

## Feature Commentary

**BRIDGING THE GAP FROM NOVICE TO EXPERT CLINICIAN**

TIMOTHY MAHONEY, PT, DPT

No one applies to Physical Therapy school hoping to be mediocre. We subject ourselves to a painful cycle of studying, stressing, and sighing with relief; of loving, then loathing, then loving PT all over again. We do this not so that we can enter the “real world” as anxious, inexperienced (albeit well-meaning) greenhorns, but to feel confident that we belong in the community of clinicians whom we idolize. Initially, each group of bright, well-read, passionate students truly believe that with graduation and licensure immediate clinical success will follow.

So, during my first year of PT school when a professor made the following statement to our class, I was floored: “*The average time it takes to transition from a novice to an expert clinician in the field of physical therapy is six years.*” Six years seemed an awfully long time, especially considering it would take me three years just to learn the basics in order to graduate. Subsequently, our professor posed a couple of very poignant questions to discuss in small groups: What can you do to shorten that timeframe? What can be done to bridge the gap between novice and expert clinician? These questions were meant to be thought provoking, to elicit a sense of motivation, and to promote an interest in professional development from the very beginning of our foray into the world of physical therapy - and for me, the questions did just that. Our group spoke of continuing education, clinical affiliations, research participation, pursuit of clinical fellowships or specialties, and other ways to stay abreast of the latest publications in the field. Each group presented its answers with the class, and I found that most groups were consistent and right on the money: don’t stop learning, pursue answers, and don’t settle for mediocrity. I left that lecture with a sense of dedication and drive to follow these recommendations.

Upon completion of my doctorate and licensure approximately three years after that lecture, I felt ready to take on the world. I followed my passion to outpatient orthopedic practice, determined to grow and develop from novice to expert clinician. I wanted so badly (and still do) to help every patient, to fix their problems and heal their maladies. I had a fair amount of success with uncomplicated patients who were post-operative, those with sports-related injuries, with gait and balance training, among others. I was able to treat them confidently, because I understood them. I found out very quickly though, that there was a large group of patients that I didn’t understand, and those that were getting better may have been able to attribute this change to pure luck or the passage of time. Almost all of these patients were spine related pathologies: lumbar stenosis, lumbar disc syndrome, lumbar facet syndrome, non-specific low back pain, sciatica, cervicalgia, cervical radiculopathy, cervical HNP, thoracic strain, bilateral upper trap strain, etc. I was lost with these patients, and no matter how frequently I read class notes or researched articles through my usual channels, any information or techniques that I used to treat these patients was with the hope, not the knowledge, that it would help. The confidence that had been growing with my successes was beginning to dwindle, and suddenly six years didn’t seem like such an unreasonable timeframe any more. My clinical failures led to self-doubt, and my self-doubt spurred me to take McKenzie Part A course in hopes of beginning to address my limitations as a clinician.


To say that the McKenzie Method has changed my life would be an understatement. I left the course galvanized, with a passion for change that I have not felt since initially choosing physical therapy as a career. I learned the value of Mechanical Diagnosis and Therapy, not only as a classification system and a valid and reliable way to assess and treat these “difficult” patients of mine, but as an incredible

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opportunity to *make the choice* to bridge the gap between novice and expert clinician. The systematic approach of MDT takes all the “guesswork” out of the equation by training the clinician to listen and learn from the specific presentation of the person with whom they are working rather than a set of assumptions based on patho-anatomical diagnoses.

In a very short time, I have seen the power of the McKenzie Method of MDT, and it has had a profound impact on my attitudes and thought-processes as a clinician. With patient education as its foundation, MDT is patient-centered,



inherently safe, and ethical without compromise. Aside from improving my listening and communication skills, this patient-centered approach has also helped me to genuinely empathize with people, as well as rekindle my love of physical therapy, not as a career, but as a calling.

This May, I celebrated the one-year anniversary of my graduation from physical therapy school. I have since taken McKenzie Part B and hope to pursue credentialing and the diploma program in the future. I still consider myself a novice physical therapist, but I am actively seeking ways to “bridge the gap”, and I truly feel that within the realm of orthopedic physical therapy, nothing will catalyze this growth faster than the systematic assessment that MDT offers. I would strongly encourage all physical therapists, regardless of their level or years of experience, to learn the McKenzie assessment process and embrace success.

**2016 MDT Americas Conference: Destination Miami!**

*Robert Medcalf, PT, Dip. MDT*

Attention MDT clinicians! Mark your calendars for August 5-7, 2016 for the 2016 MDT Americas Conference! The luxurious Intercontinental Hotel on Biscayne Bay in the beautiful, cosmopolitan city of Miami, Florida will host our conference. Our Program Committee, along with our Conference Chair, Richard Rosedale, PT, Dip. MDT, have assembled an excellent balance of relevant platform presentations and workshops to provide the MDT practitioner a stimulating experience. On behalf of the Program Committee, I heartily invite you to come to Miami for the next in our ongoing series of excellent, intimate MDT Regional Conferences.

Our 2016 theme will be “*Enduring Principles, Emerging Applications*”. The conference program reflects acknowledgement of the visionary, lasting principles established by Robin McKenzie and the ever increasing application of these principles to the changing healthcare environment. A small number of clinically focused platform presentations combine with a number of breakout workshops in an effort to engage and guide MDT clinicians to more comprehensively explore and successfully utilize the full potential of the McKenzie Method of MDT with the broad spectrum of musculoskeletal patients. With this combination of problem solving, practical workshops and didactic presentations, MDT clinicians of all levels should expect to gain clear clinical advances and have a greater depth of understanding in the practical application of MDT principles.

