

Introduction

Shoulder pain is the third largest musculoskeletal complaint for which patients seek consultation with a primary care provider.¹ Treatment based classification systems have been developed to assist clinicians in selection of the most effective interventions.^{2,3} There have only been a few researchers who have examined classification systems for shoulder disorders.^{4,5} An algorithm has been derived utilizing observational data from clinical practice and inclusive of an irritability classification proposed by Kelley et al.⁶ However, there is no existing evidence demonstrating the reliability or validity of the two embedded scales (irritability classification and movement classification) in the algorithm.

Methods

DESIGN

A prospective, single-session, repeated measures design pilot study including patients with shoulder pain in an outpatient physical therapy setting.

PARTICIPANTS

Data collectors included four selected physical therapists (PTs) within the St. Luke's University Health Network. A convenience sample of consecutive patients presenting for physical therapist consultation with chief complaint of shoulder problems were recruited from the outpatient physical therapy clinics of St. Luke's Physical Therapy from July 2013 – November 2013.

EXCLUSION CRITERIA

- < 18 years old
- Pain or symptoms distal to elbow
- History of shoulder surgery on the symptomatic side
- Cervical spine origin of symptoms
- Not literate in the English language
- Unable to complete the FOTO questionnaire

Procedure

- Consent
- Quick DASH & FOTO outcome measures, NPRS
- Cervical screen (AROM, PROM, Spurling's)
- Active & passive flexion, IR ROM measured by two clinicians
- Level of irritability assigned by each clinician

Table 1

Irritability Levels⁶

High Irritability

7-10/10 average pain over the last 24 hours

Consistent night or resting pain

High disability on Focus on Therapeutic Outcomes score (FOTO) (Severity Score = severe) OR on QuickDASH (score >66%)

Pain prior to end range of motion (ROM)

Active ROM (AROM) less than passive ROM (PROM)

Moderate Irritability

4-6/10 average pain over the last 24 hours

Intermittent night or resting pain

Moderate disability on FOTO (Severity Score = moderate) OR on QuickDASH (score 34-66%)

Pain at end ROM

AROM similar to PROM (5-10° difference in flexion)

Low Irritability

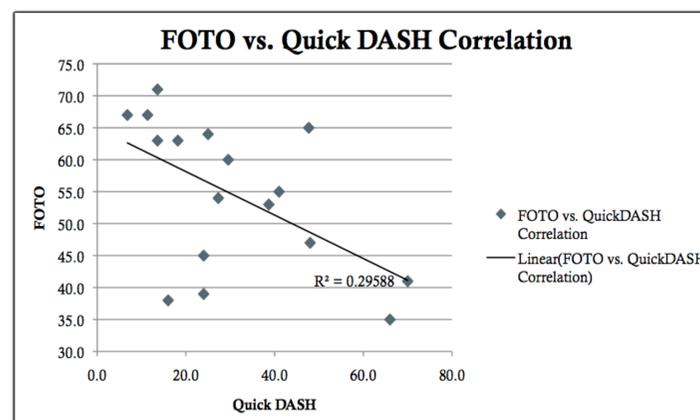
0-3/10 average pain over the last 24 hours

No resting or night pain

Low disability on FOTO (Severity Score = low) OR on QuickDASH (score <34%)

Minimal pain at end ROM with overpressure

AROM same as PROM (<5° difference in flexion)



Statistical Analysis

- Descriptive statistics were used to describe the characteristics of the subjects.
- Frequencies were utilized for categorical variables and medians with standard deviations for continuous variables
- Inter-rater reliability evaluated using the KAPPA statistic.

Results

- **18 subjects** included (25 recruited, 7 excluded)
- Mean age = 62.5 years
- Mean acuity = symptoms >6 months (per FOTO classification)

INTER-RATER RELIABILITY (Kappa)

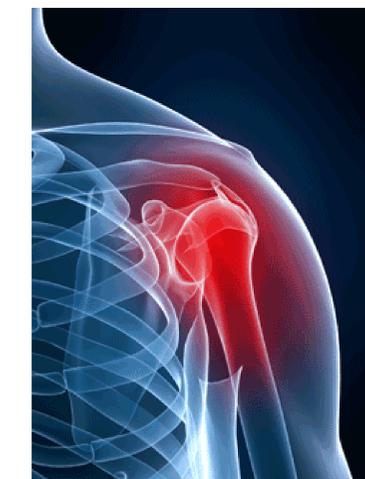
- Irritability levels = **HIGH (92.3% agreement)**
- FOTO = **HIGH (>91.6% agreement)**
- Quick DASH = **HIGH (92.3% agreement)**
- Agreement between FOTO & Quick DASH = **70% agreement**

INTRA-RATER RELIABILITY

- Rules as written: kappa = 0.92 (**93% agreement**)
- Best judgment: kappa = 0.88 (**89% agreement**)

Limitations

- Limited to symptoms originating from shoulder region
- Geographic representation
- Convenience sample
- Demographics of patients
- Observation bias
- Overlap between categories
 - FOTO & Quick DASH
 - Pain assessment during ROM measurements
- Training
- Duration of data collection
- Sample size



http://www.medscape.com/viewarticle/734006

References

1. van der Windt DA, Koes BW, de Jong BA, Bouter LM. Shoulder disorders in general practice: incidence, patient characteristics, and management. *Ann Rheum Dis.* Dec 1995;54(12):959-964.
2. Spoto MM, Collins J. Physiotherapy diagnosis in clinical practice: a survey of orthopaedic certified specialists in the USA. *Physiother Res Int.* Mar 2008;13(1):31-41.
3. Yang JL, Chang CW, Chen SY, Lin JJ. Shoulder kinematic features using arm elevation and rotation tests for classifying patients with frozen shoulder syndrome who respond to physical therapy. *Man Ther.* Dec 2008;13(6):544-551.
4. Meister K, Andrews JR. Classification and treatment of rotator cuff injuries in the overhand athlete. *J Orthop Sports Phys Ther.* Aug 1993;18(2):413-421.
5. Carter T, Hall H, McIntosh G, Murphy J, MacDougall J, Boyle C. Intertester reliability of a classification system for shoulder pain. *Physiotherapy.* Mar 2012;98(1):40-46.
6. Kelley MJ, McClure PW, Leggin BG. Frozen shoulder: evidence and a proposed model guiding rehabilitation. *J Orthop Sports Phys Ther.* Feb 2009;39(2):135-148.