

Feature Commentary**13TH INTERNATIONAL CONFERENCE IN MECHANICAL DIAGNOSIS AND THERAPY
COPENHAGEN, DENMARK ~ SEPTEMBER 2015**

LAWRENCE DOTT, CHIEF EXECUTIVE OFFICER, MCKENZIE INSTITUTE INTERNATIONAL

They say “time flies” and, as such, September 2015 will be with us sooner than we all realise.

I have been very fortunate to have visited Copenhagen and believe this is a wonderful city in which to present our next International Conference. The capital city of Denmark is full of history and beauty, and has attractions and sights to suit every taste and interest. Three of the most famous attractions in the city are – the more than 100 year old amusement park – Tivoli Gardens, the statue of The Little Mermaid, and the freetown of Christiania.

The Conference theme is “*With the Tide – MDT into the Future*”, and is a tribute to Robin McKenzie. The theme will reflect the changes that have transpired as a result of Robin’s influence, not only in regards to the development and dissemination of Mechanical Diagnosis and Therapy, but also in the much wider context of conservative care.

Robin’s legacy will continue to impact the way musculoskeletal conditions are managed, and most importantly, will continue to benefit patients throughout the world, long into the future.

As has been our custom in the past for our International Conferences, we have assembled, for your further education and enlightenment, an array of world renowned keynote speakers and researchers who will provide you with their views. The conference programme is structured in a manner where the speakers will challenge our beliefs, our methods, and make us think again. However, I believe they will, at the same time, be most controversial and very entertaining. The delegates will enjoy presentations of research, panel debates, patient assessments, diagnosis, and treatment, discussions and poster presentations.

We have also secured a beautiful venue for the Conference Gala Event on the Saturday evening at Moltke’s Palace. The Palace was originally built in 1702 and has served a myriad of purposes over its time-honoured history; a home for nobles, merchants, a dowager queen, a Danish prime minister and an array of upper class personages. Today, the palace has been lovingly and thoroughly restored. Our evening will commence with a canal ride from the Tivoli Hotel to Nyhavn while enjoying a pre-dinner drink. Then a short walk from Nyhavn to the Palace, to enjoy a great evening with superb cuisine and good wine.

We are expecting we will have delegates from over 34 countries attending. The Institute currently has 28 branches worldwide, and is in the process of establishing new branches in Spain and South Africa. We also present MDT Education in an additional nine countries. MDT is clearly very effective and continuing to grow worldwide. Copenhagen 2015 will further prove this.

Full details on our conference - the programme, hotel accommodation, gala dinner, together with the pre-conference workshop “MDT and the Athlete”, including registration - are available by clicking the banner below, or by visiting the Institute’s website, www.mckenziemdt.org.

I encourage you to register early, and look forward to greeting you in Copenhagen during 4 – 6 September 2015.

Best Regards,
Lawrence Dott
Chief Executive Officer
McKenzie Institute International

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BRANCH SPOTLIGHT

McKenzie Institute Japan

Yoshihiro Iwasada, PT, MS, Dip. MDT

Greetings

Konnichiwa (Hello) from the country of The Rising Sun! The island nation of Japan can be found in East Asia. Its territory is a little smaller than the US state of Montana and slightly larger than the country of Norway. About three quarters of the land is not suitable for living, yet over 100,000,000 people call this island home. Japan is one of the most densely populated nations in the world.



Medical and Healthcare Providers

Registered medical and healthcare providers for musculoskeletal medicine in Japan are Medical Doctors (MD), Physical Therapists (PT), Occupational Therapists (OT), Judo Therapists, Acupuncturists and Massage Therapists. Chiropractors and Osteopaths are not registered providers in our country. 2014 calculations show that there are about 93,000 Physical Therapists in Japan. PTs working under our national medical insurance system are not entitled to run PT clinics and need doctors' prescriptions to perform treatments.

Development of the Japanese Branch

The Japanese Branch was established in 2002 and was designated the 25th branch of The McKenzie Institute. The branch is a registered not-for-profit organization (NPO) consisting of six members. Our board is unique, as it is comprised of multi-disciplinary professions. I serve as our Chairman and am a PT, while our Vice-Chairman is an Orthopaedic Surgeon. The remaining four board members are comprised of two PTs, one other Orthopaedic Surgeon and one Judo Therapist. This multi-profession composition indicates how MDT in Japan opens its doors to any medical or healthcare professionals who have a passion to learn MDT.