Platform presentations on topics such as tendinopathy management, the ‘OTHER’ MDT classification, clinical prediction rules, the role of MDT clinicians as primary contact practitioners, and more will give attendees relevant big and small picture information to positively affect their clinical practice.

Back by popular demand, based on feedback from our 2013 MDT Conference in Denver, we have planned a full program containing six breakout workshop sessions. Attendees will have the opportunity to participate in each workshop, eliminating the need to choose amongst them! The workshops will be facilitated by 42 MDT Faculty and Diplomates focused on providing all participants with challenging tasks designed to improve clinical reasoning and manual therapy skills to enhance clinical outcomes. The workshops are described below:

1. **Understanding and Communicating MDT as a Robust Biopsychosocial Approach Method.** Attendees interpret psychosocial influences in relation to MDT and apply a biopsychosocial approach to enhance clinical outcomes.
2. **Mobilize to Centralize: MDT Procedure and Technique Workshop.** Participants will be guided through the proper application of selected MDT spinal procedures highlighting the correction of common errors.
3. **MDT Extremities - The Progression: A Technique Workshop.** Participants will be guided through the proper application of selected MDT extremity procedures highlighting the correction of common errors.
4. **Does Size Really Matter? The Small Joint Dilemma.** MDT applications to the shoulder, knee and hip have been highlighted at recent conferences. This workshop will focus on the application of the MDT assessment at treatment process to the ‘small joints’. Possible joints include foot, ankle, wrist, hand, TMJ.
5. **The Dynamic Clinical Maze: Navigating the Not-So-Clear Pathways.** Facilitators will provide challenging case studies for groups to work through to highlight problem areas in diagnosis and treatment of mechanical disorders.
6. **Classifying and Management Strategies Beyond the Three Syndromes.** This workshop will highlight the ‘4th’ diagnostic category, OTHER, differential diagnosis and exploration of the use of MDT principles/evidence as well as evidence based approaches to management.



### **Pre-Conference Workshop**

Due to overwhelming interest and demand experienced with the International conference this year, we will be presenting a 'MDT and the Athlete' preconference workshop at our Miami conference. For those of you working with a sport/athletic population, you will gain insight into the application of MDT principles to this group. Our workshop leaders have extensive and diverse experience in this arena. The program will feature theoretical input, interactive learning, practical sessions and role playing. This workshop will limit the number of attendees to ensure a quality experience, so be sure to register early as it will likely fill up quickly!

Complete conference details are [now available online](#) and registration is open!

I hope you will plan to join us for a wonderful conference experience in Miami. Not only will learn immediately applicable concepts and skills, the social opportunities to meet with like-minded clinicians from around the world are one of the reasons attendees come back every for every event. I look forward to seeing everyone next year!

**CASE REVIEW: A CLINICIAN'S PERSPECTIVE****Benefits of Thoracic Extension Procedures with a Stubborn Cervical Derangement***Kimberly Greene, PT, Dip. MDT*

With lots of research supporting manual therapy applied to the thoracic spine for neck pain and radiculopathy<sup>1,2,3</sup>, the MDT thoracic procedures can be beneficial when cervical procedures have provided minimal or no improvement. This case report supports implementation of thoracic procedures with a patient that displays signs and symptoms consistent with left C5/6 radiculopathy. At initial assessment, sitting erect with a lumbar roll caused a worsening of forearm symptoms. Any attempt at implementing cervical extension peripheralised symptoms to his left forearm. The patient's mechanics and symptoms improved using left lateral flexion with patient overpressure as long as the patient was sitting in a slightly protruded position. The patient was sent home with left lateral flexion techniques on Day 1.

The next two visits were attempts to integrate extension procedures, but symptoms peripheralised and patient continued with left lateral flexion procedures. On the third visit, the patient was able to sit erect without peripheral symptoms. Repeated left rotation was assessed, but resulted in symptoms peripheralising to the forearm. Repeated right rotation had no effect on symptoms. With no improvement from any other cervical procedures, the patient continued with left lateral flexion + OP with force progressions.

On the fourth visit, the patient was still unable to tolerate cervical extension, left rotation or flexion. The patient reported only minimal improvement (10%) and left lateral flexion was the only cervical procedure that provided any reductive ability. On the fourth visit, thoracic extension procedures were assessed, which resulted in improvement of his symptoms and cervical motion. The patient performed force progressions using a chair for overpressure followed by thoracic extension with clinician overpressure. While the thoracic procedures did not fully reduce the cervical obstruction, it did improve motion and symptoms to warrant the use of thoracic procedures.

For the next two weeks, the follow-up visits consisted of thoracic extension in sitting with clinician overpressure of the upper thoracic spine. During those two weeks, the patient was unable to tolerate thoracic mobilizations or cervical extension/rotation procedures without peripheralising symptoms. On week five, however, the patient was able to tolerate thoracic extension mobilization in sitting without peripheralising symptoms demonstrating further reduction of the obstruction. To emphasize upper thoracic extension, the hand placement for clinician overpressure and mobilization is more proximal (T2/T3) than what is mentioned in McKenzie's cervical and thoracic text<sup>1</sup>. After implementing thoracic procedures for three weeks, the patient reported an overall 70% improvement.

