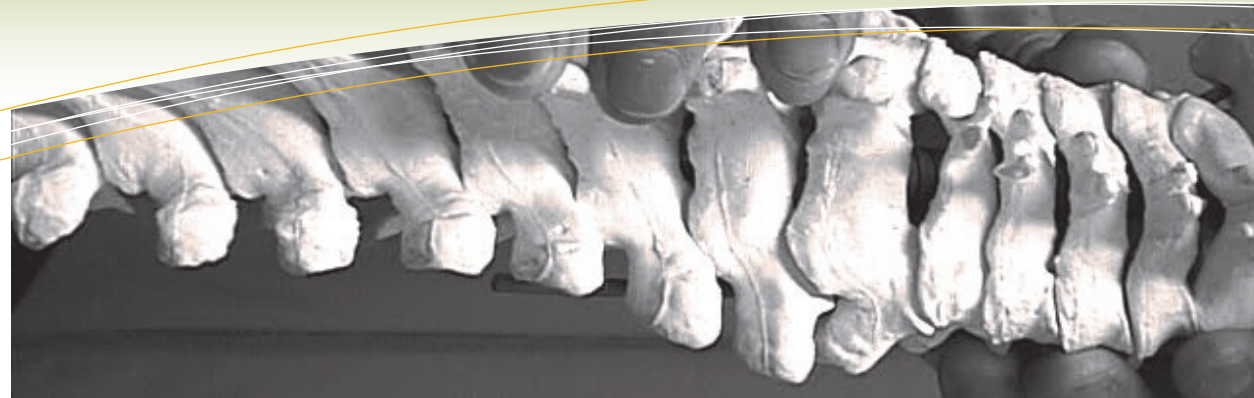


Manual Therapy Research Review



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This issue

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Welcome

In this second edition of Manual Therapy Research Review, a series of three papers are reviewed that look at the clinicians ability to recognise signs and symptoms of those presenting with low back and leg pain that is suggestive of central sensitisation. There is a review of a paper looking at the development of a clinical prediction rule for cervical spine manipulation and a review of the most up to date clinical practice guidelines for 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.



Development of a Clinical Prediction Rule to Identify Patients with Neck Pain likely to Benefit from Thrust Joint Manipulation to the Cervical Spine

Authors: Puentedura, E., Cleland, J., Landers, M., Mintken, P., Louw, A., and Fernandez de las Penas. F. *J Orthop Sports Phys Ther* 2012;42(7):577-592, Epub 14 May 2012. doi:10.2519/jospt.2012.4243

Study Design: Prospective cohort study.

Objective: To determine the predictive validity of selected clinical examination items to develop a clinical prediction rule to determine which patients with mechanical neck pain may benefit from cervical HVT and exercise.

Summary: Consecutive patients aged between 18 and 60 years of age, with a primary report of neck pain with or without uni-lateral upper extremity symptoms, and a baseline Neck Disability Index (NDI) score of 10 points (out of 50) or greater were recruited into the study. Five physical therapists trained in the required assessment and treatment techniques were used in the study. Each subject received a standardised treatment of joint manipulation (upslope rotation) to the mid cervical region C3-C7. This was followed by subjects undertaking self-active range of motion exercises. A total of 82 subjects were included in the data analysis of which 39% were deemed to have had a successful result from the HVT. The key finding of the study was that four key variables were determined for the clinical prediction rule; these were symptom duration less than 38 days, positive expectation that manipulation will help, side-to-side difference in cervical rotation range of motion of 10° or greater, and pain with postero-anterior spring testing of the middle cervical spine. It was also found that if 3 or more of the 4 attributes (positive likelihood ratio of 13.5) were present, the probability of experiencing a successful outcome improved from 39% to 90%.

Commentary

This study is a useful addition to the work of Tseng et al (2006) who found that six factors predicted a good outcome from HVT to the cervical spine and these were; Initial NDI less than 11.5, bilateral neck pain pattern, not performing sedentary work for more than five hours a day, feeling better with neck movement, not feeling worse with neck extension and a diagnosis of cervical spondylosis without radiculopathy. The ability to predict who will do well with HVT is equally important to determine as those who are at risk and should not receive HVT to the cervical spine. These clinical prediction rules continue to support decisions that clinicians often intuitively thought appropriate with key patient groups.

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)



Mechanisms-based classifications of musculoskeletal pain: Parts 1-3: Symptoms and signs of central sensitisation in patients with low back and leg pain.

Authors: Smart, K , Blake, C , Staines, B ,Thacker M, and Doody, C. *Manual Therapy* 17 (2012) 336- 357
doi:10.1016/j.math.2012.03.013, doi:10.1016/j.math.2012.03.003 and doi:10.1016/j.math.2012.03.002

Study design: Cross-sectional, between-subjects design

Objective: To identify symptoms and signs associated with a clinical classification of central sensitisation pain (CSP) in patients with low back and leg pain.

