

# Orthopaedic Outcomes: Measuring What We Do

Robert A. Magnussen, MD MPH

1. Introduction
2. Traditional methods to assess outcomes
  - a. Failure
  - b. Imaging Outcomes
  - c. Patient-Reported Outcomes
  - d. Provider Assessed Outcomes
  - e. Functional Outcomes
  - f. Long-Term Sequellae
3. Catastrophic Treatment Failures
  - a. Advantages
    - i. Clear Outcome
  - b. Disadvantages
    - i. May underestimate treatment failure risk
      1. Revision surgery as an endpoint
    - ii. May be preventable if detected early
    - iii. Do not tell the whole story
      1. PF instability example
4. Patient-reported Outcomes
  - a. Advantages
    - i. Cheap, easy to obtain
    - ii. Consistent across sites and time
  - b. Disadvantages
    - i. No perfect PRO
      1. New tools being developed
      2. Kujala example
    - ii. May be influenced by activity level
      1. ACL example 2 to 10 years
    - iii. Do not provide information on mechanism of failure
5. Provider-Assessed Outcomes
  - a. Laxity
    - i. May provide insight into ligament healing
    - ii. May not correlate with outcomes
      1. ACLR example
  - b. Strength
    - i. Good – objective, data suggests possible correlation with long-term outcome
    - ii. Bad – expensive and time consuming to obtain, inconsistent control
  - c. Effusion

- i. Good – provides insight into recovery
    - ii. Bad – requires on site eval with trained examiner, ? reliability
  - d. Assessment of Movement Patterns
    - i. Good – objective, detailed data with mechanism insights, may correlate with long-term outcomes
    - ii. Bad – expensive, time consuming
- 6. Functional Outcomes
  - a. Advantages
    - i. Closest to actual sports activities
    - ii. May correlate well with ability to return to sport
  - b. Disadvantages
    - i. Expensive and Time consuming
    - ii. May not correlated with repeat injury risk
- 7. Long Term Sequellae
  - a. Clinically very relevant but long time horizon makes assessment difficult
  - b. Example – OA after ACL reconstruction
  - c. Potential Solutions