Courses

Our official inaugural McKenzie course was held in March 2000, where we were very honored to learn from Robin McKenzie, himself, as well as MIUSA Diplomate and Faculty member, Robert Medcalf. In the first few years, we held only a few courses each year, but in the last few years we have finally come to have more than 10 courses a year. In 2013, we hosted 12 courses from Parts A-D, one Physician Seminar, two brush-up seminars for Certified MDT clinicians and one Branch Conference.



PTs, OTs, Judo Therapists, Acupuncturists, Chiropractors, Dentists and many other medical and healthcare professionals are eligible to attend our courses. In Japan there is no discrimination or barrier among medical and healthcare providers when they learn MDT.

Human Assets (Dip. MDT and Cert. MDT)

As of August 2014, the Japanese Branch has three Diplomaed McKenzie Clinicians and 212 Credentialed McKenzie Clinicians. All three of our Diplomates are closely involved in the teaching of our courses. I, myself, am a Senior Instructor, Hana Sano is an Instructor and Takenori Maekawa is Probationary Faculty. In many cases, the three of us work together on patient demonstrations, answering questions from course participants and teaching techniques. The teaching style seems

well received by course participants and is likely to encourage many of them to proceed to the next course.

In Japan, Cert. MDTs are invited to retake Part A-D for free to brush up on their MDT knowledge and techniques. Looking at this privilege from the standpoint of an Instructor, it is beneficial because those Cert. MDTs become valuable assistants, especially during practical sessions.

I cannot overemphasize how important the McKenzie Institute International Instructors were, are and will continue to be for MDT in Japan. Starting with Robin and Robert in 2000, we are very lucky to have had first-rate instructors, such as Scott Herbowy, Colin Davies, Kevin Turner, Helen Clare, Stephen May, Grant Watson and Greg Lynch, working with us over the last 13 years. They are all wonderful instructors, and we are fascinated not only with their clinical skills, but also their strong belief and commitment to MDT. Although Japanese instructors are now entitled to teach all Japanese courses, we would like to keep learning from such first rate international instructors.



Agenda

Among various levels of agenda, the following two goals are what the Japanese Branch is now most focused on targeting:

1. More publications of MDT research: We have to admit that MDT evidence is mostly produced outside of Japan. It is our strong intention to publish valuable evidence that will be cited by our international MDT colleagues. Since 2013, we have started hosting an annual branch conference. This conference is purely for research presentations and one of its purposes is to encourage Japanese MDT clinicians to commit themselves to more research projects. Fortunately, Hiroshi Takasaki, PT, PhD, Cert. MDT, who has already published some important literature in English, returned from the University of Queensland, Australia after attaining PhD this year. He has suggested a few interesting research projects regarding MDT. I hope that he will become one of the key persons in this field.



2. Maintenance of the Certified MDT competence: This must be a universal agenda. Expectations from the Japanese public on MDT clinicians have grown steadily over the last few years. We are seriously concerned with whether or not Certified MDT practitioners are competent to live up to this expectation. We offer Certified MDT clinicians two educational opportunities: One is a Brush-Up Seminar and the other is, as described above, the opportunity to retake Parts A-D free of charge. The Brush-Up Seminar in Japan is very clinically oriented. Participants are separated into a few groups and each group assesses and manages a volunteer patient in front of the other groups. This is really exciting and an effective learning experience for both participants and instructors.



CASE REVIEW: A CLINICIAN'S PERSPECTIVE

Case Review: 35-Year-Old Male with History of Low Back Pain

Brian Østergaard Sørensen, PT, Dip.MDT

Introduction

Non-specific low back pain is the most common musculoskeletal problem. A wide range of tests and treatments have been suggested, however, most are not well-validated (Deyo et al. 2009) and have poor reliability (May et al. 2006) and very low success rates when it comes to effective treatment (Delitto et al. 2012). According to Delitto et al. (2012), subgroup classification has the potential to improve outcomes. The patient in this case report has been subgroup classified using the classification system proposed by McKenzie (McKenzie and May 2003). On the initial visit, the patient presented with characteristics that required further testing and clinical reasoning prior to classification. This process included intervention and a six month follow-up and is presented in the following review.

