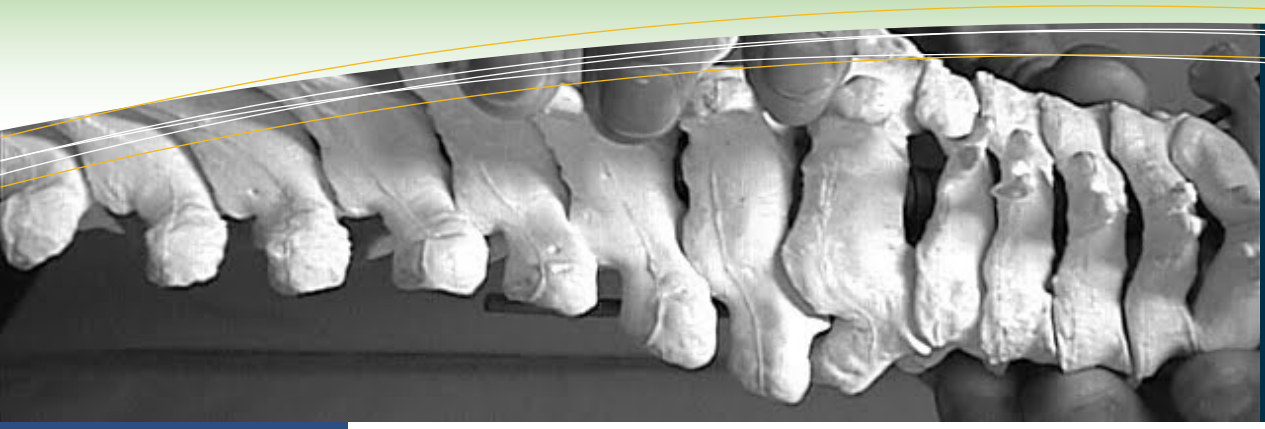
Manual Therapy Research Review



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This issue:

Welcome

Welcome to the 21st issue of the Manual Therapy Research Review.

In this issue we have two papers from people familiar to the IFOMPT Family, firstly a paper Dr Nathan Hutting (Netherlands) questioning the use of VBI testing, and secondly a commentary from Cesar Hidalgo (Spain) on a case report of inappropriate cervical manipulation. We also have two other papers, one on taping for lateral epicondylar pain by Hill et al and the final paper by Baeske et al on the indications for the use of MWM's.

Enjoy, Duncan

Paper One

Hutting, N., Kranenburg, H., Kerry, R. Yes, we should abandon pre-treatment positional testing of the cervical spine. Musculoskeletal Science and Practice 49 (2020) 102181. https://doi.org/10.1016/j.msksp.2020.102181

Although there seems to be no causality between cervical spine (CS) manipulation and major adverse events (MAE), it remains important that manual therapists try to prevent every potential MAE. Although the validity of positional testing for vertebrobasilar insufficiency (VBI) has been questioned, recently the use of these tests was recommended. However, based on the low sensitivity of the VBI tests, which may result in too many false-negative results, the VBI tests seem to be less valuable in pre-manipulative screening. Moreover, because the VBI tests are unable to consistently produce a decreased blood flow in the contralateral vertebral artery in healthy people, the underlying mechanism of the test may not be a valid construct. There are numerous cases reporting MAE after a negative VBI test, indicating that the VBI tests do not have a role in assessing the risk of serious neurovascular pathology, such as cervical arterial dissection, the most frequently described MAE after CS manipulation. Symptoms of VBI can be identified in the patient interview and should be considered as red flags or warning signs and require further medical investigation. VBI tests are not able to predict MAE and seem not to have any added value to the patient interview with regard to detecting VBI or another vascular pathology. Furthermore, a negative VBI test can be wrongly interpreted as 'safe to manipulate'. Therefore, the use of VBI tests cannot be recommended and should be abandoned.

