



Educational Update – April 2021

Background

As the McKenzie Institute continues to teach musculoskeletal clinicians throughout the world, we endeavour to provide an exceptional educational experience in regard to both content and delivery. In 2020, there were some significant changes in the Institute's educational material. The most extensive of these changes were with the Part A and B course material, encompassing both the blended learning provided by some branches, and the face-to-face content. Minor updates to the C, D and Advanced Extremities material were also made to align with these updates.

During 2020 and 2021 many branches have taken the Credentiailling program online to varying degrees to allow clinicians to pursue their interest in MDT during the current pandemic. Much planning and work has gone into ensuring that the online provision of courses maintains the high standard of quality that the McKenzie Institute provides.

Since its development, the McKenzie Classification system itself has been subjected to scrutiny by researchers, academics, educators and clinicians alike. The MDT classification system has been modified over time in response to clinical needs and research findings. From 2020, there were some minor changes to the classification system in regard to terminology, definitions, and documentation. None of these updates fundamentally change the principles or the practice of MDT, but we appreciate that it is vital as we move forward, to remain informed, keep an open mind, and be reflective regarding current evidence, changes in practice, and patient need.

Credentiailling Programme Updates

Credentiailling Program - this new collective term for the A-D series (including the Advanced Extremities from 2023) has been introduced. This will reinforce to participants that A-D is part of a programme leading to Credentiailling rather than just a number of individual courses.

(1) Major update of Part A and B material

- New manual formats; more informal tone, more images/diagrams/charts
- New modules; Evidence for MDT in the Spine, Understanding Pain and Disability Drivers and their relation to MDT classification
- Update in references and material in all existing modules
- Additional section on the 'history and current evidence for the disc model' (see appendix)
- New assessment forms included (see below)
- Online material for branches using blended learning updated with new slides, content, and new audio

(2) Minor update of Part C and D material

- C and D manuals and slides have been updated to bring them in line with the new A and B material, new spinal and extremity assessment forms and the new MDT evidence. This was released in early 2020.

(3) Minor update Advanced Extremity (AE) material

- AE manual and slides have been updated to bring them in line with the new definitions and new evidence in the extremities. This material was released in late 2020.



(4) Advanced Extremities Change in status

- The AE will become mandatory Jan 2023 prior to implementation of the new edition of the Credentialling exam.
- During 2021/22 the AE course will be listed as part of the Credentialling Program and designated as 'optional' i.e., students may take the Credentialling exam with or without the AE course.

(5) Credentialling exam update

- A new Credentialling exam is expected to start in 2023 and reflects the new Credentialling Programme content with the changes in terminology, definitions, inclusion of drivers of pain and disability etc. It will also encompass more extremity content to align with the incorporation of the AE into the Credentialling programme.

(6) Online course evaluation form

- This is being trialed by several branches with the use of Google forms/Survey Monkey through 2020/21.

Diploma Programme Updates

(1) New Diploma sites

- Our newest Diploma site in Montreal, Canada, is now up and running. It is our first bilingual site, accommodating students that wish to complete their clinical in either French or English. This new site joins our existing sites in the USA (Austin, Texas, and New Jersey), Australia (Geelong), Benelux, Germany (Freiburg), Scotland (Dundee) and Sweden
- Other potential future sites are being explored

(2) New Diplomates

- 13 clinicians passed their Diploma exam during 2020 and up until April 2021 bringing the total holding the MDT Diploma to 490

(3) Theoretical Component

- The theoretical component of the Diploma program was successfully transitioned to the online Schoology Platform in 2019, and we will continue to utilise this in the foreseeable future. The platform allowed for a greater and more meaningful interaction between the Diploma educators and candidates and enhanced the learning experience

(4) Diploma Examination

- In 2020 we started to examine all Diploma candidates online and now have continued this into 2021. This online format is proving a viable option for the future examination of Diploma candidates.

A general Information document on the Diploma program has been updated and can be downloaded from the following link: <https://mckenzieinstitute.org/assets/International/Diploma-MDT-General-Information-6-May-2019.pdf>

Other Educational Updates

(1) Overview of Supportive Studies

- Updated in January 2021, available for all to download from McKenzie Institute websites



- (2) **MDT Management of Chronic Pain Syndrome Masterclass**
 - We are in the process of developing a Masterclass in the MDT Management of Chronic Pain Syndrome. When launched in 2021/2022, this will be the third Masterclass in the series, accompanying our current offerings; MDT and the Athlete, and MDT Management of Radicular Syndrome
- (3) **The 15th International Conference scheduled for Ottawa is now cancelled**
 - An update will be provided in the near future regarding future conference plans

MDT Classification System Updates

- (1) **New spinal and extremity assessment forms**
 - The lumbar, cervical and thoracic, lower and upper extremity forms have been updated and are available for free download from all McKenzie Institute websites.
 - All MDT clinicians are encouraged to use these new forms. They include some important changes including:
 - Explicitly encompassing other influences on the patient's pain experience; Drivers of pain and disability
 - Space for documenting patient goals and expectations.
 - Removing duplication e.g., Night pain removed as it can be covered under 'disturbed sleep'
 - Updating terminology e.g. 'dural signs' updated to 'neurodynamic tests'
 - Neutral language with posture observations and changes
 - Space for 'after' effects of single movements removed to help standardise form completion
 - Guidelines for spinal form completion will be available for download from all McKenzie Institute websites
- (2) **MDT Syndrome definition changes**
 - **Derangement Syndrome** is a clinical presentation which demonstrates Directional Preference in response to loading strategies and is typically associated with movement loss. A common feature in the spine is Centralisation.
 - **In the spine, Dysfunction Syndrome** is a clinical presentation where symptoms are produced consistently and only at a limited end-range of a movement.
In the extremities the above presentation is termed '**Articular Dysfunction**'
The other presentation of dysfunction in the extremities is '**Contractile Dysfunction**'.
Contractile Dysfunction is a clinical presentation where symptoms are produced with sufficient loading of the musculotendinous unit.
 - **Postural Syndrome** is a clinical presentation where symptoms are produced only from prolonged static loading.
- (3) **Directional Preference definition change**
 - Directional Preference describes the clinical phenomenon where a **specific direction** of repeated movement and/or sustained position results in a **clinically relevant improvement in symptoms**. This improvement is usually accompanied by an improvement in function, or mechanics, or both. Its presence and relevance is determined over 2-3 visits.