Patient Presentation

The patient, a 35-year-old male, presents with a nine month history of low back and leg pain which has been unchanged for five months. Symptoms commenced for no apparent reason, however exacerbation of symptoms during a game of bumperz made him visit his GP where he was given advice according to the guidelines for acute low back pain (Cost B13, 2004).

The patient's back, thigh (posterior) and calf symptoms are intermittent, but his foot (mainly lateral) symptoms are constant and without much variation in intensity. He described symptoms consistent with S1 nerve root pathology. He displayed the following neurological signs: positive SLR at 30 degrees.

The patient reports more symptoms with activities involving flexion, both with and without rotation, including standing up riding his bike. If he rides his bike, runs more than one kilometer or sits for prolonged periods of time, both back and leg pain are produced, but his symptoms return to "normal" within a few minutes of the conclusion of those activities. At times, the patient's back pain and soreness is present for longer, but always returns to "normal" again by the next morning.

His sitting tolerance improves with lumbar support. He reports less pain when standing, walking and lying with no preference to a specific position. Based on what gives him the most relief from pain, he has changed working position from sitting to standing; although, at the end of the day, he feels that he benefits from sitting due to a tired and sore back.

He states that except for running, which produces his leg symptoms to a very unpleasant level of pain, he still tries to do his leisure activities, though they have been greatly reduced in length of time and intensity since these activities provoke symptoms in the back and leg. He states that he believes that exercise will help him recover.

Earlier in the process, he received care from a chiropractor, a massage therapist and a physiotherapist. The latter of these three therapists prescribed extension in lying, which reduced back pain slightly between visits one and three, but without any further improvement.

Clinical Reasoning

The patient presents with no red flags and no indications of maladaptive behaviour in regard to fear avoidance.

Based on his history, symptom location, timeframe and symptomatic behaviour, the working diagnoses are either a reducible derangement, an irreducible derangement (McKenzie & May 2003), an adherent nerve root (ANR) or an entrapment (Petersen 2003; Ido & Urushidani 2001).

Constant symptoms in the foot and intermittent back pain (which he describes as "sore" and not painful) have been unchanged for the last five months and, thus, the constant foot symptoms are inconsistent with a classical ANR diagnosis. However, his description of intermittent symptoms in a narrow band as a result of bending (NW afterwards), does fit the pattern of a restrictive lesion, such as an ANR. The constant symptoms in his foot would be more consistent with a MDT defined entrapment, however, the literature doesn't seem to agree on how to define an entrapment (Ido & Urushidani 2001; Porter et al. 1984).

Both ANR and entrapment are rarely encountered (Petersen 2003). Further differentiation between these would require flexion-based testing showing that the entrapment would have a brief increase in ROM that would subside again within minutes. The ANR flexion motion would remain unchanged. Furthermore, the entrapment would have motion loss in extension and a likely loss of lateral movement toward the symptomatic side. This patient displays good extension and lateral motion. His reporting of aggravation of symptoms in sitting is likely to occur in both reducible and irreducible derangements, as well as entrapment, but not in an ANR.

The indication of a reducible posterior derangement with a directional preference for extension is that symptoms in the back and thigh decrease or abolish when lordosis is maintained in sitting, standing, walking and lying prone and remain better afterwards. In this case, prolonged sitting consistently produced lingering symptoms and extension exercises provided only temporary relief to his back pain as he performed them. Lateral techniques had no effect on symptoms. He didn't respond with either symptomatic or mechanical changes when tested with repeated movements or sustained positions, as would be encountered in a derangement (McKenzie & May 2003). The irreducible derangement often reports worse leg pain than back pain. Based on anecdotal experience, this statement is often related to the early phases of the phenomenon. His constant foot symptoms did not appear to be relevant to his current condition. These long standing sensory disturbances are commonly seen in patients who have experienced disc prolapse, as most of their symptoms have subsided and functional levels have returned towards normalization due to the generally favourable prognosis (Jensen et al. 2006). This hypothesis was confirmed by a MRI.

Objective Examination

During the history taking, his back starts to turn sore and correction of posture results in a slight decrease, however it has no effect on distal symptoms. His neurological exam was negative except for a positive SLR. ROM testing presents a moderate loss of flexion, deviation to the symptomatic side, and a production of familiar thigh symptoms. There is nil loss or symptom production in extension or SGIS in either direction. A provocative strategy with repeated flexion in standing presents a consistent response with thigh and leg symptom production on each repetition that is no worse afterwards. Repeated flexion in lying has no effect on symptoms during or after testing.

