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Feature Commentary

ACTIONS SPEAK LOUDER THAN WORDS

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The structure of the educational program of the McKenzie Institute has evolved tremendously since McKenzie's first course in the USA in 1977. However, there is one element that has remained consistent and that is the examination and treatment of live patients in the courses and at the MDT conferences. Live case presentations are consistently rated one of the best aspects of the MDT curriculum and something rarely seen in other continuing education courses for physical therapists.

As an early student of the McKenzie Method and a current member of the International Education Committee, I would like to share the history of this important educational tool.

As a young therapist in the mid to late 1970's, I was immersing myself in the newly emerging world of manual therapists in the United States. I spent a lot of time and money attending classes by the early mentors of manual therapy including Cyriax, Maitland, Paris, and Kaltenborn. I learned a lot of information about joint anatomy, physiology, biomechanics and how to do a thorough examination with a focus on palpation and the identification of end feels, spasms, restrictions, etc. I did my best to try to use all of this information when examining my own patients. Some days, I would collect six pages of data, but still was never sure I was providing my patient with the best care, since I had no published research or outcomes to guide me. As the years passed, I realized I had never actually observed any of my mentors assessing patients or progressing or altering treatment plans.

In 1977, my business partner, Barbara Stone, and I had the good fortune to sponsor the first McKenzie course in the US. We were chairs of the LA Orthopedic Study Group and were familiar with organizing manual therapy courses. We were quite surprised when Robin McKenzie asked via "snail mail" that we arrange to have live patients available for assessment and treatment at the course. We were not sure how to manage this request as we had not seen it done before. During that first course, Robin McKenzie assessed and treated eight patients. He had requested our most difficult patients! However, he did not realize that difficult US patients were very different than difficult New Zealand patients. Our patients had long histories with multiple surgeries and many psychosocial issues. Of the eight patients, he was only able to influence symptoms in three; the other five, he correctly classified as Chronic Pain State. The three patients who responded were friends or course participants. All three were derangements and one also had a lateral shift. Even though he could not influence symptoms in the other five, his method of assessment quickly identified those patients were not candidates for management with MDT.

What I learned from this experience was career changing. To actually watch this master clinician question a patient, elicit information clearly, clarify data, follow up responses and mechanically assess the patient enabled me to improve my clinical reasoning skills rapidly. To see the patient's symptoms and function change and improve so quickly was too amazing to ignore. To observe Robin McKenzie carefully respond to symptomatic change to various loading strategies was not something I had learned anywhere else.

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We sponsored McKenzie courses for years after this. Typically, at a course, Robin McKenzie would examine and treat 12 to 16 patients. The different clinical patterns appeared, and we clearly saw how the right treatment for each different syndrome was applied. We observed firsthand how loading strategies were progressed or altered based on symptomatic and mechanical responses. We learned how frequently patients were able to manage their own symptoms through changes in posture and simple exercises. When that wasn't possible, the clinical reasoning was demonstrated on when and how therapist techniques were applied.

Today it is common to hear older faculty report learning from every course where they observed Robin McKenzie treating patients. Many of the faculty attended 10 to 20 of Robin McKenzie's courses over the years. Each patient was unique and responded differently to questioning and mechanical loading. Clinical reasoning was varied, yet followed a consistent pattern of hypothesis generation, testing and retesting.

Since that time, live patient examinations have been a standard part of the McKenzie Institute educational system. In the early years, those who could follow Robin McKenzie's fast paced reasoning with multiple patients learned a tremendous amount. However, as a more structured educational format was developed, it became apparent that not all students could learn the information solely by observing. Gradually, the educational curriculum was expanded to incorporate adult education principles, slide presentations, handouts and practical sessions in attempts to better meet the needs of all types of learners; visual, auditory and kinesthetic. This helped the educational process, but did not reduce the impact and value of assessing and treating live patients. As a full range of clinical syndromes are not seen at all courses, videos and other learning tools have been introduced to expose students to as many different clinical patterns as possible in the three to four day courses.

The McKenzie system is more than just a series of questions and standard evaluation procedures. It is a vibrant sequence of clear questioning in the history to uncover loading issues and a variable trial of loading strategies coupled with careful questioning regarding symptom response to uncover the treatment principle needed. Force progressions are adapted to patient needs and responses. The patient is empowered to manage his symptoms himself as much as possible. Seeing this done by a master clinician allows the students to broaden their clinical experience and patient management skills, both in patient questioning and loading principles. Observing the patient response to treatment over three to four days allows the clinician to see how treatments are progressed and modified, and how patients are educated and encouraged to take responsibility for their own management.

The highest level of proficiency in MDT is best achieved by learning and practicing the method under clinical supervision. Both the Diploma Program and the MDT Fellowship program provide an environment where the system is studied, applied and reviewed on real patients with direct one-on-one clinical supervision. Testing in both programs also involves examination and treatment of live patients.

Many students enter Part A on the first day with skepticism or preconceived notions about the method. However, few leave on the last day without acknowledging that “seeing is believing.” What happens to the patients, who, for the most, part treat themselves, cannot be denied. It is stimulating and most clinicians state that it is immediately applicable when they return to their own patient population.

Patient assessment and treatment will continue to be an integral part of the McKenzie educational system as their learning value cannot be understated.

Indeed, actions speak louder than words.

EDITOR’S NOTE: *Live case presentations will be part of the 2012 MDT International Conference in Austin, TX, October 5-7, 2012. Colin Davies and Mark Miller, Senior McKenzie International Instructors, will be performing live patient assessments on patients with spine complaints. Scott Herbowy, Senior McKenzie International Instructor and Dr. Jeremy Lewis will be performing live patient assessments on patients with shoulder complaints. Dr. Lewis is the first non-McKenzie faculty member to perform live patient assessment and treatment at a McKenzie conference. We look forward to the ongoing learning experience and we invite you to join us!*

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Original Research

Direction specific or stabilization exercises for chronic low back pain patients: a randomized controlled trial

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Study Design
A randomized, controlled trial.

Background
The fact that much of the current research has investigated the management of low back pain, as if this was a homogenous group, could account for the lack of support for the prescription of specific exercise programmes. Identifying subgroups of patients more amenable to specific treatments has been claimed as one of the promising recent developments in back pain research. Evidence has emerged that treatment based on classification is superior to non-specific treatment, according to contemporary back pain guidelines. However, most of these trials recruited acute and sub-acute back pain patients (only one trial had 50% of the population defined as chronic). Furthermore, the role of directional preference exercises in the management of a chronic back pain population has not been specifically explored before.

Aims
The aim of this research project was to compare the effectiveness of directional preference exercises with a stabilisation exercise programme in the management of chronic low back pain and to follow up functional status and pain intensity at discharge from physical therapy at intervals of six months and one year later. Criteria for recruiting patients consisted of the existence of directional preference and the criteria for the clinical prediction rule for stabilisation exercises.