At week six, the patient was able to rotate his head to the left with only neck pain and no peripheral symptoms. Since the patient still displayed a slight loss of left rotation and plateaued with thoracic extension techniques, cervical techniques were reassessed. The patient was still unable to tolerate repeated cervical extension without the worsening of left arm pain indicating a need to assess lateral cervical procedures. Left cervical rotation provided more symptomatic improvement than left lateral flexion. Hence, the patient was sent home with left cervical rotation with overpressure. The patient continued for two weeks using repeated left cervical rotation with overpressure and force progressions. Finally, at week eight, the patient was able to incorporate cervical extension without arm or forearm symptoms to fully reduce the cervical derangement.

In summary, this patient's clinical presentation could have easily been misclassified in the "OTHER" category as a mechanically unresponsive radiculopathy since cervical extension consistently worsened and peripheralised symptoms. However, thoracic procedures must be assessed if baselines worsen or plateau with cervical techniques. Often, thoracic procedures can be effective in the initial reduction of cervical radiculopathy. Importantly, however, with derangements of the cervical spine, cervical extension procedures will ultimately be required to fully reduce the derangement. The thoracic procedures are a possible treatment option as long as there is improved symptomatic and mechanical change associated with the procedures. Manual techniques are required if symptoms do not remain better with patient generated forces and occasionally have to be implemented for several weeks.

The McKenzie Institute International has created a library of procedural videos designed to assist clinicians at various levels of MDT training. The videos are presented progressively respective to a clinician's level of training. Thoracic procedures are introduced in the Part B and Part D curriculums. These videos are extremely beneficial when trying to master a skill after the course and are essential when studying for the Credentialing or Diploma Exams. **To gain access to the procedure videos, please consult with your home branch, or MII head office for countries without an Institute branch.**

The following two videos highlight thoracic extension in sitting with clinician overpressure and thoracic extension in sitting mobilizations. The suggestions are beneficial when implementing these thoracic procedures:

**Video: Thoracic Extension in Sitting with Clinician OP**

1. Patient position: Patient sits erect and maintains lumbar lordosis. Patient's shoulders are in flexion with hands supporting cervical spine. The patient lifts the elbows up as far as possible.
2. Therapist position: One hand is on the spinous process of mid-thoracic spine and the opposite arm is cradling patient's arms near elbows to facilitate upward motion of elbows.
3. Force Application: Heel of hand applies posterior-anterior through thoracic spine while the opposite hand applies upward pressure through elbows. Equal force through thoracic spine and distal arm near elbows. Force is applied slowly and equally at end-range while fully releasing through range of motion for each repetition.

**Video: Thoracic Extension Mobilizations in Sitting**

1. Patient position: Patient sits erect and maintains lumbar lordosis. Patient's shoulders are in flexion with hands supporting cervical spine. The patient lifts the elbows up as far as possible.
2. Therapist position: One hand is on spinous process of mid-thoracic spine and the opposite arm lifts the patient's distal arms near elbows passively until mid-thoracic spine at end-range.
3. Force application: Heel of mobilizing hand applies posterior-anterior pressure through thoracic spine while the opposite hand applies constant upward lift through elbows. The heel of mobilizing hand applies slow gradual increase of force through thoracic spine at end-range while releasing with each repetition working further into range of motion.

After viewing the two videos recommended above, consider the following mistakes which are commonly noted with Thoracic Techniques in Sitting:

1. Patient in a position of slouched sitting preventing thoracic spine from attaining end-range.
2. Depending on height of patient, therapist may need to bend knees and crouch down to allow for appropriate force application.
3. Patient's shoulders positioned in more horizontal abduction rather than flexion allowing for more motion at shoulders than thoracic spine
4. Stay close to patient so that the forearm and heel of hand can apply force posterior-anteriorly. If too far away from patient, the line of drive will be asymmetrical allowing more frontal plane movement.

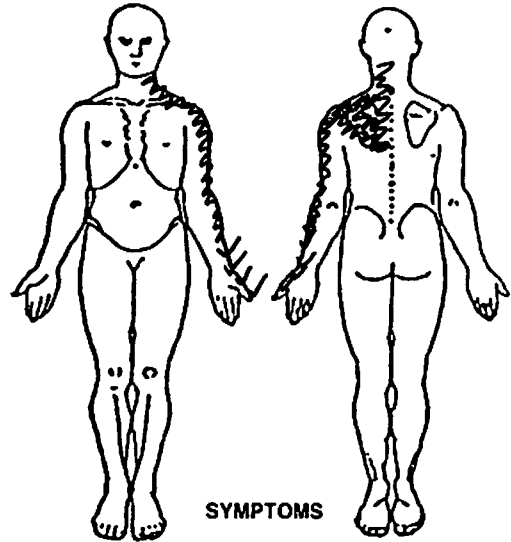
**References:**

1. Cleland JA, Childs JD, McRae M, Palmer JA, Stowell T. (2005). Immediate effects of thoracic manipulation in patients with neck pain: a randomized clinical trial. *Manual Therapy*;10(2):127-135
2. Cleland JA, Glynn P, Whitman JM, Eberhart SL, MacDonald C, Childs JD. (2007). Short-term effects of thrust versus nonthrust mobilization/manipulation directed at the thoracic spine in patients with neck pain: a randomized clinical trial. *Physical Therapy*;87(4):431-440
3. Ragonese J. (2009). A randomized trial comparing manual physical therapy to therapeutic exercises, to a combination of therapies, for the treatment of cervical radiculopathy. *Orthopaedic Physical Therapy Practice* 2009;21(3):71-76
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# THE MCKENZIE INSTITUTE CERVICAL SPINE ASSESSMENT