Clinical Reasoning and Management

The "core" of the mechanical and symptomatic pattern is that he has been unchanged for five months and unable to produce a lasting response with mechanical loading.

The lesion behaviour closely resembles an ANR based on the following objective findings: positive SLR, no loss of lumbar extension or SGIS, response to repeated flexion in standing (Prod NW), the lack of production of symptoms during repeated unloaded flexion, and no change in the mechanical baseline (including deviation to the symptomatic side). The management of this diagnosis was aimed at remodelling the restrictive lesion (McKenzie & May 2003) and functional rehabilitation involving bike rides and running based on the patient's preferences for these activities (Kool et al. 2007). The patient was prescribed an exercise program consisting of four days of 4-5 times RFIL to test the integrity of the lesion. Next step was to progress to 5-6 times repeated flexion in sitting with gradually straightening the leg, and then finally to 5-6 times flexion in standing as it became tolerable, always followed by a few extensions. Familiar pain should be produced, but be no worse afterward and no further obstruction to movement should appear. The patient was told that prognosis is difficult to predict with this diagnosis and that he must have patience. Evidence for this approach is limited and only supported in case reports (Melbye 2010; Gallegos et al. 2008) and on ligaments (Benani 2008). It is important to note that the actual mechanisms responsible for these positive changes have not yet been discovered.

It is relevant to mention that six days after the patient's first visit, while at his second visit, he presented unchanged on all baselines. Following the second visit, the patient was managed by phone and email. At his six month phone follow-up, the patient reported returning to his previous functional level as before his symptoms started. The soreness in his back was almost never present and thigh and leg pain was gone, however, his foot symptoms were only reduced slightly.

This patient presents with a rather "grey" pattern of signs and symptoms and therefore doesn't perfectly match a sub-classification, however, he was showing characteristics of an inactive and restricted lesion, as compared to an active lesion, which determined the path to follow for recovery.

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THE MCKENZIE INSTITUTE LUMBAR SPINE ASSESSMENT

Date 30/10 - 2013

Name _____ Sex M / F

Address Aalborg, denmark

Telephone _____

Date of Birth _____ Age 35

Referral: GP / Orth / Self / Other

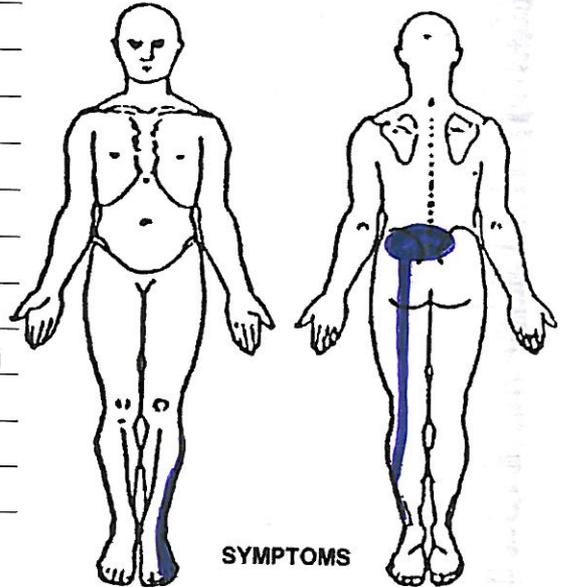
Work: Mechanical Stresses Office

Leisure: Mechanical Stresses Mountainbike, running, cycling

Functional Disability from present episode _____

Functional Disability score _____

VAS Score (0-10) _____



HISTORY

Present Symptoms Low back, thigh, calf and foot

Present since 9 months *Improving / Unchanging / Worsening*

Commenced as a result of worsened with physical activity (2) *Or no apparent reason (1)*

Symptoms at onset: back / thigh / leg thigh and leg came on after physical activity incidence

Constant symptoms: back / thigh / leg Foot is constant Intermittent symptoms: back / thigh / leg

Worse bending Sitting / rising ~~standing~~ ~~walking~~ ~~lying~~
am / as the day progresses / pm when still / ~~on the move~~

other Lifting, Running more then 1 Km, rotation during toilet visits, Bikeriding

Better ~~bending~~ ~~sitting~~ ~~standing~~ walking lying **PRONE**
am / as the day progresses / pm when still / on the move

other Sitting with lumbar support

Disturbed Sleep Yes / No Sleeping postures: prone / sup / side R / L Surface: firm / soft / sag