Summary: Four hundred and sixty four patients with low back and or leg pain were assessed by physiotherapists in five hospital sites and two private practices. Clinicians complete a standardised assessment protocol after which their pain was assigned a mechanisms-based classification based on experienced clinical judgement. Clinicians then completed a clinical criteria checklist indicating the presence/absence of various symptoms and signs.

The results of the first study identified a cluster of three symptoms and one sign predictive of CSP;

- Disproportionate, non-mechanical, unpredictable pattern of pain provocation in response to multiple/non-specific aggravating/easing factors
- Pain disproportionate to the nature and extent of injury or pathology
- A Strong association with maladaptive psychosocial factors (e.g. negative emotions, poor self-efficacy, maladaptive beliefs and pain behaviours)
- Diffuse/non-anatomic areas of pain/tenderness on palpation.

The results of the second study identified a cluster of two symptoms and one sign predictive of Peripheral Neuropathic Pain (PNP), these were:

- Pain referred in a dermatomal or cutaneous distribution
- History of nerve injury, pathology or mechanical compromise
- Pain/symptom provocation with mechanical/movement tests (e.g. Active/Passive, Neurodynamic) that move/load/compress neural tissue

The third study identified a cluster of seven clinical criteria predictive of Nociceptive Pain (NP), these were:

- Pain localised to the area of injury/dysfunction
- Clear, proportionate mechanical/anatomical nature to aggravating and easing factors
- Usually intermittent and sharp with movement/mechanical provocation; may be a more constant dull ache or throb at rest
- The absence of pain in association with other dysesthesias
- Night pain/disturbed sleep
- Antalgic postures/movement patterns
- Pain variously described as burning, shooting, sharp or electric-shock-like

Commentary

This is a great series of studies with a large number of low back pain subjects. As clinicians it is a constant challenge to recognise those patient's that have signs and symptoms consistent with CSP. Often if given manual therapy these patients can be made worse or exacerbate the condition, not because of the skill of applying the manual therapy, but because the pain response of the patient is different from other more treatable mechanical presentations. As pain science has advanced the ability to recognise those patients with the potential for CSP early in the assessment process is of great benefit. These three papers add to this capacity .

Upcoming Conference

IFOMPT 2012 : Rendez-vous of Hands and Minds

An opportunity not to be missed! For the first time in its history, IFOMPT is hosting its World Congress of Manual/Musculoskeletal Physiotherapy in Eastern Canada. This meeting is the venue for the very best and brightest in research, clinical practice and academics to come together- and you can be there too! This Conference of the Federation is held only once every 4 years and will include clinical and scientific sessions.

September 30th – October 5th, 2012 Quebec, Canada
For further information: <http://www.ifomptconference.org/#>



Low Back Pain: *Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Orthopaedic Section of the American Physical Therapy Association* .

Authors: Delitto, A., George, S., Van Dillen, L., Whitman, J., Sowa, G., Shekelle, P., Denniger, T., and Godges, J. *J Orthop Sports Phys Ther.* 2012;42(4):A1-A57. doi:10.2519/jospt.2012.0301

Objective: This paper has a number of significant aims, with the first one being to describe evidence-based physical therapy practice, including diagnosis, prognosis, intervention, and assessment of outcome, for musculoskeletal disorders commonly managed by orthopaedic physical therapists.

Summary: This is an extensive document (some 58 pages) so I will not provide a summary overview.

Commentary

This is a very extensive guideline which has a point of difference to a number of other LBP guidelines. Many of the other guidelines specifically cover acute low back pain, as it has been deemed that dealing with this group first will prevent those with LBP moving to a more chronic state. However, in many cases the conditions covered in the guidelines are quite limited. This guideline has reviewed the evidence for a wider range of low back conditions based in the ICF classification model. There is extensive evaluation of tests for red flags, evaluation of physical and mental assessment tools and management strategies such as thrust and non-thrust techniques, McKenzie therapy, stabilisation therapy and movement impairment syndromes to name but a few. This is a great source document for any clinicians dealing with low back pain. The good thing about this guideline is that it seems like it is freely available by googling "Delitto Clinical guidelines Low back pain."

*To accompany this guideline there is also a very useful editorial commentary to this edition of JOSPT which is well worth reading. Childs, J., Flynn, T and Wainner, R Low Back Pain: Do the Right Thing and Do It Now. *J Orthop Sports Phys Ther* 2012;42(4):296-299. doi:10.2519/jospt.2012.0105*

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

For further information on IFOMPT please visit our website www.ifompt.org