Date \_\_\_\_\_  
 Name Mr. Thoracic Sex Male  
 Address \_\_\_\_\_  
 Telephone \_\_\_\_\_  
 Date of Birth \_\_\_\_\_ Age 51  
 Referral: GP / Orth / Self / Other neurosurgeon  
 Work: Mechanical stresses Sitting 8-10 hours/day  
 Leisure: Mechanical Stresses Biking 3-4 times/week  
 Functional Disability from present episode Walking, standing and biking  
 Functional Disability score \_\_\_\_\_  
 VAS Score (0-10) 4/10-8/10



## HISTORY

Present Symptoms Left neck and arm  
 Present since 8 weeks Improving / Unchanging / Worsening  
 Commenced as a result of biking Or no apparent reason  
 Symptoms at onset neck / arm / forearm / headache  
 Constant symptoms neck / arm / forearm / headache Intermittent symptoms: neck / arm / forearm / headache  
 Worse bending sitting turning L forearm lying / rising  
 when / as the day progresses / when when still / on the move  
 other walking, standing and biking  
 Better bending sitting turning lying  
 when / as the day progresses / when when still / on the move  
 other cervical traction, steroids  
 Disturbed Sleep Yes No Pillows \_\_\_\_\_  
 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 x5 episodes with neck only; fully resolved with cervical traction

Previous Treatments None

## SPECIFIC QUESTIONS

Dizziness / tinnitus / nausea / swallowing / +ve -ve Gait / Upper Limbs: normal / abnormal  
 Medications: Nil / NSAIDS / Analg / Steroids / Anticoag / Other steroids (x2 days)  
 General Health: Good / Fair / Poor  
 Imaging: Yes / No MRI C5/6 HNP  
 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 Protruded Head: Yes / No Wry Neck: Right / Left / Nil  
 Correction of Posture: Better / Worse / No effect Prod L Forearm Relevant: Yes / No  
 Other Observations: \_\_\_\_\_

### NEUROLOGICAL

Motor Deficit NAD Reflexes NAD  
 Sensory Deficit C5/6 paraesthesia Dural Signs + left Elvys

MOVEMENT LOSS	Maj	Mod	Min	Nil	Pain
Protrusion			X		nil
Flexion			X		left forearm
Retraction	X				left forearm
Extension	X				left forearm

	Maj	Mod	Min	Nil	Pain
Lateral flexion R		X			nil
Lateral flexion L	X				left forearm
Rotation R		X			nil
Rotation L	X				left forearm

**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 sitting: <u>L neck, arm</u>				
	PRO				
	Rep PRO				
①	RET x 1 increase left arm				
	Rep RET x 6 peripheralised left forearm				
	RET EXT				
	Rep RET EXT				
	Pretest symptoms lying: <u>L neck, arm</u>				
②	RET x 1 increase left arm				
	Rep RET x 6 peripheralised left forearm				
	RET EXT				
	Rep RET EXT				
	If required pretest pain sitting: <u>L neck, arm</u>				
	LF - R				
	Rep LF - R				
③	LF - L x 1				
	Rep LF - L 3 x 10 decrease arm NB <u>L</u> Rep left LF + OP 3 x 10 decrease arm B				
	ROT - R				
	Rep ROT - R				
	ROT - L				
	Rep ROT - L				
	FLEX				
	Rep FLEX				

### STATIC TESTS

Protrusion \_\_\_\_\_ Flexion \_\_\_\_\_  
 Retraction \_\_\_\_\_ Extension: sitting / prone / supine \_\_\_\_\_

### OTHER TESTS

### PROVISIONAL CLASSIFICATION

Derangement \_\_\_\_\_ Dysfunction \_\_\_\_\_ Postural \_\_\_\_\_ Other \_\_\_\_\_  
 Derangement: Pain Location \_\_\_\_\_ Derangement: asymmetrical below elbow \_\_\_\_\_

### PRINCIPLE OF MANAGEMENT

Education: \_\_\_\_\_ Equipment Provided: \_\_\_\_\_

Mechanical Therapy: Yes / No Lateral Principle

Extension Principle: \_\_\_\_\_ Lateral Principle: Rep Left LF + OP q 2 hours

Flexion Principle: \_\_\_\_\_ Other: \_\_\_\_\_

Treatment Goals: 1. Return to biking for exercise 2. Walking and standing without left arm pain and paraesthesias



LITERATURE REVIEWS

**Summary and Perspective of Recent Literature**

Lynda McClatchie, PT, Cert. MDT

**Matsudaira K. Et al. (2015). Can standing back extension exercise improve or prevent low back pain in Japanese care workers? *Journal of Manual and Manipulative Therapy*; Published Online Jan 2015. DOI: <http://dx.doi.org/10.1179/2042618614Y.0000000100>**

**Objective:**

To determine if a standing back extension exercise (one stretch) can improve or prevent low back pain (LBP) in Japanese care workers.

**Design:**

A single-centre, non-randomized controlled study.

**Setting:**

One health care facility for the elderly: Numbu Kohoen, Japan.

**Patients:**

Japanese care workers at the facility who had direct patient care were assigned into one of two groups: workers on the first floor into the control group and workers on the second floor to the intervention group. No inclusion criteria beyond working in direct patient care on one of the two facility floors was mentioned. The subjects' exclusion criteria were:

- Difficulties in participating due to medical causes (spinal stenosis, rheumatoid arthritis, and ankylosing spondylitis) or other personal reasons

**Intervention:**

The subjects were assigned to either the "one stretch" standing extension group or the control group based on the facility floor on which they worked. All subjects in both groups received an exercise manual. The manual outlined how to properly do a standing back extension, and also provided some evidence-based information on self-management of LBP and risk factors (psychosocial factors and fear avoidance).