Previous Episodes 0 1-5 6-10 11+ Year of first episode _____

Previous History _____

Previous Treatments Physiotherapy, Chiropractor, Massage

SPECIFIC QUESTIONS

Cough / Sneeze / Strain / +ve / -ve Bladder: normal / abnormal Gait: normal / abnormal

Medications: Nil / NSAIDS / Analg / Steroids / Anticoag / Other was used earlier on with limited effect

General Health: Good / Fair / Poor

Imaging: Yes / No X-ray with NAD

Recent or major surgery: Yes / No _____ Night Pain: Yes / No

Accidents: Yes / No _____ Unexplained weight loss: Yes / No

Other: _____

EXAMINATION

POSTURE

Sitting: *Good / Fair / Poor* Standing: *Good / Fair / Poor* Lordosis: *Red / Acc / Normal* Lateral Shift: *Right / Left / Nil*
 Correction of Posture: **Better** / *Worse* / *No effect* **LBP - no effect on distal symptoms** Relevant: *Yes / No*
 Other Observations: _____

NEUROLOGICAL

Motor Deficit NAD Reflexes NAD
 Sensory Deficit NAD Dural Signs +ve SLR 30 degrees

MOVEMENT LOSS

	Maj	Mod	Min	Nil		Pain
Flexion		x			P leg sx and deviates to the left	
Extension				x		
Side Gliding R				x		
Side Gliding L				x		

TEST MOVEMENTS Describe effect on present pain – **During:** produces, abolishes, increases, decreases, no effect, centralising, peripheralising. **After:** better, worse, no better, no worse, no effect, centralised, peripheralised.

	Symptoms During Testing	Symptoms After Testing	Mechanical Response		
			↑Rom	↓Rom	No Effect
Pretest symptoms standing: Numb foot					
FIS	P				
Rep FIS	P	NW			x
EIS					
Rep EIS					
Pretest symptoms lying: Numb foot					
FIL	NE				
Rep FIL	NE	NE			x
EIL					
Rep EIL					
If required pretest symptoms:					
SGIS – R					
Rep SGIS - R					
SGIS - L					
Rep SGIS- L					
STATIC TESTS					
Sitting slouched		Sitting erect			
Standing slouched		Standing erect			
Lying prone in extension		Long sitting			
OTHER TESTS					
PROVISIONAL CLASSIFICATION					
Derangement	Dysfunction / ANR	Posture	Other		
Derangement: Pain location					
PRINCIPLE OF MANAGEMENT					
Education	Explanation of dysfunction	Equipment Provided			
Mechanical Therapy: Yes / No					
Extension Principle:		Lateral Principle:			
Flexion Principle:	RFIL for 4-5 days then RFISSIT	Other:			
Treatment Goals:	Remodelling of restriction and return to bike and running again				

LITERATURE REVIEWS

Summary and Perspective of Recent Literature

Stephen May, PhD, MA, FCSP, Dip. MDT, MSc (UK)

Henry SM, van Dillen L, Oulette-Morton RH, Hitt JR, Lomond KV, DeSamo MJ, Bunn JY. (2014). Outcomes are not different for patient-matched versus non-matched treatment in subjects with chronic, recurrent low back pain: a randomized clinical trial. Spine J; doi: 10.1016.

Background

Classification systems are meant to improve treatment outcomes. Two commonly used classification systems in the USA are the Treatment Based Classification System, advocated by Fritz et al., and the Movement Impairment System, advocated by Sarhmann et al.

Purpose

To assess if providing matched treatment based on patient clinical features provided superior outcomes to unmatched treatment for patients with chronic low back pain.

Study Design

A randomized controlled trial.

Patients

In total, 1,022 patients were screened and 898 were excluded according to pre-ordained exclusion criteria. Following a sample size calculation, patients with low back pain of at least 12 months (N = 124) were examined and then stratified into two groups: those who were eligible for stabilization exercises according to the Treatment Based Classification System or the Movement Impairment System and those who were ineligible.

Outcome Measures

Oswestry Disability Index (ODI) and Numeric Pain Rating Scale were the primary outcome measures. Secondary outcome measures were gathered at baseline, after the seventh week of treatment, and at 12 months. Successful treatment was determined by at least an 8% point reduction on the ODI.

