Low Back Pain: Clinical Practice Guidelines linked to the ICF

Orthopaedic Section of the American Physical Therapy Association

Authors

- Anthony Delitto PT, PhD, Steven Z. George PT, PhD, Linda Van Dillen PT, PhD, Gwendolyn Sowa, MD, Ph.D, Joseph Godges DPT

What we were ***NOT*** going to do…

- Add to the literature another intervention-only-based guideline

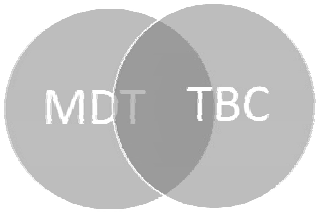
Recognize the importance of classification

- Borkan JM, Koes B, Reis S, Cherkin DC. A report from the Second International Forum for Primary Care Research on Low Back Pain. Reexamining priorities. Spine (Phila Pa 1976). 1998 1998 Sep 15;23(18):1992-6.
- Cherkin D, Kovacs FM, Croft P, et al. The Ninth International Forum for Primary Care Research on Low Back Pain. Spine (Phila Pa 1976). 2009 2009 Feb 1;34(3):304-7.

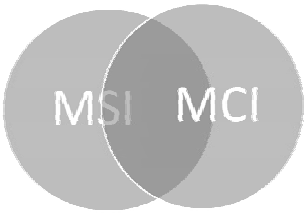
Classification, but which classification?

- Mechanical Diagnosis and Treatment (MDT)
- Treatment Based Classification (TBC)
- Pathoanatomic Classification (PBC)
- Movement System Impairment Classification (MSI)
- Movement and Control Impairment Classification (MCI)

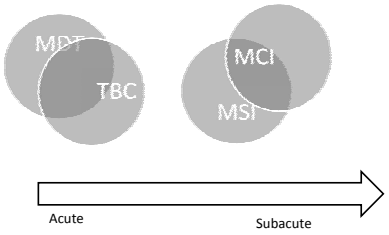
Perhaps there is more in common than different…



Perhaps there is more in common than different…



Acute, Subacute



ICF: A common nomenclature

- Advantage: allows for
  - Translation across "systems"
  - Recognition of overlap
- Disadvantage
  - It's a new language

Roadmap for remainder of presentation

- Begin with classifications
- *Symptoms* and *impairments of body functions* are listed in context of classifications
  - e.g., how you recognize the classification
  - Diagnostic value of tests for impairments are included in a separate section
- *Interventions* are listed that match classifications

Recommendations

- **Pathoanatomical Features**
- **Risk Factors**
- **Diagnosis/Classification**
- **Differential Diagnosis**
- **Examination**
  - **Outcome Measures**
  - **Impairment Measures**
  - **Activity Limitation and Participation Restriction Measures**
- **Interventions**

Diagnostic Classifications

- Low back pain with mobility deficits (b7101 Mobility of several joints)
- Low back pain with movement coordination impairments (b7601 Control of complex voluntary movements)
- Low back pain with related lower extremity pain (28013 Pain in back, 28015 Pain in lower limb)
- Low back pain with radiating pain (b2804 Radiating pain in a segment or region)
- Low back pain with related generalized pain (b2800 Generalized pain, b1520 Appropriateness of emotion, b1602 Content of thought)

Example 1

- Low back pain with mobility deficits and the associated ICD categories of lumbosacral segmental/somatic dysfunction. (Recommendation based on strong evidence.)
  - Restricted lumbar range of motion and segmental mobility
  - Acute low back and low back-related lower extremity symptoms reproduced with provocation of the involved lower thoracic, lumbar or sacroiliac segments

Example 2

- Low back pain with movement coordination impairments and the associated ICD categories of spinal instabilities. (Recommendation based on weak evidence.)
  - Recurring lumbosacral pain with mid-range motion that worsens with end range movements or positions
  - Low back and low back-related lower extremity pain reproduced with provocation of the involved lumbar segment(s)
  - Strength, endurance, and coordination deficits of the trunk muscles

Example 3

- Low back pain with related lower extremity pain and the associated ICD category of flatback syndrome, or lumbago due to displacement of intervertebral disc. (Recommendation based on strong evidence.)
  - Low back pain and associated (referred) lower extremity pain that worsened with flexion activities and sitting
  - Low back and lower extremity pain that can be centralized and diminished with specific postures and/or repeated movements
  - Strength, endurance, and coordination deficits of the trunk muscles

