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PROMIS CAT Forms Demonstrate Responsiveness in Patients Following Reverse Total Arthroplasty Across Numerous Health Domains

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reviewed. No patient had any sign of osteoarthritis at the index radiograph. After a mean of 20 (18-22) years, 30 of these patients, with 32 shoulder images were possible to re-examine bilaterally with anteroposterior radiographs under fluoroscopic control to obtain true frontal views. Bilateral ultrasound examination of the rotator cuff was also performed. There were 19 men with 20 shoulders and 11 females with 12 shoulders.

Results: Mean age at follow-up was 56 (32-78) years. The mean difference in CSA was -1,24 (-5,5-3) degrees and the mean AI difference was -0,04 (-0,01-0,09) between the first and the second radiographs, 20 years later. Mean difference was 0,68 degrees in CSA between the study shoulder and the contralateral shoulder, AI was 0,61 bilaterally at follow-up. There was no correlation between the CSA (r=0,02, p=0,9) or AI (r=-0,13, p=0,47) in the primary radiographs and osteoarthritis according to Samilson and Prieto at follow-up. Nor could any correlation be found between index CSA (r=0,12, p=0,52) or AI (r= -0,13, p=0,47) and the presence of rotator cuff tears at follow-up.

Conclusions: In this study, with strict measuring criteria, no correlation between the CSA, AI and development of glenohumeral osteoarthritis or rotator cuff tears could be found. The mean CSA and AI, decreased over a 20 year period but the difference was very small and the CSA varied less than 1 degree between the study shoulder and the contralateral shoulder. Altogether these findings question previously reported etiological associations between scapular anatomy and OA or rotator cuff disease. Keywords: Shoulder, critical shoulder angle, acromion index, long-term follow-up

#319 EXPLORING EXPERT VARIABILITY IN DEFINING PSEUDOPARALYSIS: AN INTERNATIONAL SURVEY

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Aim: The purpose of this study was to evaluate the level of agreement among shoulder surgeons in defining and applying the term pseudoparalysis of the shoulder when presented with the same set of videos of patients performing active range of motion. We hypothesized that inter-rater agreement for classifying patients as pseudoparalytic would be poor.

Background: There is disagreement among expert shoulder surgeons when defining the term 'pseudoparalysis'. Multiple surgical approaches to address pseudoparalysis have been investigated, however many studies have recruited heterogeneous patient populations, making it difficult to compare outcomes. To our knowledge, no previous study has surveyed international experts regarding how to define pseudoparalysis using a questionnaire and video-based patient assessment.

Methods: Members of the American Shoulder and Elbow Surgeons (ASES), the European Society for Surgery of the Shoulder and Elbow (ESSSE/SECEC) and our national shoulder and elbow society were surveyed on two occasions using an electronic questionnaire. Surgeons were asked to identify their preferred definition for pseudoparalysis from one of four options. Surgeons then viewed videos of the same 10 patients and labeled them as pseudoparalytic or not. Inter- and intra-rater reliability were calculated as κ coefficients. Pearson chi-squared (X2) was used to detect associations between preferred definition and demographic information. Thematic analysis was performed on open text definitions.

Results: 246 surgeons responded to at least one survey. Overall inter-rater agreement on classifying patients as pseudoparalytic based on video consultation was $\kappa = 0.59$(95% CI, 0.58–0.60). 56.1% of surgeons chose the same verbal definition of pseudoparalysis. Intra-rater reliability for preferred definition was $\kappa = 0.64$(95% CI, 0.48–0.81), indicating a suprising lack of consistency on conceptual definition. Intra-rater reliability for classifying patients as pseudoparalytic was better, $\kappa = 0.78$(95% CI, 0.72 – 0.83). An association was observed between how surgeons defined pseudoparalysis and their age (p=0.03) and shoulder caseload percentage (p=0.04). Thematic analysis of custom definitions identified four major themes.

Conclusions: Shoulder surgeons do not agree on how best to define pseudoparalysis. However, inter-rater agreement based on video consultation was moderate overall, which was somewhat better than expected. Intra-rater agreement was less frequent when selecting a preferred definition compared to classifying patients as pseudoparalytic based on video. Surgeons may rely less on explicit criteria and more on a conceptual framework when assigning a pseudoparalytic label. Care should be taken with use of the term pseudoparalysis in clinical outcome studies when there is clearly a lack of consensus among experts on defining this term.

#322 PROMIS CAT FORMS DEMONSTRATE RESPONSIVENESS IN PATIENTS FOLLOWING REVERSE TOTAL ARTHROPLASTY ACROSS NUMEROUS HEALTH DOMAINS

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Aim: The purpose of this study was to investigate the responsiveness of three PROMIS CAT domains in patients undergoing reverse shoulder arthroplasty.

Background: To better optimize the administration and postoperative tracking of patients using PROM, the Patient-Reported Outcomes Measurement Information System (PROMIS) was established by the National Institutes of Health. PROMIS CAT domains have been since validated in multiple orthopedic interventions of the shoulder, however, no one to date has studied the responsiveness of PROMIS CAT domains in a cohort of patients undergoing reverse shoulder arthroplasty.

Methods: Patients undergoing reverse shoulder arthroplasty by a board-certified shoulder and elbow surgeon were included in this study. PROMIS CAT Upper Extremity Physical Function ("PROMIS-UE"), Pain Interference ("PROMIS-PI"), and Depression ("PROMIS-D") scores were collected preoperatively and at five postoperative timepoints. Patient-centric demographic factors, range of motion, and clinical characteristics were also reviewed and analyzed for association with PROMIS scores.

Results: 104 patients undergoing primary reverse shoulder arthroplasty were included in this study. The patient cohort consisted of 52 males (50.0%), an average age of 70.3 years (standard deviation, 11.2), and a BMI of 30.2 (standard deviation, 6.1). All three PROMIS domains showed significant improvement as early as 6 weeks after surgery, with values of 32.4 $\pm$ 6.6, 56.2 $\pm$ 7.5, and 44.6 $\pm$ 8.6, for PROMIS-UE, PROMIS-PI, and PROMIS-D, respectively. Significant improvements were noted for each postoperative timepoint thereafter, with 1-year follow up values as follows: 42.1 $\pm$ 8.7, 52.5 $\pm$ 8.6, and 43.6 $\pm$ 9.5 for PROMIS-UE, PROMIS-PI, and PROMIS-D, respectively. Moderate correlations were identified with postoperative PROMIS-UE and abduction (r=0.439, p<0.01), as well as postoperative PROMIS-PI and PROMIS-D (r=0.502, p<0.01).

Conclusions: PROMIS CAT forms demonstrate responsiveness in patients undergoing reverse shoulder arthroplasty.

#324 ROLE OF PREOPERATIVE PROMIS SCORES IN PREDICTING POSTOPERATIVE OUTCOMES AND LIKELIHOOD OF ACHIEVING MCID FOLLOWING REVERSE SHOULDER ARTHROPLASTY

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Aim: The purpose of this study was to investigate the influence of preoperative PROMIS scores in predicting postoperative PROMIS