Methods
Data was gathered from adults (n=62 patients) with chronic low back pain who, on initial assessment, demonstrated a directional preference and an indication that they might respond to stabilization exercises, for at least three months. Patients were then randomized to either directional preference or stabilization exercises and treated for up to four weeks, and then followed up at six and 12 months. Outcomes used were the Numeric Pain Rating Scale (NPRS) for back and leg pain, the Roland-Morris Disability Questionnaire (RMDQ) and the Global Perceived Effect Score (GPES), measured after treatment. All data was assumed to be ordinal (RMDQ, NPRS, GPES) so non-parametric tests were used. Analysis of outcomes between groups at different time points was done using ANOVA, and all outcomes' significance was set at ≤ 0.05.

Limitation
Contamination of the data in the stabilization group was a major limitation of the study, with many patients in this group receiving extension exercises as well.

Results
There was a significant difference in both groups over time in all outcomes ($P<0.0001$), but there were no significant differences between groups at any time point.

Conclusion
It is not clear if these results are a true comparison between directional preference and stabilisation exercises, as there was substantial contamination of the stabilisation group treatment.

KEY WORDS: *Chronic Low Back Pain, Directional Preference, Stabilisation Exercise*

Introduction

Low back pain (LBP) remains a leading cause of disability and is one of the most prevalent and costly conditions treated in primary care (Hayden et al, 2005a). In the UK, the total direct and indirect costs have been estimated at between £5 and £10 billion, with the majority of this absorbed by indirect societal costs (Maniadakis and Gray, 2000). Similar high costs exist in other countries, where data is available (Dagenais et al, 2008), and it is likely that the situation is similar in the Czech Republic. In 2004, in the Czech Republic about 19% of total work compensation was for musculoskeletal incapacity to work, compared to 40% for respiratory illness and 12% for trauma and poisoning (Říha, 2008). A minority of those with chronic or persistent symptoms appear to absorb the majority of the costs; it is estimated that 15% of the back pain population absorbs about 70% of total costs (Linton et al, 1998).

Systematic reviews, while mostly concluding that there is moderate-to-strong evidence for exercise therapy as a treatment for CLBP, have not supported specific exercises or any particular form of exercise (van Tulder et al, 2000; Hubley-Kozey et al, 2003; Liddle et al, 2004; Hayden et al, 2005a; Slade and Keating, 2006). The beneficial role of general aerobic and strengthening exercises and the possible importance of supervised programmes has been highlighted by some reviews (Liddle et al, 2004; Hayden et al, 2005b; Slade and Keating, 2006).

The findings from large systematic results are used to formulate clinical guidelines and recommendations for best practice. The limited evidence for specific exercise prescription is therefore present in the current clinical guidelines for managing CLBP.

Routine physiotherapy intervention for any musculoskeletal problem, including CLBP, involves an in-depth assessment to identify signs and symptoms. These assessment findings are then used to formulate an appropriate treatment plan, which will frequently

include the prescription of specific exercises that are thought to be appropriate to the patient's presentation. Thus, rather than standard management being used for all patients with CLBP, treatment is based on individual clinical presentations. For instance, in a survey of primary care clinicians, including physiotherapists, who routinely assess and treat patients with LBP, 93% did not think that LBP was one condition, but rather comprised heterogeneous sub-groups (Kent and Keating, 2004). In contrast, and this represents a major difficulty when interpreting much of the research on the use of specific exercise programmes in the management of CLBP, trials have viewed CLBP patients as a homogenous group. On the whole, previous trials have not attempted to select patients as being suitable for a particular intervention, instead simply randomising them to alternate interventions.

The fact that much of the current research has investigated the management of LBP as a homogenous group could account for the lack of support for the prescription of specific exercise programmes. This possible flaw with much of the previous research has recently been identified (Fritz et al, 2003; Long et al, 2004; Brennan et al, 2006, Browder at al, 2007), and as a result, research is developing in the area of sub-grouping of patients with LBP. Here, patients are assessed according to specific signs and symptoms and sub-classified according to these findings. The intention of these trials has been to determine if classification-based treatment produces better outcomes than standard treatment; and in these trials that has indeed been the case (Fritz et al, 2003; Long et al, 2004; Brennan et al, 2006, Browder at al, 2007).

Identifying subgroups of patients more amenable to specific treatments has been identified as one of the promising recent developments in back pain research (Koes et al, 2006). Evidence has emerged that treatment-based on classification is superior to non-specific treatment (Fritz et al, 2003; Long et al, 2004; Brennan et al, 2006, Browder at al, 2007). Long et al (2004) demonstrated that directional preference exercises (DP) were more effective than the use of general exercises in reducing pain and restoring function in the short-term ($P < 0.001$). The trial sample involved acute to chronic patients and those with local spine pain through to those with sciatica. Fritz et al (2003) demonstrated that treatment based on classification was more effective than treatment according to contemporary back pain guidelines ($P = < 0.029$). Brennan et al (2006) demonstrated no significant difference between three groups receiving DP exercises, stabilisation exercises and manipulation, but significant differences if patients received the treatment that matched their classification group ($P = 0.013$). Most of these trials have recruited acute and sub-acute LBP patients, although 50% of the population in one trial was defined as chronic (Long et al, 2004) and centralisation has been identified in about 50% of the CLBP population (Aina et al, 2004). However, the role of DP exercises in the management of a CLBP population has not been specifically explored before.

One of the more commonly used methods of sub-grouping patients is the McKenzie Method (McKenzie and May, 2003). This method is based on the patient's pain response to certain movements and postures during assessment, which are used to identify a patient's directional preference. DP is defined as the movement or posture that decreases or centralises pain that emanates from the spine and/or increases range of movement (McKenzie and May, 2003). The separate, but associated, phenomenon of centralisation refers to the abolition of distal pain in response to repeated movements or sustained postures, and also refers to the abolition of any remaining spinal pain. Both centralisation and DP are common clinical occurrences (Aina et al, 2004; Long et al, 2004), and are detected with reasonably good levels of reliability amongst those with training in the method (Kilpikoski et al, 2002; Razmjou et al, 2000; Fritz et al, 2000). Mechanical syndromes in the McKenzie system are derangement, dysfunction and postural syndromes, with the biggest proportion of spinal patients being classified with derangement (May, 2006). DP and centralisation occur only in the substantial derangement group (McKenzie and May, 2003). The prevalence of derangement syndrome in low back pain patients has been reported to be between 75% and 80% (Hefford, 2008).

An alternative way of constructing sub-groups of the LBP population is the development of clinical prediction rules (CPR) for a positive response to a particular intervention, based on signs and symptoms. For instance, CPR have been developed for those who respond positively to non-specific spinal manipulation and those who respond positively to stabilisation exercises (May and Rosedale, 2008). The CPR for stabilisation exercises has been derived in one population (Hicks et al, 2005) and validated in another (Brennan et al, 2006). The criteria were as follows:

- Age < 40 years
- Average straight leg raise > 91°
- Any 'aberrant movements' present: instability catch, painful arc of movement, thigh climbing, or reversal of lumbopelvic rhythm
- Positive prone instability test.