Example 4

- Low back pain with radiating pain and the associated ICD category of lumbago with sciatica. (Recommendation based on moderate evidence.)
  - Lower extremity symptoms, usually radicular or referred pain, that are produced or aggravated with slump maneuvers and lower limb tension tests
  - Signs of nerve root compression

Example 5

- Low back pain with related generalized pain and the associated ICD categories of low back pain/low back strain/lumbago. (Recommendation based on strong evidence.)
  - Chronic low back pain and generalized pain that is not consistent with common physical impairment classification criteria
  - Presence of depression, fear-avoidance beliefs, and/or pain catastrophizing

Example 1

- Low back pain with mobility deficits and the associated ICD categories of lumbosacral segmental/somatic dysfunction. (Recommendation based on strong evidence.)
  - *Restricted lumbar range of motion and segmental mobility*

PAIN PROVOCATION WITH SEGMENTAL MOBILITY TESTING

ICF category:	Measurement of impairment of body function – mobility of several joints
Description:	Pain provocation during mobility testing
Measurement method	Patient is prone and examiner palpates lumbar spinous process and pushes with an anterior directed force to detect pain
Nature of variable	Categorical
Units of measurement	Present/absent
Measurement properties	Kappa values are moderate to good for pain provocation during spring testing of the lumbar vertebrae (k=.25-.55)(Hicks et al. 1858-64;Schneider et al. 465-73)
Instrument variations	None

Example 3

- Low back pain with related lower extremity pain and the associated ICD category of flatback syndrome, or lumbago due to displacement of intervertebral disc. (Recommendation based on strong evidence.)
  - Low back pain and associated (referred) lower extremity pain that worsened with flexion activities and sitting
  - *Low back and lower extremity pain that can be centralized and diminished with specific postures and/or repeated movements*
  - Strength, endurance, and coordination deficits of the trunk muscles

JUDGMENTS OF CENTRALIZATION DURING MOVEMENT TESTING

ICF category:	Measurement of impairment of body function – mobility of several joints
Description:	Clinician judges the behavior of symptoms in response to movement testing to assess whether "centralization" or "peripheralization" has occurred.
Measurement method	Patient is asked to flex and extend in standing, supine and prone with single and repeated movements in a systematic fashion. Judgments are made with regard to a *directional preference* related to either flexion or extension depending on centralization (symptoms either disappearing from the periphery or moving axially from the periphery
Nature of variable	Categorical
Units of measurement	Present/absent
Measurement properties	Kappa 0.70-0.90 for novice and experienced physical therapists(Fritz et al. 57-61;Kilpikoski et al. E207-E214)
Instrument variations	None

Activity Measures and Outcome

- Not really different than previous Guideline publications
  - Clinician-judged activity measures re reviewed (e.g., Functional Capacity Indices)
  - Self-reported outcome Roland and Morris Index (RMI) or Oswestry Low Back Pain Disability Questionnaire (ODI)
- Psychometrics are included

Interventions

- **Spinal Mobilization/ Manipulation:** Clinicians should consider utilizing thoracic, lumbar, and pelvic girdle mobilization and manipulative procedures, non-thrust and thrust, to reduce low back pain and disability, particularly in patients whose duration is relatively short-term (<15 days). (Recommendation based on strong evidence.)

Interventions

- **Centralization Procedures and Exercises:** Clinicians should consider utilizing specific repeated movements, exercises, or procedures to promote centralization to reduce low back and low back-related lower extremity pain, particularly in patients who demonstrate a directional preference. (Recommendation based on moderate evidence.)

Interventions

- **Patient Education:** Clinicians should not utilize patient education strategies that potentially increase the perceived threat or fear associated with low back pain
  - Extended rest and anatomical/structural explanations for low back pain are not recommended.
  - Instead, clinicians should utilize patient education strategies that encourage early resumption of normal or vocational activities even when still experience pain.
    - For example, clinicians should emphasize
      - The overall favorable prognosis of low back pain
      - Encourage positive and active coping strategies,
      - Increasing activity levels.
  - (Recommendation based on strong evidence.)

Questions and comments