Commentary: Duncan Reid

This is an important clinical commentary of the use of physical testing to identify the patients with possible symptoms of vertebral artery insufficiency based on physical tests of rotation to stress the artery. There now seems to be good evidence that these tests are not reliable and therefore the authors of this paper suggest it is time we abandon them. This is important for teachers of manual therapy programmes as well clinicians. The IFOMPT Cervical Screening Framework has already drawn light on this issue and the framework is very much situated in a clinical reasoning model. The ability to detect significant red flags from the history is a hallmark of a good clinician. These are the skills we should continue to develop and spend less time on physical skills that do not impact good practice.

Paper Two

Case Report

Pedro KM, Mairre, J., Gaddi, I and Sih, M. Iatrogenic atlantoaxial rotatory subluxation after spinal manipulative therapy in a child. Interdisciplinary Neurosurgery 21 (2020) 100721. https://doi.org/10.1016/j.inat.2020.100721

Abstract:
Spinal manipulative therapy (SMT) is used for various therapeutic purposes in both the adult and paediatric population. Several adverse events arising from the use of SMT have been reported in the adult population but only few among children. We report a case of an 8-year old female with atlanto-axial rotatory subluxation (AARS) secondary to aggressive cervical manipulation as a traditional cure for asthma. The patient presented with neck pain and torticollis with no other neurologic deficits. Computed tomography showed an atlantoaxial rotation of 47 degrees to the left without any osseous fractures. MRI was performed revealing intact disco ligamentous complex. The patient was placed in a cervical orthosis for a total of 6 weeks and made full recovery with relief of pain and maintenance of neck full range of motion.

Commentary: Dr Cesar Hidalgo

This study reports the side effects of a rotatory manipulative therapy in the cervical region of an 8-year old girl presenting pain and cervical deformity. The report is a good reminder that SMT is an effective treatment option if used in the right population for the right reason. There seems little justification for SMT to the neck in the treatment of asthma. There was likely no consideration of updated guidelines for the safe approach for the use SMT of the cervical spine. The combination of forceful techniques in a non-mature patient with a questionable risk/benefit is also questionable. The force required to produce an atlanto-axial rotatory subluxation is also worthy of consideration. Fortunately, no neurological damage was present, and no side-effects were reported after the proper conservative regime was carried out. Learning from the mistakes of others can safeguard other patients that present for care!

Paper Three

Hill, C., Stanton, R., Heales, L and Kean, C. Therapeutic tape use for lateral elbow tendinopathy: A survey of Australian healthcare practitioners. Musculoskeletal Science and Practice 48 (2020) 102160

Background: Lateral elbow tendinopathy (LET) is a common musculoskeletal condition that can be treated with therapeutic tape. However, little is known of taping practices for LET in a clinical setting.
Objectives: To examine Australian healthcare practitioners' taping techniques, clinical reasoning, and information sources regarding therapeutic tape use for LET.
Design: Cross-sectional survey.
Methods: An anonymous online survey was distributed between September 2018 and February 2019. Respondents answered questions about demographics, frequency of tape use, techniques, reasons for application, factors influencing clinical decision-making, and information sources, related to tape for LET.
Results/Findings: 188 Australian healthcare practitioners completed the survey. The majority of respondents were physiotherapists (n =132, 70%) with the remainder of respondents being chiropractors (21%), myotherapists (3%), exercise physiologists (3%), or osteopaths (3%). 51% of respondents use tape as part of their management for LET at least half the time. The most popular taping technique used is a transverse band of rigid tape across the forearm (n = 78, 55% of respondents who use tape). The most common reasons for tape application are to reduce pain during occupational tasks (n = 123, 65%), and during sport/hobbies (n= 101, 54%). Respondents predominately rely on experience and patient preference to guide tape use. 63% of all respondents (n = 118) sought information about tape from professional development courses.
Conclusion: A wide range of tape techniques are used to treat LET, despite limited evidence for efficacy. Justification for tape is largely based on experience and patient preference; with information mostly gained from professional development courses. More research is required to understand the relationship between the evidence and clinical use of tape to treat LET.