With three or more positive tests, the sensitivity, specificity, and positive likelihood ratio of a positive response to stabilisation exercises was 56%, 86%, and 4.0, and with two or more tests, it was 83%, 56%, and 1.9 respectively (Hicks et al, 2005). After pre-trial testing of these clinical prediction rules, in which two criteria were commonly found but three rarely, we adopted an inclusion criteria of two out of four.

Thus, the aim of this research was to compare the effectiveness of DP and stabilisation exercises in the management of CLBP. Criteria for recruiting patients were the existence of DP and two out of four of the clinical prediction rule criteria for stabilisation exercises. Our null hypothesis was based on the statement: There will be no difference in pain and functional outcomes in patients with CLBP between those who receive exercises matching their directional preference and those who receive a stabilisation exercise programme. Thus the alternative hypothesis was: Patients with CLBP receiving exercises matching their directional preference will have significantly reduced pain and improved functional outcomes in comparison with patients receiving a stabilisation exercise programme.

METHODS

Patients and settings

Seventy-five consecutive patients of either gender between 18 and 65 age years old with CLBP, duration three months or more, were screened by Rehabilitation Service Physicians and referred to physiotherapy, in the Central Military Hospital in Prague, the Czech Republic. Patients were mostly referred into this service by primary care physicians from Prague and its environs. Patients were included with a primary complaint of LBP (pain in the lumbar and/or buttock area) with or without referral into the lower limb, and if they were willing to participate. Red flags indicative of serious spinal pathology (Waddell, 2004), signs and symptoms of major nerve root compromise (with at least two of these signs: dermatomal sensory loss, myotomal muscle weakness, reduced lower limb reflexes), pregnancy, history of spinal surgery, previous experience of either intervention, or Roland Morris Disability score less than four or greater than 20 were the exclusion criteria. Consecutive patients who met these inclusion / exclusion criteria underwent a baseline evaluation to determine the presence of DP (McKenzie and May, 2003) and at least two out of the four stabilisation clinical prediction rule criteria (Hicks et al, 2005). Out of the 75 patients recruited, 62 met these final criteria, and all patients signed an informed-consent form before participating in the study.

Clinical Procedures and Randomization

All 75 consecutive patients were examined by a physiotherapist trained at the highest level of the MDT. The patients were assessed for directional preference, involving repeated movements, up to four to five sets of 10 of each movement, in standing, lying and in sagittal and frontal planes. The full assessment is described in detail and familiar to the assessing therapists (McKenzie and May, 2003). Our determination of directional preference was based on the following responses:

- Abolition of distal pain in response to repeated movement or sustained postures (centralisation) that remains improved after the test movements.
- Decrease in spinal or distal pain in response to repeated movement or sustained postures that remains improved after the test movements.

After that, the patients were assessed for the criteria developed for the stabilisation clinical prediction rule (Hicks et al, 2005). All of them had at least two out of the four stabilisation clinical prediction rule criteria.

In addition to the initial physiotherapy appointment, a routine assessment was carried out and standard outcome measures were completed. The Numeric Pain Rating Scale (NPRS) for back pain and for leg pain (Childs et al, 2005; Farrar et al, 2000, 2001; Jensen et al, 1999), the Roland-Morris Disability Questionnaire (RMDQ) (Pengel et al, 2004; Stratford et al, 1994); these same outcome measures were re-assessed at four weeks and six and 12 months as well as the Global Perceived Effect Score (Beurskens and de Vet, 1996).

A randomisation schedule using a computer-generated table was developed to assign patients to the treatment groups. A member of the team not involved in data collection generated consecutively numbered opaque envelopes containing each participation's allocation. Patients drawing an envelope containing Group 1 were randomised to receive directional preference exercises and patients receiving the envelope containing Group 2 were randomised to receive the stabilisation exercise programme.

Interventions

Patients randomised to Group 1 were taught directional preference exercises by four therapists with training in McKenzie's Mechanical Diagnosis and Therapy, courses A to D and the Credentialing exam. The group used a sheet with instructions on how to perform exercises regularly at home or at work. These patients received advice in line with their DP, which is to perform exercises and movements appropriate to their DP regularly, and temporarily to refrain from movements and especially sustained postures in the opposite direction.

Patients randomised to Group 2 were treated by one of four therapists with training in providing core stability exercise programmes that are popular in the Czech Republic. Two sorts of programmes are commonly used, both involving central nervous system stimulation by therapists and activation of deep stability muscle groups. One used progressive proprioceptive neuromuscular facilitation (PNF); with techniques and exercise patterns commonly used (Voss et al, 1985; Adler et al, 2003). The method aims to stimulate global muscle control with the use of guided patterns of movement. The other method also uses manual stimulation on clearly defined points on the body by therapists to stimulate central nervous system coordination and deep muscle reflex activity (Vojta, 1995). This type of therapy was termed Reflex Locomotion, which was ini-

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tially designed to enhance the motor development of children. However, the motor responses were also said to generate global patterns of muscle activation in adults. The approach uses progressive levels of gravity -loaded positions to increase stimulation of core trunk muscles and is combined with Pilates training. Thus, these techniques share many similarities with stabilisation programmes commonly used in other countries, i.e. the belief that coordination is more important than gross strengthening, core trunk muscles are the focus, and loading is done in a progressive manner. The group was also issued a sheet with instructions on how to perform the exercises regularly at home.

Therapists were instructed to treat according to the study protocol only, and not include additional interventions. A maximum of six sessions were available for both groups, but if therapist and patient were happy with progress, it was possible for patients to be discharged before this.

Data Analysis

We calculated sample sizes for both primary outcomes and selected the larger sample size. We calculated that a sample size of 30 participants in each group gave 90% power to detect a mean 2.0 (SD 2) difference in NPRS between the groups with an alpha level of 0.05, and allowed 27% over-recruitment. For the RMDQ, using an alpha level of 0.05 and power at 90% with an anticipated change of 4.9 (SD 5.0) gave a sample size of 23 per group; so 30 per group included 23% over-recruitment.

All outcomes were collected by a member of the team not involved in data collection and treatment as well, and then they were mailed to a statistician who was not involved in the patient care process. Results were analysed using the computer programme SPSS / PSAW (version 19). Each patient was assigned a code to maintain anonymity and confidentiality. All data was assumed to be ordinal, so non-parametric tests will be used. Two-way repeated measure 2x2 ANOVA (group effects of two levels and time effect of two levels) was performed on the following outcome variables: RMDQ, PNRS for leg and back, and GPES. Based on this analysis, the following effects will be tested, namely: group by time interaction effect, time effect and group effect. If there is a statistically significant group by time interaction effect detected this indicates the group effect varies with time or vice versa. Further testing of simple effects was then performed to determine whether there is any group effect using Chi-square analysis. For all outcomes, significance was set at alpha=0.05 level.

