

## Overview of Project Methodology

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## ICF Project Methodology

### Workgroups:

- 7 workgroups established
- Each group has leader & 4 to 6 members with representation of individuals involved in clinical practice, research & education and a physician that will positively contribute to process.

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### 7 Workgroups & Leaders:

- Foot & ankle – RobRoy Martin
- Knee – Lynn Snyder-Mackler
- Hip – Mike Cibulka & Doug White
- Lumbosacral spine – Anthony Delitto
- Cervicothoracic spine – John Childs & Josh Cleland
- Shoulder – Phil McClure
- Elbow, wrist & hand – Joy McDermitt

## ICF Project Methodology

### 5 Tasks:

- Identify M-S conditions that affect body region
- Identify common impairments of body structure & function, activity limitations & participation restrictions associated with each condition
- Describe system to classify individuals into homogeneous subsets that will best respond to specific interventions
- Describe interventions with supporting evidence for subsets of patients based upon classification system
- Summarize & disseminate guidelines

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### Identify M-S Conditions:

- Workgroup to identify 2 to 4 M-S conditions that affect region that are commonly managed by PTs
- Examples:
  - Hip – fracture, OA, THA, labral tears
  - Foot & ankle – plantar fasciitis, ankle sprains, Achilles tendinopathy
  - Shoulder – adhesive capsulitis, impingement, rotator cuff tendinopathy

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### For Each Condition - Identify:

- Impairments in body structure & function
- Activity limitations
- Participation restriction

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### Example – Plantar Fasciitis:

- Impairment of body structure:
  - Ligaments & fasciae of foot & ankle (s75023)
  - Neural structures of lower leg (s75018)
  - Muscles of ankle & feet (s75022)
  - Bones of ankle & feet (heel spur) (s75029)

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### Example – Plantar Fasciitis:

- Impairment of body function:
  - Pain in lower limb (b28015)
  - Radiating pain in segment or region (b2804)
  - Mobility of single joint (increased or decreased) (b7100)
  - Mobility of several joints (increased or decreased) (b7101)
  - Mobility of tarsal bones (increased or decreased) (b7203)
  - Power of isolated muscles & muscle groups (weakness of intrinsics) (b7300)
  - Endurance of muscle groups (b7401)
  - Gait pattern functions (antalgic gait) (b770)

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### Example – Plantar Fasciitis:

- Activity limitations & participation restrictions:
  - Walking short distances (d4500)
  - Walking long distances (d4501)
  - Standing (d4104)
  - Maintaining standing position (d4154)
  - Squatting (d4101)
  - Shifting body center of gravity (d4106)
  - Carrying objects in hands (d4302)
  - Walking on different slopes (d4502)
  - Walking around objects (d4503)

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### Example – Plantar Fasciitis:

- Activity limitations & participation restrictions:
  - Climbing (d4551)
  - Running (d4552)
  - Jumping (d4553)
  - Moving around within house (d4600)
  - Moving around within building other than house (d4601)
  - Moving around outside the home or other building (4602)

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- Impairments of body structure & function, activity limitation & participation restrictions are used to:
  - Classify patient (i.e. diagnose)
  - Establish prognosis (i.e. prognostic factors)
  - Measure outcome

## ICF Project Methodology

### Data Dictionary:

- Variable name
- Description
- Measurement method
- Nature of variable
- Units of measurement
- Measurement properties

## ICF Project Methodology

### Example – Ankle Dorsiflexion:

- ICF Category – mobility of single joint
- Definition – amount of ankle dorsiflexion with the knee extended
- Measurement method – patient is positioned prone with feet over edge of table. Patient actively dorsiflexes ankle or examiner passively dorsiflexes ankle while ensuring foot does not invert or evert
- Nature of variable - continuous
- Units of measurement - degrees
- Measurement properties – ICC for intra-rater reliability ranges from .64 to .92 for active dorsiflexion & .74 to .98 for passive dorsiflexion. Inter-rater reliability ranges from .29 to .81.

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### Classification System:

- Use measures of impairment of body structure & function, activity limitations & participation restrictions to classify patients into homogeneous subsets that will respond to specific interventions
- Supported by evidence – if no peer-reviewed evidence use collective clinical expertise to provide 1<sup>st</sup> approximation which will then be the subject of further investigation
- Consider red flags – identify patients that are:
  - Inappropriate for PT
  - Appropriate for PT but would benefit from consultation with another health care provider

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### Example – Adhesive Capsulitis:

- Acute condition - at least 3 of the following:
  - VAS pain score at rest > 4
  - Pain at rest > 75% of time
  - Pain with active elevation of shoulder
  - Night pain or spasm end-feel
- Chronic condition defined as < 3 of above

Carette et al 2003

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### Interventions:

- Describe interventions & supporting evidence for specific subsets of patients within classification system
- Interventions typically focus on impairments

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### Example – Adhesive Capsulitis:

- Acute condition – treated with:
  - Pain relieving modalities
  - Active ROM exercises within pain free ROM
- Chronic condition – treated with:
  - Stretching exercises
  - Joint mobilization

Carette et al 2003

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### Interventions:

- Focus is on interventions provided by PTs, but guidelines should also consider adjunctive procedures &/or pharmacological considerations
- For example – guidelines for adhesive capsulitis should address considerations for intra-articular injection of corticosteroids

### ICF Project Methodology

**Evidence for Interventions:**

- Greater emphasis given for clinical research involving patients
- If clinical evidence is lacking, evidence to support biological or biomechanical plausibility of evidence should be provided