The "one stretch" intervention group received an exercise manual, a 30-minute seminar by an orthopedist that outlined the manual and the standing extension exercise, and performed the standing extension exercise together at their daily meeting in order to promote regular exercise.

The control group received the same exercise manual, and the instructions were to "Practice active extension of the low back after lifting something heavy, keeping a forward flexion posture, or sitting still for an extended period." Each control subject was left on their own to complete the standing extension exercise as they saw fit.

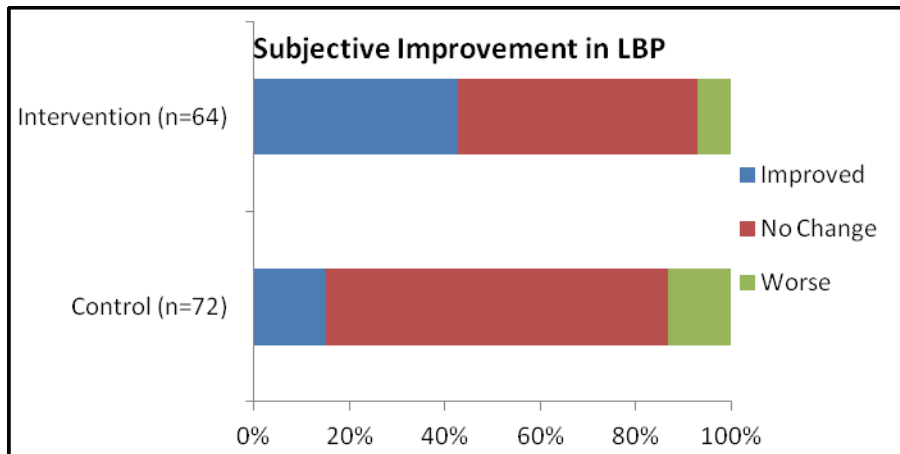
**Main Outcome Measures:** Data was collected at baseline and after one year through a self-administered questionnaire. Outcome measures were:

- The subjective improvement of LBP from baseline (improved, no change, worse)
- Compliance with the exercise (good/poor)

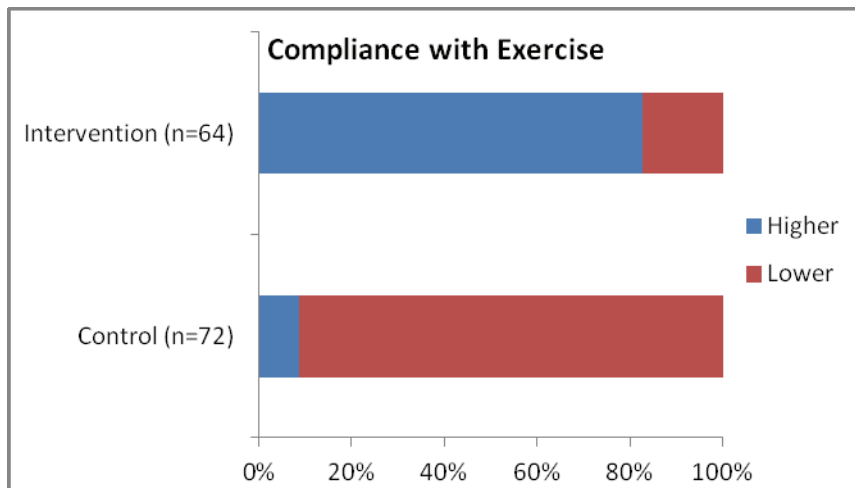
**Main Results:**

There was no statistically significant difference between the two groups at baseline.

	One-stretch group (n=64)	Control Group (n=72)	P value
Age (years) (+/- SD)	36.8 ± 10.9	35.9 ± 10.9	0.39
Gender (M/F)	23/41	31/41	0.39
Medical Consultation (+)	7	5	0.41
Severity of LBP in past month			
No Pain	21	25	0.47
LBP without interfering	40	40	
LBP interfering	3	7	
SF-36 Score	61.4 ± 19.9	61.3 ± 19.9	0.97



There was a statistically significant ( $p=0.003$ ) number of subjects reporting “improvement” in LBP in the intervention group at the end of one year when compared with the control group.



There was a statistically significant ( $p=0.0001$ ) number of subjects reporting “good” compliance in the intervention group at the end of one year when compared with the control group.

**Conclusions:**

The authors of this study concluded that standing back extension (one stretch) is effective to prevent care workers from developing and aggravating LBP. They hypothesized that performing standing extension exercise would improve LBP and decrease the number of workers requiring medical consultation or leaving work due to LBP.

**Comments/ Implications for the MDT Clinician:**

In this study, both the intervention "one stretch" group and the control group performed the standing extension movement, with the difference between the two groups being a 30-minute educational session given to the intervention group at the beginning of the study and the fact that the intervention group were encouraged to perform the exercise together at the daily group meeting. Since both groups performed the standing lumbar extension exercise, there is no comparison with a group who did not actively perform the exercise and so it can't be concluded that movement into extension can prevent lower back pain. It may be the intervention session received by the intervention group, or the fact they performed the exercises together that was helpful. Compliance was shown to be significantly better in the intervention group, but each person was asked to remember the frequency with which they performed the exercise for the follow-up questionnaire, which introduces recall bias.

The authors in this study do not use the same outcome measures at baseline as they do at one year. Initially, each subject rated the intensity of their lower back pain on Von Groff's scale, but the one-year follow-up questionnaire just asked if they were better or not. The study involves a small sample size and a single population of subjects, so these results cannot be generalized to the larger population.