Results

Sixty-two patients were recruited; their baseline details are in Table 1. The two groups were very similar at baseline. Fifty-three patients (85%) were followed up at four weeks, 50 (81%) at six months, and 44 (71%) at 12 months.

Table 1. Baseline description of patients

Variable	MDT (N=31)	Stabilisation (N=31)
Age - mean (SD)	43.7 (11.5)	44.8 (11.9)
Gender (female)	15 (48%)	17 (55%)
Working	26 (84%)	27 (87%)
Sick leave	2 (6%)	0
Sport active	16 (52%)	18 (58%)
Most common postural set sitting	26 (84%)	21 (68%)
Centralisation	19 (61%)	17 (55%)
RMDQ - mean (SD)	7.5 (2.8)	6.8 (3.0)
Low Back Pain - mean (SD)	4.6 (1.65)	3.9 (1.8)
Leg pain - mean (SD)	2.3 (2.0)	1.5 (1.95)

There was a significant effect over time in both groups in the GPES / LBP / leg pain and RMDQ (P< 0.0001), but no significant difference between groups at any time point (P=0.42 / 0.15 / 0.88 / 0.32). As there was no difference no further testing was necessary, but the Chi -square tests again found no differences between the groups. Figures 1-3 illustrate the outcomes over time of the RMDQ, LBP and leg pain.

Figure 1. The Roland-Morris Disability Questionnaire outcomes

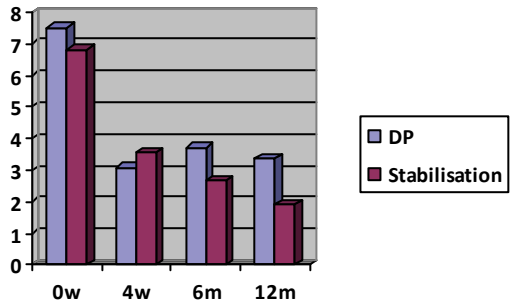

Figure 2. Low back pain scores

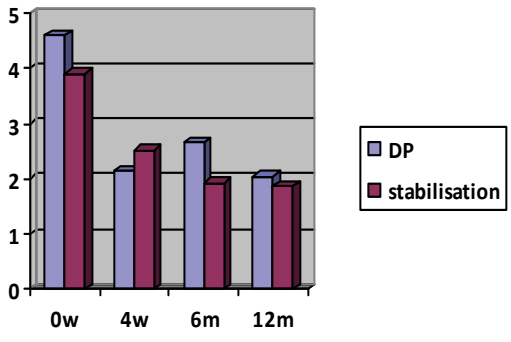

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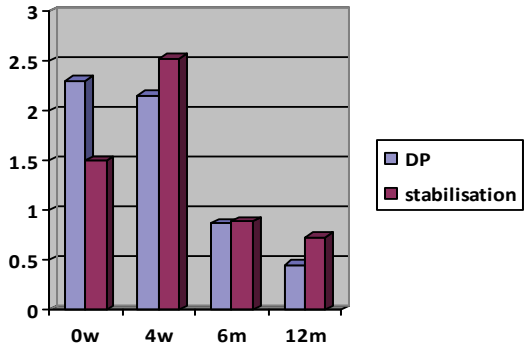
Figure 3. Leg pain scores



Discussion

There was a significant improvement in both groups over time. We could not confirm the alternative hypothesis, that patients with CLBP receiving exercises matching their directional preference would have significantly reduced pain and improved functional outcomes in comparison with patients receiving a stabilisation exercise programme, as there were no significant differences between the groups.

However, there were some major limitations to the data collection and analysis that challenge this conclusion. Unfortunately, there was contamination of the therapy, which came to light towards the end of data collection. Most of the patients in the stabilisation group underwent end-range extension movement and mobilisation in multiple directions as well as stabilisation exercises, which was against the study protocol. Some patients were free from problems after the assessment, as they responded rapidly to repeated movements, but still underwent therapy in the stabilisation exercise group although they had no symptoms. Only one patient was treated with PNF, so this group did not really exist, and the therapy lasted three months, which was against the study protocol. Therefore, the non-significant results should not prompt generalisations, because treatment in the stabilisation group was not confined to stabilisation therapy. Furthermore, at one year, those lost to follow-up constituted 29% of the original sample.

Stabilisation therapy, now commonly referred to as motor control exercises, were developed based on the results of laboratory studies demonstrating that individuals with low back pain have impaired control of the deep (e.g. transversus abdominis and multifidus) and superficial trunk muscles responsible for maintaining the stability of the spine. Motor control exercises utilize principles of motor learning to regain control of the trunk muscles, posture, and movement pattern, ultimately leading to a reduction in the levels of pain and disability. However, there are no high-quality studies confirming that motor control exercises are superior to other active approaches in the management of low back pain (Macedo et al, 2012). One study directly compared the effectiveness of motor control exercises and graded activity showed no significant differences between groups in relation to pain or disability at 6,12 and 18 month follow-ups (Critchley et al, 2007). Directional preference and stabilisation exercises have previously demonstrated similar outcomes (Miller et al, 2005).

Although there was no significant difference in pain and functional outcomes in patients with CLBP receiving exercises matching their directional preference and patients receiving a stabilisation exercise programme in this study, we can see good results in both groups at one year follow-up. Respectively, patients with CLBP reported 96% improvement by exercise matching their directional preference and 78% for the stabilisation exercise programme. Almost all patients had a higher expectation of improvement in function when they agreed to be included in this study and most of them were able to follow an active coping strategy in both groups.

We found that in the directional preference (DP) group, we had a more rapid recovery than in the stabilisation exercise group, in spite of the treatment contamination in the stabilisation group. And we also identified that DP therapy was slightly more effective than the contaminated stabilization group at short-term (four weeks), than in 6 and 12 months follow-ups. Similar results have recently been found in a systematic review of directional preference exercises (Surkitt et al, 2012).

We found about 96% of chronic LBP patients in the DP group reported an improvement or significant improvement after discharge and one year follow up. Of 75 patients recruited, 62 had DP at baseline (83%). This is much higher than previous reports of centralisation in chronic low back pain (Aina et al, 2004), but similar to previous reports of DP in a mixed duration LBP population (Long et al, 2004).

This study may provide a lesson for research in the Czech Republic: that a randomised trial with patients with multifactorial etiology of LBP is possible, but it must be performed with people who are willing and able to work according to the pre-established study protocols. It should be noted all MDT therapists were abiding the protocol without any problem.

Another issue arising from the study is the value of the prone instability test, which is one of the stabilisation clinical prediction rule criteria. Out of 23 with a positive test at baseline, 10 were treated with directional preference exercises, and required full extension movement to fully recover. This would appear to challenge expectations around so-called instability in the spine, which theoretically might worsen because of end-range exercises.