Interventions

124 back pain patients were assessed for eligibility for the Treatment Based Classification System or the Movement Impairment System and then randomized to matched or unmatched treatments. 76 received a matched treatment and 25 an unmatched treatment.

Results

Both groups improved significantly, but there was no significant difference in primary outcomes between the groups at seven weeks and 12 months. The matched group did not show superior outcomes at any point, except on one secondary measure, the disability scale, at seven weeks ($p=0.01$) and 12 months ($p<0.0001$). Approximately 45% of the matched group and 48% of the unmatched group achieved treatment success of at least 8% reduction in ODI score.

Conclusion

Providing a treatment matched to the criteria for either the Treatment Based Classification System or the Movement Impairment System did not improve treatment outcomes compared to treatment that was unmatched, except on one secondary outcome measure.

Comment

This article is in line with previous work that has stated that matching patient sub-groups to specific treatments on the lines of the clinical prediction rules does not result in better outcomes (Haskins et al. 2012; Patel et al. 2013). Such a conclusion is counter-intuitive, but, unfortunately, supported by the evidence. What is not clear is if the lack of effect is because matching sub-groups to specific treatment is not helpful or if it is the Treatment Based Classification System that is of no value in optimising treatment.

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low back pain: a systematic review. *Manual Therapy*; 17:9-21.

Patel S, Friede T, Froud R, Evans DW, Underwood M. (2013). Systematic review of randomized controlled trials of clinical prediction rules for physical therapy in low back pain. *Spine*; 38:762-769.

<http://www.mdlinx.com/pain-management/news-article.cfm/5398769/randomized-controlled-trial-chronic-low-back>



Miller-Spoto M, Gombatta SP. (2014). Diagnostic labels assigned to patients with orthopaedic conditions and the influences of the label on selection of interventions: a qualitative study of orthopaedic clinical specialists (OCS). *Physical Therapy*; 94:776-791.

Background

A variety of diagnostic classification systems are used by physical therapists, but what systems are used is not known, nor how these systems affect treatment decisions.

Purposes

1. To examine the diagnostic labels used.
2. To determine how the label affects treatment.

Study design

A cross-sectional survey, using two case studies, developed for the study; one with low back pain and the other with shoulder pain.

Participants

Over a six week period, the case studies and the survey were emailed via SurveyMonkey to 877 physical therapists who were Orthopaedic Certified Specialists in the USA. 135 responded, of which 107 (12%) were completed thoroughly enough to use for data analysis. The low response rate may have limited the generalisability of the results. The majority (72%) had been in practice more than 15 years, 91% worked in outpatients, and 55% were male.

Outcome measures

The type of classification system or diagnostic label they would have used for case studies.

Results

The most common labels used for the back case study were combination (49%) and pathology (33%). For the shoulder case study, the most common labels were pathology (57%) and combination (35%). For the low back case study, 47% would have used the McKenzie Method, 18% a patho-anatomic label, 9% the Treatment-Based Classification System, 1% the Movement Impairment System, 6.5% APTA practice patterns, and 19% other. For the shoulder case study, 58% would have used a patho-anatomic label, 17% APTA practice patterns, 4% Movement Impairment System, 3% McKenzie Method, and 19% other.

The classification systems used did not impact the interventions used, with similar treatment patterns for combination and pathology-based labels. Treatments were most commonly some form of exercise or mobilisation of joints or soft tissues. Over 75% reported they would use mobilisation, functional training, neuromuscular re-education, and stretching. Over 50% reported soft tissue mobilization. About 30% reported balance training. Over 15% reported modalities. The treatment interventions were very similar for both case studies.

Conclusion

There is little consistency in how therapists assign diagnostic labels, and the label does not seem to influence the selection of interventions.

Comment

Amongst the responding therapists, clearly the McKenzie Method was commonly used for spinal patients, but not for extremity patients. Counter-intuitively, the classification system did not appear to influence the treatments that they would have provided. This rather begs the question: Why bother to use a classification system at all?

<http://ptjournal.apta.org/content/94/6/776.short>



Cakir S, Hepguler S, Ozturk C, Korkmaz M, Isleten B, Atamaz FC. (2014). Efficacy of therapeutic ultrasound for the management of knee osteoarthritis. A randomized, controlled, and double-blind study. *Am J Phys Med & Rehab*; 93:405-412.