With these shortcomings in mind, it is important, as MDT clinicians, that we don't overstate the results of this study. However, it is exciting to see the authors recognizing the importance of lumbar extension movement, and examining how the daily performance of extension can affect and prevent lower back pain. An opportunity for further research should include a control group who was not instructed on the standing extension exercise, but is perhaps only asked to move around regularly. It would also be interesting to see any effect with increasing the frequency and number of repetitions of standing lumbar extension, as we assume the intervention group in this study performed the exercise once per day, and there is no information on frequency in the control group. Another study should also vary the working populations (sedentary and active) involved.

<http://dx.doi.org/10.1179/2042618614Y.0000000100>



### **Summary and Perspective of Recent Literature**

*Celia Monk, Dip Phys (Otago), Dip. MDT, MNZSP, MINZ*

**Rosu OM, Ancuta C. (2014). McKenzie training in patients with early stages of ankylosing spondylitis: results of a 24-week controlled study. *European Journal of Physical and Rehabilitation Medicine*. June; 51(3) 261-8**

#### **Objective:**

To demonstrate the benefits of following a McKenzie-based training exercise programme compared to a standard protocol exercise programme for patients presenting with early stages of ankylosing spondylitis.

#### **Design:**

A randomised controlled study.

#### **Setting:**

The Rheumatology and Rehabilitation Department: Lasi, Romania

#### **Patients:**

Consecutive patients seen in the Rheumatology and Rehabilitation Department were randomly assigned into one of the two treatment groups.

The patients' inclusion criteria were:

- Early stages of axial ankylosing spondylitis with radiologic evidence of sacroilitis of at least grade 2 without spinal involvement
- Clinically stable disease
- No history of significant cardiovascular or respiratory conditions

No exclusion criteria are mentioned, but the authors' state in the article that two people were withdrawn due to lack of compliance to the exercise programmes.

#### **Intervention:**

The patients were randomly assigned into one of two groups; the McKenzie group and the Control group. The McKenzie group followed an exercise programme involving the following exercises for postural control, back stretching, respiratory re-education and pelvic stabilisation:

1. The use of a McKenzie lumbar roll with sitting.
2. Sustained flexion in supine lying using a lumbar roll in the lordosis and crossing legs over the head with knees slightly flexed. Hold for 10 seconds then relax for 10 seconds.
3. Sustained mid-range extension in lying on elbows for 10 seconds.
4. Deep breathing exercises in supine lying with lumbar roll in lordosis and arms in internal rotation.
5. Deep breathing exercises in supine lying with lumbar roll in lordosis and arms fully flexed above head.
6. Sustained side gliding in standing against wall, holding for 10 seconds.
7. Repeated side plank exercises.
8. Side lying exercise – but not clear in the description what this entails.
9. Supine lying with lumbar roll under lordosis and hands behind head. Lift trunk up off floor and hold for 10 seconds.

The Control group followed the following programme:

1. Postural training in standing, supine lying, and sitting positions.
2. Lumbar extension and flexion in four-point kneeling.
3. Deep breathing exercises in supine lying without lumbar roll in lordosis and arms in internal rotation.
4. Deep breathing exercises in supine lying without lumbar roll in lordosis and arms fully flexed above head.
5. Standing push-ups against corner of wall.
6. Bridging exercises in crook lying.
7. Truncal lateral flexion in sitting with hands behind neck.
8. Supine lying without lumbar roll under lordosis and hands behind head. Lift trunk up off floor and hold for 10 seconds.

For the first 12 weeks of the study, patients were supervised by a trained physiotherapist in the outpatient rheumatology department, under the supervision of their treating rheumatologist. For the second 12 week period, the patients performed the exercises at home unsupervised. The exercises were performed for one 50 minute session, three times per week.

To ensure compliance all patients were given a journal describing their exercises which they were asked to complete after each exercise session.

#### Main Outcome Measures:

1. Pain intensity as measured on a visual analogue scale.
2. Lumbar spine mobility as measured by the modified Schober test and the finger-to-floor distance.

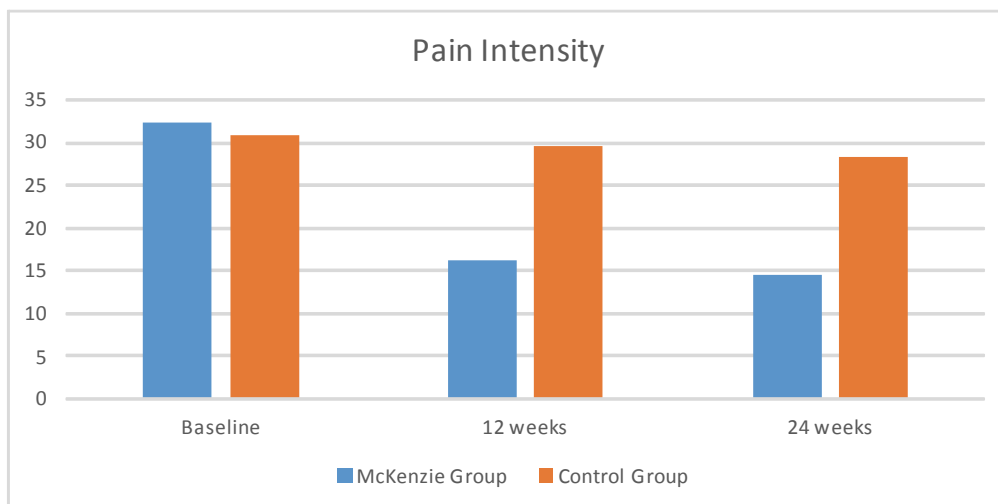
Secondary outcome measures were disease activity, function, metrology, and chest expansion. All measurements were taken at baseline, 12 weeks, and 24 weeks.