Commentary: Duncan Reid

This is a small survey from the University of Queensland research group that along with others in this university has led with way in research around the management of lateral elbow tendinopathy (LET). Strapping is such an integral part of physiotherapy practice, yet the evidence base still remains somewhat controversial even in areas where tape is used a lot such as the ankle (Callaghan,1997).

The recent advent of K tape has also been an area of research growth, but still with few studies showing good efficacy of clinical improvement (Montalvo et al 2014). Even if tape was argued to be mostly proprioceptive and not a biomechanical support, the evidence is still limited for clinical efficacy (Hughes and Rochester, 2008). This study's conclusion that more research is required to understand the relationship between the evidence and clinical use of tape to treat LET, would also be relevant to other pathologies where tape is used in the management.

References:

MJ Callaghan Role of ankle taping and bracing in the athlete. BrJ Sports Med 1997; 31:102-108
Montalvo, A and Myer, G Effect of Kinesiology Taping on Pain in Individuals With Musculoskeletal Injuries: Systematic Review and Meta-Analysis. The Physician and Sportsmedicine Volume 42, 2014 - Issue 2
Hughes, T and Rochester, P .The effects of proprioceptive exercise and taping on proprioception in subjects with functional ankle instability: A review of the literature Physical Therapy in Sport Volume 9, Issue 3, August 2008, Pages 136-147

Paper Four

Baeske, R., Silva, M and Hall, T. The clinical decision-making process in the use of mobilisation with movement – A Delphi survey. Musculoskeletal Science and Practice 49 (2020) 102212 https://doi.org/10.1016/j.inat.2020.100721

Background: Mobilisation with movement (MWM) is a method of treating musculoskeletal disorders. Although widely used clinically and with increasing research investigation, little is known about the decision making process for its utilization.
Objectives: To understand the factors experts believe important for utilization of MWM when assessing a patient, predicting responses to its delivery, responsive body areas, and expected outcomes to MWM.
Design: A web-based Delphi study of experts in the use of MWM. Methods: Round one contained five open-ended questions regarding assessment strategies, prediction of successful and unsuccessful outcomes, body areas most responsive, and common outcome measures observed. Rounds 2 and 3 were quantitative and aimed at establishing consensus.
Results: Thirty seven experts participated in the study and took part in round 1, thirty two in round 2, and twenty eight in round 3. The exclusion of red flags and impairment in range of motion (ROM), obtained the highest level of consensus for the item assessment strategies. Patient's presenting with a variety of issues on movement, in addition to mild to moderate levels of severity and immediately responsive to a trial MWM, were believed to respond favourably to MWM. Patients with predominant inflammatory pain, with high levels of psychosocial factors, increased central sensitization and not improving after a trial of MWM, were recognized as non-responders. Improvement of different aspects of movement (e.g. ROM, less fear) are the most common outcomes observed.
Conclusions: This study provides factors believed to be important in the decision making process when using MWM clinically.

Commentary: Duncan Reid

This is a useful paper undertaken by one of the key Mulligan teachers, Toby Hall, and his fellow researchers. Mulligan MWM's are popular manual therapy techniques and used widely across the world with the evidence base growing over time. With no disrespect to the founder of the concept Brian Mulligan, you often left one of his courses thinking that these MWMs would be miracle treatments for everyone, but in clinical practice the results did not seem to match Brian's enthusiasm! This Delphi study provides a very clear rationale for selecting those patients who are likely to do well with MWM's and differentiating them from patients that have other clinical factors such as psychological factors and fear avoidant behaviour that will not respond. These factors might seem pretty obvious, but one can get lost in the desire to try new techniques or influence patients' pain with a MWM. Brian would advocate that if an MWM is applied properly (with or without modification), and it does not get the PILL (pain free, instantaneous, long lasting) response, it is not the right approach!

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