Background

Thermal and electro-therapy modalities continue to be used for the treatment of patients with osteoarthritis of the knee, despite limited evidence for its efficacy.

Purpose

To compare the effectiveness of pulsed and continuous ultrasound against sham ultrasound in patients with osteoarthritis of the knee.

Study design

A randomized controlled trial.

Patients

60 patients with osteoarthritis of the knee, according to American College of Rheumatology criteria, randomized into one of three groups: continuous ultrasound, pulsed ultrasound or sham ultrasound.

Interventions

Continuous ultrasound, pulsed ultrasound or sham ultrasound; all five times a week, for two weeks. All groups also received a home exercise programme, comprised of strengthening and stretching exercises, to be completed at least three times per week.

Outcomes

WOMAC index for pain and function at baseline, the end of treatment and at six months.

Results

All groups showed significant improvement at both follow-up times, but there were no significant differences between groups.

Conclusion

The results suggest that therapeutic ultrasound proved no additional benefit to improve pain and function when used in addition to exercise training. 60 patients with knee osteoarthritis were randomised to continuous, pulsed or sham ultrasound in addition to being prescribed a home exercise strengthening programme. All groups showed significant improvements in pain and function, with no significant differences between groups, at six months. This trial adds further evidence about the value of exercise in knee osteoarthritis. It also provides further evidence about the lack of value in ultrasounds.

Proponents for the use of ultrasound could argue that different intensity levels of ultrasound could have been more effective. A frequency of 1 MHz with intensity of 1W/cm² was used for continuous and pulsed at the same frequency on 1:4 pulse ratio, which was derived from previous studies. However, this ignores the fact that several applications were tried and these were compared to a placebo application with the machine switched off, where both the patients and the treatment providers were blinded to the status of the machine. A sample size was conducted so the number of patients, though apparently quite small, was sufficient to have detected a difference, if one really existed. The patients were allowed to take NSAIDs and paracetamol, and usage was higher in the sham group.

<http://www.ncbi.nlm.nih.gov/pubmed/24322433>

BUSINESS & MARKETING CORNER

Are MDT Practitioners Ready to Consult Patients Online?

Yoav Suprun, PT, DPT, Dip. MDT, CSCS

To start, let's look at a couple of questions you may want to ask yourself:

1. Are you comfortable doing an initial evaluation while seeing your patient remotely in a secure way? (see Google Helpouts below)
2. Can you provide Skype, Google Helpouts or any other web based tool for follow-ups with your traveling patients?
3. What about a patients who you discharged, who wants you to "see" them three or six months down the road to make sure they are doing their exercises correctly"?
4. What are the legal implications of online patient consultation in your State and/or Country?

Telemedicine is growing at a fast pace. The latest predictions by world-renowned firm, Deloitte, state that "Almost one in six doctor visits will be virtual this year" (Mearian, L. 2014). To read the full report by Deloitte, [click here](#).

Regulations regarding online help and advice by healthcare professionals are still in the works worldwide. Google Helpouts, for example, is an online collaboration service from Google that launched in November 2013 and allows users to share their expertise through live video and provide real-time help from their computers or mobile devices.

Practitioners, referred to as "Providers", offering help through Google Helpouts range from large, medium, or small companies to individuals. Providers must speak English as a first language and be residents of either the United States, Canada, Ireland, the United Kingdom, Australia or New Zealand.

Providers create and maintain listings that explain what they offer, their qualifications, their prices, and their schedules. Every listing has a link to the provider's Helpouts calendar. Providers must pass Google's screening process to qualify. To read more on this unique, new service by Google, feel free to visit <https://helpouts.google.com/home>.

Let's start a dialogue on this topic! Do you feel it is time for us to make MDT a leading online service provider? Do we have the tools necessary to observe movement loss and question our patients on their symptom response to repeated movement testing via a computer or mobile device?

International MDT clinicians: What trends do you see shaping up in your respective countries in terms of online live video support? Please share your experiences with the MDT World Press Editorial Team. Let's have an open discussion that will hopefully lead us to share stories on how MDT is successfully utilized to provide care online.

Email me at yoav@sobespine.com to share your opinion. If you would rather remain anonymous - just let me know and your name will not be shared. I look forward to hearing from all of you!

References:

Mearian, L. (8 August 2014). *Almost one in six doctor visits will be virtual this year*. <http://bit.ly/1r8pVBj>