#### Main Results:

At baseline there were no significant differences between the two groups in terms of demographics:

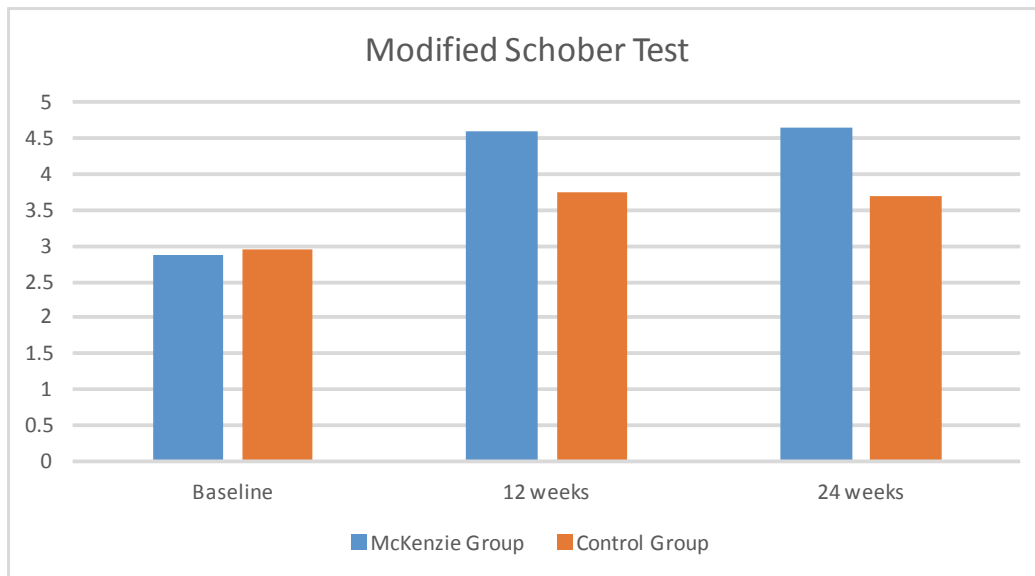
	McKenzie Group (n = 26)	Control Group (n = 24)	P value
Age (years) (mean $\pm$ SD)	25.12 $\pm$ 3.98	22.96 $\pm$ 3.65	>0.05
Gender (M/F)	22/4	21/3	>0.05
Disease duration (Years)	5.73 $\pm$ 3.11	4.21 $\pm$ 2.98	>0.05

Changes in pain intensity:

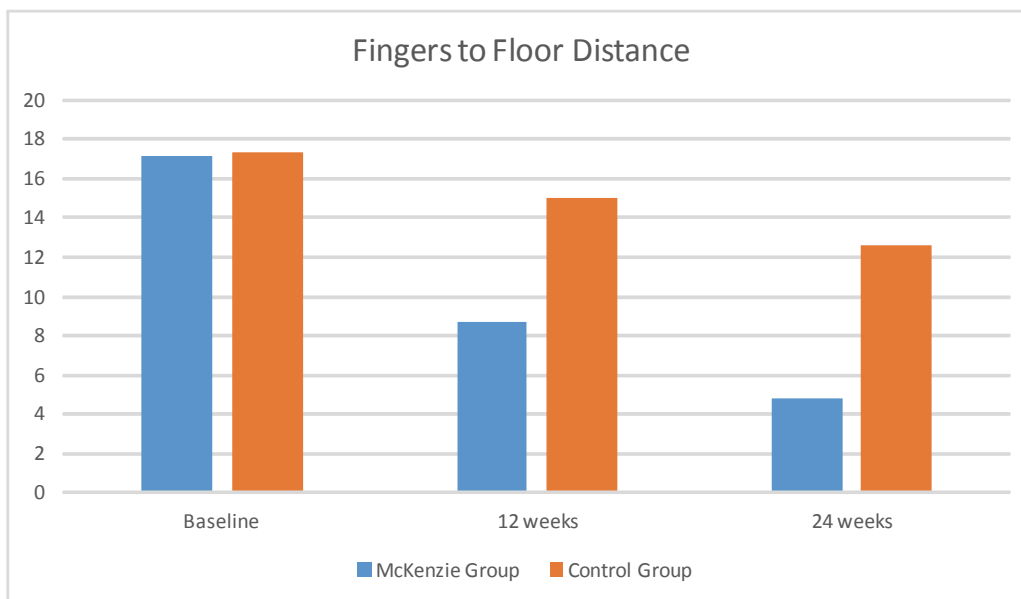


There was a statistically significant difference in the pain intensity between the two groups at both the 12 week and 24 week measurements with the  $p$  value being 0.001 in favour of the McKenzie group.

## Changes in Mobility:



The differences between both groups for the modified Schober test were statistically significant for both the 12 weeks and 24 weeks measurements, having a  $p$  value of 0.001 both times.



Again, the differences between the two groups were statistically significant with a  $p$  value of 0.003 at 12 weeks and 0.001 at 24 weeks.

The secondary measurements of disease activity, function, metrology, and chest expansion also showed statistically significant improvements in favour of the McKenzie group with  $p$  values ranging from 0.001 to 0.003.

### Conclusions:

The conclusions drawn by the authors of this study were that due to the improvements seen, a specific McKenzie exercise programme should be included in the standard care of early stage ankylosing spondylitis.

