the other, the remainder clearly demonstrated that their bias to one technique or another had a significant influence of the patients changes in pain and disability. Overall a nice study, may this type of design be used more often in future studies.

Finally for all those clinicians that are frustrated at not being able to get access to key journals, Elsevier has now made available free access to past editions of manual therapy. Just follow this link:

<http://www.manualtherapyjournal.com/content/ymath-online-collections>.

Interested in contributing?

If you would like to make any contributions to the Manual Therapy Research Review please contact Dr Duncan Reid on duncan.reid@aut.ac.nz.

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