Picking Measures and Goals in Musculoskeletal Disorders

Joy C MacDermid PT, PhD

Use of Standardized Outcome Measures

52% of participants indicated they did not use standardized outcome measures in practice, and 49% of them indicated that they did not plan to implement their use in future.

Use of Standardized Outcome Measures

Perceived Benefits
- Better communication
  - patient/payers
- Direct treatment
- More accurate examination
- Diagnosis
- Prognosis
- Status and change
- Improve patient adherence and outcomes

Uses of information
- Quality assurance
- Communication with other health care providers
- Determining progress/outcomes of patients
- Determining practice effectiveness
- Research

Perceived Problems
- Confusing to patients
- Difficult to complete
- Time – patient, therapist
- Not completed at discharge
- Scoring issues
- Translation/Cultural issues
- Difficult to interpret
- Information too subjective

Facilitators of Use of Measurement Instruments

Patient wants objectives to evaluate outcomes of therapy
Visible impact on quality of care
Readiness to change
Sufficient knowledge and education
Instrumental support

SMART Goals

- S = SPECIFIC
- M = MEASURABLE
- A = ACHIEVABLE
- R = REALISTIC
- T = TIME TARGETED

SMART Goals

- S = SPECIFIC
  - Define the specific impairment or disability construct
- Knowledge of condition
- ICF Common Language
SMART Goals

• **M** = MEASURABLE
  - A measurement tool has been established
  - Appropriate measurement properties
  - Valid for purpose, population, and time frame

• **A** = ACHIEVABLE
  - Evidence-informed targets (benchmarking)
  - What evidence.
  - Ideally RCTs
  - On same population
  - Same intervention
  - All clinical important time points
  - Separated by important subgroups
    - Gender
    - WAD vs non-specific
  - Means and SD

• **R** = REALISTIC
  - Consider circumstance
    - personal abilities,
    - resources: personal, Environmental
    - and social supports
  - Adjusting for prognostic profile
  - Aligning with patient preferences
    - Primary prognostic predictor
      - Baseline Pain and disability

• **T** = TIME TARGETED
  - How much change is expected is related to time interval and rate of change expected
  - Determines frequency of re-evaluation

Why set goals?

- **Short-term goals**
  - Is the patient improving?
  - Minimal Detectable Change

- **Long-term Goals**
  - Did the patient make an important improvement?
    - Clinically important difference
  - Did the patient reach expected outcome?
    - Comparison to data on clinical outcome for similar patients with similar intervention
    - Even better if adjusted for prognosis
5 Important Clinical Questions to Consider
- How confident can I be in a measured value?
- What does a measured value mean?
- How much change is necessary to be reasonably certain a true change has occurred?
- What is the ideal reassessment interval?
- What is the target value?

MDC
- The MDC is accepted as 5 points
- It may be up to 10 points for cervical radiculopathy.
- For WAD I and II, a minimum of 5 points change should be required for short term therapy goals. (timeframe – 2 weeks)

MCID
- 2 points with acute neck pain patients (Vos et al 2006),
- 3.5 points in non-specific neck pain patients (Pool et al 2007),
- 7 points in cervical radiculopathy patients (Cleland et al 2006),
- 7.5 points in neck pain with or without upper extremity pain (Young et al 2009) and
- 9.5 points in acute or chronic neck pain patients (Cleland et al 2008).

Practice Setting goals
- STG MDC at time based on history
- LTG based on history

What do you want to predict?
- Outcome
  - Pain
  - Disability (behaviour)
  - Recovery
  - What is recovery?

Benchmark to Outcomes Data from clinical trial
- Severity of disorder
  - 0-4 represents no disability,
  - 5-14 mild disability,
  - 15-24 moderate disability,
  - 25-34 severe disability,
  - > 35 complete disability.
**Natural Course of NDI (0-100%)**

Kamper 2008 – Pain 138

![Graph showing natural course of NDI](image1)

**Natural Course: Pain (0-100)**

Kamper 2008 – Pain 138

![Graph showing natural course of pain](image2)

**Trajectory of recovery by subgroup**

Sterling et al 2011

![Graph showing trajectory of recovery](image3)

**Identify patient at risk**
- Predict post traumatic stress (trajectory)

Sterling et al 2011

![Graph showing trajectory of recovery](image4)

**Prediction**

- Knowledge (data) for expected recovery is important
- Know what you want to predict and key predictors
- Use to flag specific issues
  - Identify patients at risk
  - Identify potential treatment pathway
- Ideal versus real world collection, data entry and use of data are huge challenges

**How to Capture Information: an example from**
- post ACL repair – PT Clinic - ORTECH1

![Image of post ACL repair setup](image5)
Benchmark individual to group outcome data

Predicted LEFS Score

ORTECH

Monitoring Goals

• STG Goal
  • based on history and MDC of scale

• LTG based on history, treatment benefits from RCT and participation goal

• Need to revisit your accuracy in prediction of real numbers to get feedback on your CDM