### ICF Project Methodology

**Levels of Evidence - CEBM**

	Therapeutic Studies	Prognostic Studies	Diagnostic Studies
<b>Level I</b>	<ul style="list-style-type: none"> <li>• High-quality randomized controlled trial with statistically significant difference or no statistically significant difference but narrow confidence intervals</li> <li>• Systematic review<sup>a</sup> of Level-I randomized controlled trials (and study results were homogeneous)</li> </ul>	<ul style="list-style-type: none"> <li>• High-quality prospective study<sup>b</sup> (all patients were enrolled at the same point in their disease with 100% follow-up of enrolled patients)</li> <li>• Systematic review<sup>a</sup> of Level-I studies</li> </ul>	<ul style="list-style-type: none"> <li>• Testing of previously developed diagnostic criteria on series of consecutive patients (with universally applied reference 'gold' standard)</li> <li>• Systematic review<sup>a</sup> of Level-I studies</li> </ul>
<b>Level II</b>	<ul style="list-style-type: none"> <li>• Lower-quality randomized controlled trial (e.g., &lt;80% follow-up, no blinding, or improper randomization)</li> <li>• Prospective comparative study<sup>b</sup></li> <li>• Systematic review<sup>a</sup> of Level-II studies or Level-I studies with inconsistent results</li> </ul>	<ul style="list-style-type: none"> <li>• Retrospective study</li> <li>• Unintended controls from a randomized controlled trial</li> <li>• Lower-quality prospective study (e.g., patients enrolled at different points in their disease or &lt;80% follow-up)</li> <li>• Systematic review<sup>a</sup> of Level-II studies</li> </ul>	<ul style="list-style-type: none"> <li>• Development of diagnostic criteria on basis of consecutive patients (with universally applied reference 'gold' standard)</li> <li>• Systematic review<sup>a</sup> of Level-II studies</li> </ul>
<b>Level III</b>	<ul style="list-style-type: none"> <li>• Case-control study<sup>b</sup></li> <li>• Retrospective comparative study<sup>b</sup></li> <li>• Systematic review<sup>a</sup> of Level-III studies</li> </ul>	<ul style="list-style-type: none"> <li>• Case-control study<sup>b</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Study of nonconsecutive patients (with consistently applied reference 'gold' standard)</li> <li>• Systematic review<sup>a</sup> of Level-III studies</li> </ul>
<b>Level IV</b>	<ul style="list-style-type: none"> <li>• Case series<sup>b</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Case series</li> </ul>	<ul style="list-style-type: none"> <li>• Case-control study</li> <li>• Poor reference standard<sup>b</sup></li> </ul>
<b>Level V</b>	<ul style="list-style-type: none"> <li>• Expert opinion</li> </ul>	<ul style="list-style-type: none"> <li>• Expert opinion</li> </ul>	<ul style="list-style-type: none"> <li>• Expert opinion</li> </ul>

### ICF Project Methodology

**Strength of Evidence:**

- Graded according to guidelines described by Sackett with modifications
  - Consensus expert opinion considered as weak evidence
  - Basic science evidence to demonstrate biomechanical or biological plausibility will be considered theoretical/foundational knowledge

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**Strength of Evidence:**

- Strong – supported by preponderance of Level I and II studies (including at least 1 Level I study). Includes clinical practice guidelines based on systematic reviews that include at least 1 Level I study
- Moderate – supported by single Level I study or preponderance of Level II evidence
- Weak – supported by single Level II study or preponderance of Level III and IV studies. Includes consensus expert opinion.

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**Strength of Evidence:**

- Conflicting Evidence – disagreement among high quality studies
- Theoretical/Foundational Evidence – supported by preponderance of basic science research including animal studies, cadaveric studies and modeling

### ICF Project Methodology

**Summarize Results:**

- Creation of flow diagram to summarize classification & clinical decision making processes
- Quick reference summary as well as detailed description

The flowchart 'ADULT ACUTE LOW BACK PAIN ALGORITHM' starts with 'ADULT ACUTE LOW BACK PAIN'. It branches based on 'PAIN DURATION' (less than 6 weeks vs. 6 weeks or longer) and 'PAIN SEVERITY' (mild/moderate vs. severe). For mild/moderate pain, it suggests 'Non-pharmacologic treatment' and 'Pharmacologic treatment'. For severe pain, it suggests 'Pharmacologic treatment' and 'Non-pharmacologic treatment'. It also includes a section for 'Red flags' and 'Special populations'.

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### Summarize Results:

- Develop tools to support use of guidelines:
  - Data collection forms
  - Outcome instruments
  - Patient education materials

## ICF Project Methodology

### Dissemination:

- Circulate to key stakeholders for review and comment
- Publish in peer reviewed journal - JOSPT

## ICF Project Methodology

### Current Directions:

- Joe Godges to serve as Coordinator for ICF-based Practice Guidelines
- Created Advisory Panel to provide direction & review guidelines
- Ad Hoc Review Panels established to review guidelines

## ICF Project Methodology

### Advisory Panel:

- Anthony Delitto PT PhD FAPTA
- James Irrgang PT PhD ATC
- Joy MacDermid PT PhD
- Phil McClure PT PhD
- Paul Shekelle MD PhD
- Leslie Torburn PT

## ICF Project Methodology

### Guidelines on Horizon:

- Neck Pain – cervicalgia, cervical sprains & strains, radiculopathy
- Low Back Pain – lumbago, lumbar sprains & strains, Sciatica
- Hip – osteoarthritis, fracture, Labral tears
- Shoulder – adhesive capsulitis, rotator cuff syndrome, instability
- Ankle and Foot – Achilles tendinitis, ankle sprain

Collaboration