Conclusion

There was no significant difference in pain and functional outcomes in patients with CLBP receiving exercises matching their directional preference and patients receiving a stabilisation exercise programme. However, there was contamination of the stabilisation group. In addition, these patients underwent end-range extension movement and mobilisation in multiple directions. The directional preference (DP) group had a more rapid recovery than the stabilisation group. At one year follow up, there was about 96% improvement or significant improvement in DP group and 78% in the contaminated stabilisation group. It is also crucial to note all patients were highly motivated to improve their CLBP by the exercise. This is the first randomised trial on the effectiveness of management of CLBP done in the Czech Republic. Further high quality research on CLBP or LBP sub-groups is required.

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MDT World Press

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Branch Spotlight

McKenzie Institute France

Gabor Sagi, PT, Dip. MDT, Senior Faculty

1. **How long has the branch been officially established, and where is the branch office based?**

   The branch started in January 1999. It is currently based in Toulouse, in southwest France.

2. **What is your current branch structure? (i.e., number of admin staff, board of directors, faculty)**

   Our structure remains very simple. I am the Chairman and Martine Rodap is our Secretary and Course Coordinator. She works full time for our Branch. We have only two MDT instructors in France: Patrice Boudot and myself. Thankfully, we get some precious contributions from Antoine Gemayel, from the Italian Branch, and David Vandeput, from the Benelux Branch. Both gentlemen speak French fluently. Initially, Nico De Bruine came a number of times to teach Part C and D courses. Grant Watson has also taught a few courses on extremities. We feel that we need at least four additional instructors, as our branch is growing steadily.

3. **How many Credentialed and Diplomaed clinicians do you have in France?**

   At the moment, we have just over 100 credentialed therapists listed on our website. We only started holding credentialing exams two years ago and the number of credentialed therapists is rising fairly quickly. As far as the diploma is concerned, the main hurdle is the language barrier. However, two therapists are in the process of completing the diploma and at least two, possibly three or four, more will start in January 2013. The French branch provides some significant financial support to potential candidates to facilitate this process.

4. **How many courses do you hold every year, and in how many venues?**

   For 2013, we currently have 48 courses planned. We hold courses in nine different venues in France, itself. For a European country, France has a fairly large territory and we feel that we need to offer courses in venues in many different regions of the country. We also hold a few courses in overseas French territories, such as Reunion Island in the Indian Ocean, and New Caledonia.

5. **Do you have membership?**

   We do not have a membership, but since 2010 there has been a National Association of MDT Practitioners, known as AFMCK, in France. The association is independent from the Branch; however, we coordinate our efforts. The AFMCK has about 150 practitioners and works on promoting MDT in our country.

6. **What are the greatest difficulties that the McKenzie Institute France has met since the Branch's beginnings?**

When we started the Branch in France in 1999, MDT was completely unknown. Very few French PT's read in English. In addition, France is one of those countries dominated by manual therapy. Traditionally, PT's use a lot of massage techniques. As a result, there is a strong expectation that the therapist must "do" something to the patient, and not just give exercises, advice and correct postures. Fortunately, the situation has evolved a great deal. The French medical world, and French PT's in particular, are now much more sensitized to Evidence Based Medicine. There is an increased awareness that the management of musculo-skeletal pain should be managed with patient empowerment and active techniques. Health insurance is also pressuring PT's to reduce the number of treatment sessions. Over the last 13 years, over 2,500 PT's attended at least a part A, which contributed to the creation of some awareness of MDT through word of mouth. Additionally, we have made a lot of presentations and published several papers. As a result, MDT is clearly in the spirit of the time over here, and the demand for courses is quite strong these days.

7. **What have been some of the Branch's greatest attributes?**

Our best attribute is our number of PT's. Firstly, there are 60,000 Physiotherapists in France, which makes it a very large market, mostly likely second only to Germany in Europe. Secondly, the structure of the French health system is such that most PT's, more than 80%, are self-employed. Most of them work in small practices all over the country. In a way, this is a hindrance because we have to market our courses to a large number of practices. However, this is also a great asset. Most PT's are their own decision makers. Once they have decided that MDT is a useful professional training for them, they do not have to wait for their employer's approval to attend. Thirdly, as mentioned before, France has only lately wakened up to Evidence Based Medicine. French practitioners are very impressed by the volume of publication that supports MDT. Finally, the course structure developed over the years by MII matches very well the demand of French practitioners. Four courses over a two year period is not a big time commitment. The course content is immediately applicable in clinical practice and therapists are impressed by the results they get. Participants feel that they get very good value for their time and money.

8. **What are the greatest challenges ahead for your branch?**

A. Obtaining more instructors in the next three to four years. As several potential faculty candidates are in the process of completing their diplomas and more diploma candidates are in line to follow, this should be within our reach.

B. Increased awareness of MDT from the patients, physiotherapists, and physicians. At the same time, we need to make sure that all of those different professional bodies realize that only trained practitioners can deliver MDT to the appropriate level of proficiency.

C. Increasing, or at least maintaining, the level of interest shown by potential course participants.

D. Maintaining the level of practice and enthusiasm in trained therapists.

E. Having some research done on the French territory. This would help to increase our credibility in our country. Besides, this is likely to foster interest from PT's. At least one project is presently on the way.

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CASE REVIEW: A CLINICIAN'S PERSPECTIVE

Lessons from Live Patient Demonstrations

Scott Herbowy, PT, Dip. MDT

A recent patient on a Part C course presented with an excellent opportunity to reinforce MDT principles as well as lending insight into what is really most important from the patient's perspective.

A review of the history for "Mary", a 25 year old store clerk, shows central/right sided upper lumbar pain of eight weeks duration. Symptoms are intermittent, worsening over time and commenced for no apparent reason. There is no referral of symptoms. She reports worsening with bending, walking and lying supine. However, she can get pain relief in lying if she places a pillow under her lumbar spine and supports her lordosis. She also gets relief with sitting and reported no other pain relieving position or activities. There is no indication of any red flags. From the history, the suspicion was a strong possibility of an anterior derangement. The demographics were supportive, but the greatest clue was the need to support the lumbar lordosis with a pillow.

Day One: The examination showed good sitting posture and an accentuated lordosis in standing. Bringing her into more lordosis in sitting increased the pain. Movement loss showed a major loss of flexion with deviation to the left. Initially, it appeared that extension was minimally limited, but retrospectively, she limited extension due to pain. There was no true obstruction. Side glide was minimally limited to the right.

At the beginning of repeated movements, she had no pain in standing. RFIS produced back pain, not worse. REIS produced back pain, worse. In lying, she had no pain and RFIL produced back pain, not worse. Adding clinician overpressure to FIL relieved any pain that was produced with patient generated forces only. Following the RFIL, she did have a gain in FIS ROM, but the pain remained unchanged. At that point, in order to confirm an anterior derangement, we sustained her in extension for -three minutes. This markedly worsened her symptoms and obstructed her FIS. We returned to RFIL and this again produced back pain, NW however, now adding clinician overpressure made no difference. RFIL with or without overpressure both produced back pain, NW. Repeated Flexion in Step Standing had no symptomatic effect, but did increase FIS ROM more so than RFIL. The decision was made to have the patient begin RFIL x 10-15/hour.