### Comments/Implications for the MDT Clinician:

Although this article may initially seem exciting for MDT clinicians, there are several limitations we need to be wary of. The obvious limitations are the small number of subjects, with a total of only 50 patients completing the programme, and the fact there is no long term follow-up to determine if the differences remained relevant. The less obvious limitation when initially reading the article is the content of the

McKenzie group exercise programme. The authors' state that it is based on the McKenzie Method, yet the only direct link seems to be the use of a McKenzie lumbar roll in sitting, the sustained mid-range extension in lying exercise and side gliding in standing against the wall. To be a true reflection of the McKenzie Method a thorough assessment would need to have taken place for each patient and a specific exercise programme designed in accordance to the findings of the assessment, including repeated movement testing. We are not informed whether this occurred or not. A blanket approach of global exercises is never prescribed using MDT. Strengthening exercises do have a role to play with certain patients, but again they are only prescribed if indicated and on an individual basis.

We are also not informed of the number of repetitions the patients performed of each exercise, only that they were sustained for 10 seconds and had a 10 second relaxation time. One of the key differences between MDT and other protocols is the use of repeated movements – whether for derangements or dysfunctions, or for assisting in the healing process or repair and remodelling. Another key difference is the frequency of the exercise session for patients receiving MDT. Patients are encouraged to perform exercises five to six times throughout the day, every day, not three times per week as in this study.

Interestingly, the authors also state that the McKenzie Method assists with inflammatory pain. Chemical pain from inflammation is, in fact, one of the contraindications of MDT. The fact there was a statistically significant improvement in pain intensity within the McKenzie group suggests that the chemical pain was either under control with the NSAIDs medication patients were on, or was not relevant at the time of exercising. Again, we are not informed how many of the patients were on NSAIDs, but are told that if they were on any at the beginning of the study they remained on them. It would have been interesting to discover how many of these patients presented with derangements as well as their ankylosing spondylitis diagnosis and therefore responded favourably to the postural correction component of the programme.

Another fact is that we are not informed of the level of McKenzie training any of the involved therapists had received, or whether their knowledge of 'McKenzie' was gained through self-learning. This could explain the lack of correlation between the study's 'McKenzie' group and what MDT actual entails - a thorough individualised assessment, a frequent exercise programme developed in accordance to the findings of the assessment process and then modified according to the ongoing mechanical and symptomatic response to the repeated movements.

Having said all that, it is still exciting to see a group of clinicians attempting to explore the effect of MDT on a group of patients diagnosed with ankylosing spondylitis. To be a true representative of MDT however, the McKenzie group would need to have had an individualised assessment and exercise programme and the protocols would have to more truly reflect the McKenzie Method of MDT. There is a great opportunity for further research to be done with this patient population, ensuring MDT is appropriately represented.

<http://www.ncbi.nlm.nih.gov/pubmed/25358635>

## BUSINESS & MARKETING CORNER

### Marketing MDT to Hotels in Your Area

Yoav Suprun, DPT, Dip. MDT

To have a continuous flow of business into my private practice, I know that I always need to think of new ways to market my services. Since most patients usually only see me for less than eight visits, I have to be creative in attracting and exploring new avenues all the time.

I recently had the opportunity to speak to the staff at a major Miami Beach hotel property about mechanical neck and back pain. The hotel employees, just like any other employees, often feel mechanical pains while on and off the job. I figured that if I could help those employees, they may, in turn, mention my name to hotel guests experiencing similar pain.

I had previously treated an individual in upper management that provided the perfect “in”. We met, reviewed the need he had to educate his staff about common mechanical pains, and set a date. The talk was 45 minutes long and was followed up by a 15 min Q&A session. The employees liked the fact that their boss was concerned with their well-being!

Since my talk, I have received referrals bringing in four hotel guests and two additional hotel employees. Conveniently, the hotel is a short walking distance from my office.

I encourage you to consider any hotels in your area to visit to make an introduction to the manager on duty and offer that you would like to do a “lunch and learn” for the staff.

Remember, you are offering an **added value** (MDT!) to any hotel concierge’s list of recommendations. There are multiple hotels in the Miami Beach area where tourists, after long flights, airline delays, etc., suffer pain that is mechanical in nature. Guests don’t know what to do, most hotels don’t have a “go to” person to direct their guests to, and often, all they book is a massage.

Make yourself known to a few of the hotels nearest to you. If you educate the hotel management and staff in what you do, you might find that a new stream of referrals comes your way.

To help you get new business from hotels in your area, I would recommend:

1. Research who the Human Resources person or General Manager is at the hotel.
2. Ask to have a meeting with that person to educate them about your unique approach using a safe, efficient mechanical evaluation and how MDT can help their staff and guests.
3. During that meeting, bring a few “gifts” (lumbar roll, TYOB / TYON or both).
4. Ask to do a free educational talk once or twice a year for the staff i.e., “Understanding Lower Back Pain and Sciatica”, “Pain in the neck?” or “Key Points in Prevention of Lower Back Pain and Neck Pain While on the Job”.
5. Create an enticing PowerPoint presentation with great pictures that explains mechanical pain (For more information on this topic, please reference: [How to Create a Successful MDT Clinic by Marketing to the Public](#), December 2013)
6. Make a projector and a screen are available for you to use. Get a slide changer with a laser pointer.
7. Bring a few spine models.
8. Leave 15 minutes for Q&A at the end of the talk and give EVERYONE your business cards.
9. Leave the concierge and front desk staff PLENTY of your business cards.
10. Remember to visit the hotel and fill the stash of cards every two months.

Wishing you great success! I hope this marketing idea will generate new leads for you. Should you need more help or have any questions - feel free to email me at [yoav@sobespine.com](mailto:yoav@sobespine.com)