

An Evaluation of the Responsiveness and Discriminant Validity of Shoulder Questionnaires among Patients Receiving Surgical Correction of Shoulder Instability

Kemp KAR, Sheps DM, Beaupre LA, Styles-Tripp F, Luciak-Corea C, Balyk R (2012)
Scientific World Journal 2012:410125. Epub 2012 May 1.

Introduction

The study focused on trying to evaluate the performance of 3 shoulder questionnaires in patients following surgical repair of their Bankart lesion for chronic posttraumatic shoulder instability.

The 3 outcome measures used were:

- (1) The disease-specific Western Ontario Shoulder instability index (WOSI)
- (2) The shoulder-specific American Shoulder and Elbow Surgeons Standardized Shoulder Assessment form (ACES),
- (3) The shoulder-specific Constant score

Aims & Objectives

The aim was to be able to detect responsiveness (change in the subjects condition over multiple time periods) and discriminant validity (differences in outcomes) among 3 subgroups with recurrent instability postop compared to those with a satisfactory outcome over a two year period.

The 3 subgroups were:

- (a) those with major recurrences of instability (e.g. frank dislocation)
- (b) those with a single episode of subluxation
- (c) those with any recurrence of instability

Methodology

It was a prospective study of 43 subjects with recurrent shoulder instability between 2001 and 2007 who underwent an arthroscopic Bankart repair. They followed a standardized rehabilitation programme, They were given a sling for the first 4-6 weeks. & avoided External rotation and Abduction. They then progressed their ROM & strengthening exercises, completed the above 3 shoulder questionnaires and were examined at 6,12 and 24 months by a Physiotherapist. A statistical analysis was performed to detect if the outcome measures were able to detect significant difference between each subgroup (based on number of episodes of instability) relative to those who had a successful outcome at 2 years.

Results

40 patients were followed for 2 years postoperatively. 3 subjects reported a frank dislocation or multiple episodes of subluxation. 5 others had a single episode of subluxation. 20% of patients(8 out of 40)reported recurring episodes with instability.

Responsiveness: The WOSI detected improvement at 6 and 12 months evaluations but no substantial change between 12 and 24 months.

The ASES was helpful between preoperative stage and 6 months only and the Constant was useful at the 12 month stage only.

Discriminant validity: When the WOSI had a reduction of at least 10 points, it helped detect those with some instability postop, and a reduction of 20 points occurred in subjects with more severe instability.

The ASES could not detect any changes & the Constant score was only able to detect small group differences.

Limitations/Considerations

The study group was small and there was no comparison group.

We do not know why they picked these specific 3 measures, and did not pick others like the 'Shoulder instability Questionnaire' (SIQ).

They hypothesized initially that the WOSI would be the best questionnaire in the study. There is some lack of data re validity & responsiveness of WOSI (Angst), but its reliability is good & recommended in Angst paper as best tool for shoulder instability.

According to www.shoulderdoc, "The Constant Score is not effective in the evaluation of shoulder instability and has not been validated for assessing improvements in shoulder function after treatments"

The ACES was developed for shoulder disorders in general (Bot) so we're not told why they thought it was appropriate for this population?

Previous literature reports rates of any instability recurrence as between 10 and 20% whereas this study reported instability at 20%.

Conclusions

All 3 Questionnaires could be called responsive instruments but the WOSI was the most appropriate subjective questionnaire for detecting postoperative functional change over time & between the subgroups.