The discussion from the class was focused on the increase FIS ROM after RFIL or Flexion Step Standing. What few appreciated was that no true directional preference was established. We had been unable to change her pain at all.

Day Two: The patient reported full compliance performing RFIL every hour, and despite this, there was no overall change. Pain was still right upper lumbar. Movement loss baselines were the same, pain response to loading was unchanged. Her exercise technique was good. We again examined RFIL and RFlex in Step Standing, and the results were the same as day one - no change in pain and a small increase in ROM. Based on the improved ROM after Flexion in Step Standing and the large deviation in FIS, we examined lateral forces, specifically Rotation in Flexion and SGIS. Unfortunately, yet predictably, neither had any effect, as there was no directional preference. Rotation in Flexion was progressed to an end range mobilization without change.

On closer inspection of sitting posture, the patient reported pain with end range slouched or erect sitting. In mid range, she was pain free. The patient was able to perform mid range slouch overcorrect pain free. The patient was instructed to perform slouch overcorrect as often as possible, but no less than hourly. The thought here was to move the joint as much as possible so as to encourage any type of change in symptomatic response.

Day Three: The patient returned and again reported no change. Movement loss assessment was the same as previously noted. FIS and EIS continued to consistently produce the back pain. RFIL and RFlexion in Step Standing increased FIS ROM, but again there was no change in pain.

The discussion amongst the course attendees was to pursue flexion as this did improve ROM.

Unfortunately, nothing we did had any benefit to the pain. We could make her worse with extension, but nothing really improved the pain. On day one, most were excited that flexion, especially step standing increased ROM despite no clear directional preference. Certainly we could classify her as a derangement, but lacking directional preference, the prognosis markedly diminishes. The participants, however, were focused on the positive mechanical changes. To put it in the proper perspective, I believe the patient's view was quite telling. When we asked her if she noticed the improvement in ROM she responded, "Yes, I moved better, but so what; I still hurt the same."

Over the past ten years instructing the clinical component of the MII Diploma Program, we have seen an ever increasing emphasis by students on mechanical changes often to the detriment of symptoms. This case is a good example of that. The clinicians were excited about the change in ROM, and yet the patient didn't really care. She only knew that she continued to hurt. We often see students in the Diploma Program fail to move a patient enough to fully effect symptoms because they are satisfied and pleased with a rapid movement gain. Centralization and directional preference are proven prognosticators, improvement in ROM is not. The big lesson here is symptoms first!

The other key point is the power of MDT as predictor. It took many years for me to appreciate the gift that Robin gave us. We can rapidly sort out responders from non responders. While many patients are told it will take a long time to overcome their problem and they are labeled with chronic type diagnoses such as degenerative disc, arthritis, etc., MDT clinicians, in most cases, can predict outcome based on evidence. Good outcomes when classification is achieved and directional preference established; usually bad outcomes when not classifiable or no directional preference can be found. How many other clinicians can confidently say to a patient, "If you do as I ask, there is a 95% probability you will be much better in two weeks?"

The bottom line is although she is classifiable; the lack of directional preference indicates a poor prognosis, which was confirmed with a MDT mechanical examination. Knowing who you cannot help is as important as knowing who you can help, and the course participants appreciated seeing an example of this with this live patient examination.

THE McKENZIE INSTITUTE
LUMBAR SPINE ASSESSMENT

Date 14/08/2012

Name Mary Sex M / F

Address

Telephone

Date of Birth 01/01/1987 Age

Referral GP / Orth / Self / Other

Patient accepts anonymous use of data for research Yes / No

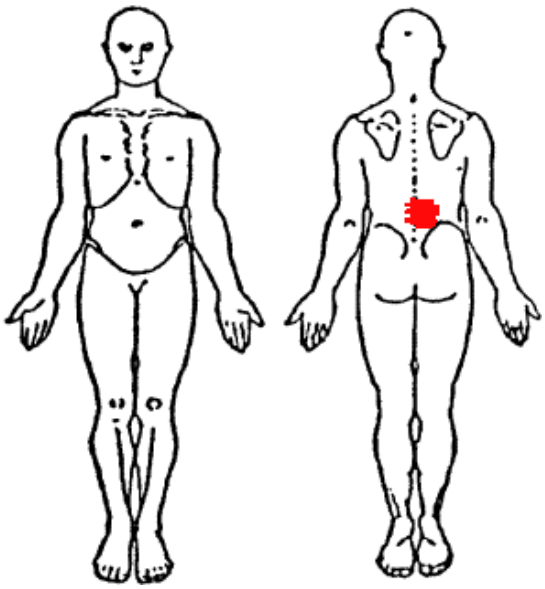
Work: Mechanical Stresses Grocery Checker

Leisure: Mechanical Stresses

Functional Disability from present episode Standing, Bending, Lifting

Functional Disability score

VAS Score (0-10)



HISTORY

Present Symptoms Upper Lumbar Only

Present since 8 weeks Improving / Unchanging / Worsening

Commenced as a result of Or no apparent reason

Symptoms at onset back / thigh / leg

Constant symptoms back / thigh / leg Intermittent symptoms back / thigh / leg

Worse bending _____ sitting / rising _____ standing _____ walking _____ lying Supine

am / as the day progresses / pm when still / on the move

other

Better bending _____ sitting _____ standing _____ walking _____ lying

am / as the day progresses / pm when still / on the move

other

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: 7 Year History of Central Lower Lumbar Pain 5-6 X a day, Not present currently

Previous treatments None

SPECIFIC QUESTIONS

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

Medications Nil / NSAIDS / Analg / Steroids / Anticoag / Other

General Health Good / Fair / Poor

Imaging Yes / No

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 _____ Relevant Yes / No

Other Observations _____

NEUROLOGICAL

Motor Deficit _____ Reflexes _____

Sensory Deficit _____ Dural Signs _____

MOVEMENT LOSS	Maj	Mod	Min	Nil	Pain
Flexion	X				Increase * Deviation to Left
Extionsion			X		Increase **
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	v ROM	no effect
Pretest symptoms standing: VAS 0					
FIS	Produces/ back R				
Rep FIS	10 rep/ Produces/ back R	No worse			X
EIS	Produces/ back R				
Rep EIS	10 rep/ Produces/ back R	Worse			X
Pretest symptoms lying:					
FIL	Produces/ back R				
Rep FIL	10 rep/ Produces/ back R	No worse			FIS/EIS
EIL					
Rep EIL	See Attached Sheet for additional tests				
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 _____ Posture _____ Other _____

Derangement: Pain location _____

PRINCIPLE OF MANAGEMENT

Education _____ Equipment Provided _____

Mechanical Therapy Yes / No _____

Extension Principle _____ Lateral Principle _____

Flexion Principle RFIL X 15 every 2 Hours Other _____

Treatment Goals _____

4. Sustained Extension: Produces R back, Worse – Decrease FIS ROM
5. RFIL with Clinician O/P: Produces back R NW – Increase FIS ROM, NE EIS
6. RFIStep Standing: NE – Increase FIS ROM, NE EIS ROM or FIS pain
7. RFIL: Produces back R, NW

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LITERATURE REVIEWS

Summary and Perspective of Recent Literature

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

May S, Aina A. Centralization and directional preference: a systematic review. Manual Therapy 2012 (*In press*).

