MDT and the Relevant Lateral Component: Strategies for the Challenging Cervical Spine Patient

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Objectives

• At the conclusion of this presentation, the attendee will
• Comprehend the MDT classifications and operational definitions for centralization and directional preference
• Synthesize key tests and measures to arrive at a classification for a simulated case study
• Based on classification, apply MDT principles to determine appropriateness of manual physical therapy
• Evaluate MDT as an approach that fits into the OMPT framework
Mechanical Diagnosis and Therapy (MDT)

**General Misconceptions**

- Based only on symptoms
- Classification based on the pathoanatomy of the cervical intervertebral disc
- Focused on neck retraction exercises
This is not...
Lumbar Spine Classification

Stability vs. Mobility

• History – is the patient better when *moving* or when *stationary*?
• Prognostic implications
• Movement in mid-range or end range?
• Effects of postural correction...
End Range Forces and Manual Physical Therapy

Diagnostic Properties of End range of motion (ERP)

• Exposes dysfunction
• Reduces derangement
When should we not test end range?
Patient response methods

- **Maitland** – patient response to passive
- **Movement System Balance** (Sahrmann) – patient response to active limb movements
- **MDT** (McKenzie) – patient response to repeated end range movements
“Patient response methods...

• require dedicated communication between clinician and patient for clinical decisions, without necessarily requiring a pathology based diagnosis.”

Case Study - History

• The goal is to understand the lesion behavior as well as to investigate the patient’s level of awareness of the effects of positions and loads on their concordant complaints.

• Ruling out Red Flags

• Guiding the physical examination to develop a provisional mechanical diagnosis
Load Interpretation

• At the completion of the History, What do you know about the effect of load on the patient’s Symptoms?
• Do you have enough information to base a mechanical hypothesis in which to proceed with your examination?
Patient History

• 47 year old female
• Referred by her General Practitioner for UE Pain and HA
• Secretary: Works at a computer/desk (Currently Off)
• Functional Capacity Limitation: FOTO 35/100
• Leisure Activity: Gardening (Currently Unable)
• NDI 70%
• Physical Fear 80
• VAS 3-9/10
What are the possibilities?
Case study – History and Exam of Derangement with a Relevant Lateral

• Will be distributed with presentation.
Provisional Diagnosis?

• Now what are the possibilities?
Mechanical Diagnosis:

• **Dysfunction Syndrome**: Mechanical deformation of structurally impaired soft tissues

• **Postural Syndrome**: pain associated with prolonged static loading on normal tissues

• **Derangement Syndrome**: A disturbance in the normal resting position of the affected joint surfaces

• OTHER
Clinical decision making

Determine Classification

If Derangement:
  Determine Direction?
  Determine the Force?
  Determine the Load?
Key physical examination tests and measures?

• Structural/postural correction
• Next?
• Neuro or AROM baselines
• Next?
• Repeated end range – sagittal
• Next?
• Lateral component/results
• DIP or centralization
• Open to other tests and measures
Force Progression

- Mobilization
- Manipulation
- Therapist overpressure
- Patient overpressure
- Patient generated

Independent

Dependent
Traffic Light Guide

- Stop
- Progress
- Continue
Identification of lateral component

Unilateral or asymmetrical
Flex and Ext aggravate
Lateral movement asymmetrical

Suspect it

Centralise or better with lateral movements

Confirm it
Lateral Exercise and Manual Physical Therapy Procedures

• Video and Pictures will be included in Presentation.
Lateral Flexion Non-Thrust Manipulation

• May be applied in either loaded or unloaded
• When all sagittal plane procedures are ineffective or worsen symptoms
• Symptoms appear related to lower cervical spine or fail to respond to rotation

• Procedure will be demonstrated
Rotation **Non-Thrust Manipulation**

- May be applied in either loaded or unloaded
- When all sagittal plane procedures are ineffective or worsen symptoms
- Symptoms appear related to upper cervical spine or fail to respond to lateral flexion

- Procedure will be demonstrated
Rotation **Thrust Manipulation**

- May be applied in either loaded or unloaded
- When Rotation Mobilization produces a decrease or centralizing effect that does not remain better.

- Procedure will be demonstrated and OMT variations will be discussed
Summary

• Efficacy of testing repeated end range movements
• Forces may be required in various planes with loading and unloading strategies
• Classification based on *patient response* as well as mechanical and neurological changes
• Pathoanatomical vs. movement based approach
Repeated end range testing can be used to evaluate and treat musculoskeletal conditions
Specific subgroup
Specific subgroup
Specific treatment
Specific treatment
Directional Preference
Cervical Spine Classification

Manipulation

Classification Criteria

Directional Preference

Classification Criteria

Stabilization

Classification Criteria

Traction

Classification Criteria

Manipulation and exercise

Activities to Promote Centralization and Mechanical/Neuro Changes

Stabilization exercises

Mechanical/ auto-traction