(4) Terminology Changes



- To reduce confusion regarding the nature of the MDT classifications, we no longer encourage the use of the term 'Mechanical Syndromes' in regard to the 3 syndromes (Derangement, Dysfunction and Postural), but prefer the use of 'MDT' or 'McKenzie Syndromes'. This change was due to the differing interpretations of the word 'mechanical' and the implication that if the 3 syndromes were 'mechanical' none of the OTHER classifications were.
- Care should be taken with other uses of the term 'mechanical' vs 'non-mechanical' as clinicians/researchers use these terms in different ways.
- Care should be used with the word 'Derangement'. We currently do not know how patients in particular, perceive this term, so it is best not used in communication with patients. One alternative would be to use 'directional preference' in explaining the nature of the problem and therapeutic strategies to patients.
- We are still working to ensure that the Derangement Syndrome in the spine is not equated to the disc (see appendix below). We discourage the use of terms such as 'disc derangement' and would encourage the use of Derangement's association with directional preference. Hence, 'Derangement with a directional preference of extension' or a 'Derangement that responds to the flexion principle' would be acceptable.

(5) Procedure changes

- The procedure of Rotation in Flexion and its progressions is now designated as a Lateral Principle procedure and no longer falls under the Flexion principle.
- Rotation in flexion is now primarily taught as a **sustained** procedure.
- For the majority of spinal mobilisations, the force used between repetitions has been clarified. The description has been modified as follows; "A small amplitude force is applied in a slow, rhythmical way aiming to move further into range with each movement. **Between repetitions pressure is released to the starting position but the skin contact is maintained.**"

(6) Recovery of function

- In the recovery of function for Derangement Syndrome, the focus is no longer just on the restoration of range of motion in all directions. The clinician needs to consider and assess whether the patient has the capability and the confidence to resume their previous level of activity. **Any deficits identified need to be addressed.** Some examples include strength, proprioception, speed and endurance.

Appendix; excerpt from Part A manual

What about the 'disc model' that was historically associated with MDT?

When Robin McKenzie was first exploring the use of spinal positions and movements to help patients manage their symptoms, the medical world was very much pathology focused. So, it was not long before Robin was asked by certain people in the medical world about what he thought was occurring in the spine to cause these symptomatic and mechanical changes that he was observing. The disc was the obvious choice and Robin proposed 'the disc model' where spinal movements predictably affected the disc. He related spinal flexion to posterior disc nuclear migration, extension to anterior migration and lateral movements to migration in the opposite direction.

Since Robin's proposal, there has been much research and debate about the 'disc model'. It is generally accepted that the disc is a common generator of pain in the lumbar spine with a reported prevalence rate of 22-42% (dePalma 2011, Verrills 2015). However, whether or not



disc nuclear migration correlates with centralisation and directional preference is a different question altogether.

Some studies have clearly shown that the disc [can conform to the pattern](#) as described and so this aspect of the 'dynamic disc model' has support (Beatie 1994, Fennell 1996, Takasaki 2010, Alexander 2007, Frazy 2006). However, these studies were performed primarily on [asymptomatic and relatively young](#) individuals. A few studies using older and symptomatic patients (Zamani 1998, Weishaupt 2000) showed the [opposite trend](#) from what would be predicted in the model. Older discs exhibit more complex structural and biochemical degenerative changes and respond to spinal positional changes [more unpredictably](#) (Zou 2009).

So internal disc migration can occur in certain circumstances, but does it correlate with clinical findings in symptomatic individuals? This is an area where there is [little evidence to support](#) the 'disc model' (Kolber 2009, Albert 2012) and there are insufficient studies designed to answer this question. We do know that centralisation in the lumbar spine does seem to correlate with the disc being the source of symptoms (Donelson 1997), with a specificity reported of 94% (Laslett 2005). However, [we do not know](#) if the mechanism resulting in centralisation is predictable disc migration associated with spinal movements. What is more, there is conflicting evidence as to whether the status of the annular wall indicates whether the patient will centralise or not (Donelson 1997, Albert 2012). Explanations other than nuclear movement have been proposed, but these also require further testing.

How about for the cervical spine? For a start, the prevalence of disc pain in the cervical spine may be "much lower than commonly believed" (Peng and Bogduk 2019). Additionally, there is a [total absence of literature](#) linking any symptomatic response to internal disc movement (Kolber 2009).

So, where does that leave us? A quote from the Kolber systematic review sums it up nicely;

"clinicians and researchers must base interventions on patient responses such as centralisation or peripheralisation as advocated by McKenzie and other researchers, not on a biomechanical theory"



Ah, so really it is the focus on the patients' symptomatic and mechanical response that is the key to guide us, rather than what we may think is happening with the disc?

Yep, that's about right, mostly we can only speculate about pathology.