Background
Centralization is probably one of the most researched, clinically induced symptom responses. It has been the subject of two systematic reviews, one of which is rather dated (Aina et al. 2004.), and the other dealt with symptom responses in general and only half of the 18 papers dealt with centralization (Chorti et al. 2009). The associated phenomenon of directional preference has been the subject of a number of articles and both clinically induced symptom responses are used in a number of classification systems, as well as Mechanical Diagnosis and Therapy.

Aims
To systematically review all aspects of centralization and directional preference.

Methods
Search of Medline, Cinahl, and AMED from 1990 to June 2011, and all study types were included. The prognostic studies were quality rated against existing criteria. Titles and abstracts of 1416 articles were screened, and 1285 were excluded; 131 full text articles were assessed for eligibility and 62 studies were included.

Results
The studies included cohort studies, randomised controlled trials, reliability studies, criterion validity studies, and secondary analyses. Regarding prevalence, centralization occurred in 44% of 4,745 patients, and was more common in acute (77%), than sub-acute (50%) or chronic pain (40%); directional preference occurred in 70% of 2,368 patients. Regarding the prognostic value of centralization, three studies showed strong, three moderate, and fifteen weak evidence for its usefulness. One showed moderate evidence for non-centralization as a negative prognostic factor. Two studies found moderate evidence not supporting centralization. A number of studies supported directional preference as a treatment effect modifier. In other words, patients with this clinical finding respond better to directional preference exercises than other interventions. Judgements about reliability varied widely, from 0.15 to 0.9. Directional preference was induced most commonly with extension in about 75%, in about 20% with lateral movements, and with flexion in 5%. Some studies have linked centralization to discogenic pain.

Conclusions
Centralization and directional preference appear to be well accepted concepts explored in 62 articles of varied study design. Most, but not all studies, support the prognostic value of centralization. The prevalence of centralization is less than reported in a previous review, but still quite substantial. There is some evidence to support directional preference as a treatment effect modifier, but not as a prognostic factor in one study. High levels of reliability have been reported in some studies, but not in all.

Comments
This is the most up to date and comprehensive review on centralization and the only review of studies investigating directional preference. It is interesting to see how in less than 10 years from our first review the number of studies has risen from 14 to 62, and attests to how widely accepted and used are these clinical responses. Some of the conclusions from this review are not quite as positive as the first review: the prevalence was lower, though still substantial, the prognostic value of centralization was not supported by all studies, but by most, and the reliability of establishing centralization was less clear, but still high in some studies.

Certain aspects of these clinical concepts have been confirmed or newly established. For instance, the prevalence of centralization is much higher in patients with acute problems rather than chronic, though it

still does occur, but also higher in younger rather than older patients. Directional preference appears not to be an independent prognostic factor, but this is only from one study, however. There is growing evidence that it is a treatment effect modifier. In other words, in the presence of directional preference prescription of directional preference exercises is probably the optimal treatment.

♦♦♦♦♦

Donelson R, Long A, Spratt K, Fung T. Influence of directional preference on two clinical dichotomies: acute versus chronic pain and axial low back pain versus sciatica. Phys Med Rehab 2012 (*in press*).

Background
Acute and chronic back pain are often viewed as distinct entities, and generally are informed by separate guidelines. Likewise, axial back pain and radicular pain are often viewed as distinct entities. However, in a number of studies, centralization and directional preference have been reported to occur in patients with acute and chronic pain, and in patients with axial and radicular pain.

Aims
The aims of this secondary analysis were to determine if the acuity and site of the pain affected outcomes in patients treated with directional preference exercises.

Methods
This was a secondary analysis of a subset of patients from a previous randomised controlled trial (Long et al. 2004). The subset was the 80 with directional preference who were randomised to and received directional preference exercises. Outcomes were compared across different acuities (acute, sub-acute and chronic), and between different QTF pain patters (back pain only, plus thigh pain, plus calf pain, and calf pain plus neurology).

Results
At the two weeks follow-up, there were no significant differences in five out of six outcomes between the different pain durations, but those with chronic pain reported significantly less reduction in back pain ($P<0.005$). Complete resolution of back pain was less likely in those with chronic (32%) and sub-acute (44%) pain compared to acute pain (90%) ($P<0.01$), and improvement, rather than resolution, was more common (59%, 52%, and 10% respectively). There were no significant differences in any of the six outcomes when comparing all four QTF categories.

Conclusions
In subjects who present with a directional preference who then use directional preference exercises to treat themselves, neither pain duration, nor pain location and neurological status predicted outcomes, which were uniformly good across all groups regardless of pain acuity or site of pain.

Comments
This study challenges the conventional wisdom of perceiving acute and chronic back pain as separate entities, requiring separate clinical guidelines. The study will be criticised for its small sample size, its short two week follow-up, and the fact that it included such a heterogeneous population. Though this could be seen as one of its strengths, what it will mean is that this, and the original RCT from which this secondary analysis came, will be likely ignored in future guidelines, which, as said already, tend to compartmentalise these groups into different entities. Another criticism of this conventional division of the back pain population is the frequent recurrence of back pain, and how should they be classified.

The article lists a number of other articles that have demonstrated good outcomes in patients with chronic back pain or radicular pain, but where these potentially negative prognostic factors were confounded by the presence of directional preference or centralization. Clearly, these clinical phenomena are capable of trumping these potentially negative indicators. It is not known if the slightly worse outcome in pain severity in the chronic group, with less full resolution and more improvement only, could have been improved if directional preference exercises had continued beyond two weeks.

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May SJ, Rosedale R. A survey of the McKenzie Classification System in the extremities: prevalence of mechanical syndromes and preferred loading strategies. Phys Ther 2012;92 (*In Press*)

Background
There are problems with structural patho-anatomical diagnoses in the extremities, because of issues relating to the reliability and validity of existing tests. An alternative is the use of a classification system based on patient responses to repeated movements, such as the McKenzie system.

Aims
To investigate the prevalence of mechanical syndromes in patients with extremity problems, and the loading strategies used in their management.

Methods
This was a prospective observational study in which 138 therapists with a Diploma in Mechanical Diagnosis and Therapy were invited to participate. Thirty therapists agreed (22%), and provided data about their experience and 15 consecutive patients with extremity problems.

Results
Data was gathered on 388 patients who were classified as follows: derangement (37%), contractile dysfunctions (17%), articular dysfunctions (10%), and other (36%). Classification remained consistent from initial to final classification in 86%. In some sites, derangement directional preference were dominant. For instance, medial rotation and extension at the shoulder, and extension at the elbow, hip, knee, and ankle / foot. Common contractile dysfunctions were abduction at the shoulder, wrist extension at the elbow, extension at the knee, both extension and flexion at the ankle / foot. Common patterns amongst those with articular dysfunctions were limited. The majority of patients in the 'other' group were post-surgery or post-trauma (20%).

Conclusions
The study demonstrated that MDT trained clinicians can classify patients with extremity problems into MDT classifications, and these classifications generally remain stable over time. It also demonstrated an increase in prevalence of derangement classification.

Comments
This is the largest survey yet of use of MDT in the extremities; it demonstrates a substantial proportion of patients meeting the operational definitions of MDT classifications, and the rest being classified in one of the Other categories. Operational definitions for which, devised by MII Educational Committee, are published in this paper. It sees a substantial rise in those classified as derangement, compared to previous surveys published in the IJMDT, with a concomitant fall in the number classified as articular dysfunctions. Does this represent a growing experience in MDT clinicians who are recognising that derangement must be excluded before other classifications are considered, and consequently are getting much more effective at detecting them? If so, this has important prognostic implications, as the operational definition of derangement implies a rapid resolution once the directional preference is recognised.

Two other important issues arise from this survey. Firstly, the clinicians generally remained consistent in their classification between initial and final session, but in those who did change classification after the initial session there was no clear pattern; some went from MDT classification to other, but some vice versa. Secondly, we are beginning to see patterns emerging for directional preference or loading strategies at different joints; this was clearer where there were higher patients numbers, at the shoulder, knee, ankle, hip and elbow, in that order. The next stage might well be to test out the system in a sub-group of patients against conventional physical therapy.

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BUSINESS & MARKETING CORNER

"Using Live Patient Assessments to Grow Your Practice"
Kim Greene PT, Dip.MDT

When I was in PT school, I would have been thrilled to have my instructors evaluate and treat a patient in front of the classroom. Reinforcing the principles studied that week by observing the treatment of a live patient would have been invaluable. Robin McKenzie was truly ahead of his time in using live demonstrations such as symptom response, alternate loading strategies, force progressions and centralization to teach such valuable lessons. For me, seeing patients treated was one of the reasons that I kept attending the MDT courses. Live patient assessments taught me that most chronic low back pain does not have a poor prognosis. Through watching, I came to understand the value of cause and effect when assessing a patient's posture and the significance of seeing a patient worsen, then rapidly improve in a short period of time. Initially, I was thrilled just to see the immediate changes. Over the years, however, I realized the incredible benefit of identifying non-responders and surgical candidates, and of recognizing inflammatory responses.

Live patient assessment is surely the best way to learn – and to teach -- these valuable lessons. Demonstrating MDT in front of other health care professionals can be extremely rewarding and beneficial to your practice, but only if you have sufficient experience to do so properly and efficiently. Before jumping out into the community, it is important to practice for a couple years after passing your credentialing exam in order to gain confidence in the method and to focus on purely practicing MDT. Once you have gained enough competence and confidence, you can use live patient assessments to grow your practice and to expand your credibility in the community.

If you are fortunate enough to spend time with a physician, take advantage of the opportunity. Shadowing patients with a physician will often give you the chance to shine in the clinic. There are always patients who can benefit from an MDT assessment, but who normally would fall through the cracks. Your presence will be a gentle reminder of what MDT has to offer. If you have enough time to assess a patient in their clinic, take advantage of doing so in front of the physician and/or the medical assistant. When possible, use functional baselines during your assessment to emphasize your point. When a patient reports immediate improvement with bending, reaching or turning, the physician can see the power of self- treatment using the MDT method. Remember that the best contact is often the physician's support staff. If one of them presents with a musculoskeletal problem, don't pass up the opportunity to help them. Often the front office staff assists with writing the referrals, and they will recommend your clinic the minute they start feeling better. In addition, MDT clinicians hold the gold medal for clinical reasoning and most health care providers can appreciate the thought process involved. Once you demonstrate your skills with the reassurance that the treatment is based on symptom response, that allows the physician to be confident that you are moving the patient in the right direction. After you have spent some time with the physician, be sure to follow-up regularly. Often a simple phone call to reiterate a patient's outcome will be a persuasive reminder of the time spent in their clinic.

MDT courses also present an opportunity to educate local physicians of the power of MDT by observing top-notch faculty members from the McKenzie Institute. If you are lucky enough to live in an area that offers courses, approach the sponsor to see if he needs help recruiting patients. Being able to explain the MDT material with live patient evaluations truly sets it apart from most other courses, and many health care providers are unaware of this opportunity. If you can convince a potential referral source to allow us to evaluate his/her patient during a course, this can offer an excellent opportunity to someone who may not have the benefit of physical therapy services. Once that patient returns to the physician's office with marked improvement, he/she will gain confidence in MDT. Before you know it, referrals will start pouring into your office.

With any health care provider, it is important to emphasize the significance of self-treatment with the focus on minimizing visits. Both the physician and the patient will appreciate keeping the cost under control. If you are able to continue treating the patient after the course, it is especially important that you communicate the outcome with the physician. Even if the outcome is poor, the physician and patient will appreciate that you quickly identified a non-responder rather than putting them through weeks of unnecessary treatment. Be sure to use appropriate terminology, with clarification about centralization and di-

rectional preference, to support your case. Make sure to quote research to give you the credibility that physicians appreciate when discussing outcomes. Always emphasize to the physician that the most important aspect of the assessment is screening for red flags. She will appreciate that safety is always the top priority.

Another way to increase referrals is to invite other therapists from your community to spend a day at your clinic observing directly the principles of MDT. Often the best learning opportunities occur during the follow-up visits, when many therapists are unsure of the next step in treatment. Once you are a Certified MDT clinician with a few years under your belt, sharing this knowledge with your peers can be very exciting. Demonstrating an improved straight leg raise or an immediate improvement in strength reinforces the influence of the repeated movement exam. The first time therapists observe a gain in shoulder motion with simple neck exercises, their eyes light up in disbelief. The real “aha” moment occurs when the novice therapists see you reduce a deformity. They will immediately rush out to enroll for the next Part A course. Many of the therapists who spend time at St. David’s are amazed that we don’t incorporate any passive modalities or veer from the MDT classification system. Once they have observed you in the clinic, their difficult patients will suddenly appear on your schedule. When you send those patients back to the therapist with marked improvement, you have directly demonstrated the power of MDT to the patient and the therapist, who will start to mention your name throughout the community. Showing more therapists the considerable benefits of MDT will eventually make it easier to practice in your area, as doctors will realize the value in self-treatment.

In summary, live patient assessments are an invaluable tool in educating potential referral sources of the immense benefit of MDT. Being able to demonstrate a rapid improvement in a matter of minutes is very persuasive and presents a unique opportunity that does not exist with most other forms of orthopedic thinking. As Credentialed and Diplomaed therapists, we can use the power of live patient assessments to educate health care providers, patients and therapists in our community, while simultaneously increasing our own patient loads.

As Confucius said…”Tell me, and I’ll forget, show me, I may remember; but involve me and I’ll understand.”