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## Comparison of Patient Reported Outcomes using PROMIS in Patients with Shoulder Pain

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**Objectives:** Compare a disease specific questionnaire (American Shoulder and Elbow Surgeons [ASES]) and a multidimensional global health scale (Patient reported outcome measurement system [PROMIS]) across a variety of shoulder conditions.

**Methods:** The ASES (Pain subscore, Function subscore, and total score) and PROMIS Physical Function (PF), Pain Interference (PI), and Depression Computer Adaptive Tests (CATs) were collected on all clinic visits for two high volume shoulder surgeons over a 12-week period between 1/26/16 and 4/20/16. Data included all (n=123) records for new patient visits of patients over 18 years old for shoulder diagnoses of Impingement (M75.41, n=50), Pain (M25.11, n=30), Rotator Cuff Tear (M75.10, M75.12; n=12), Arthropathy (M12.9, n=12), Instability (M75.02, n=6), Adhesive Capsulitis (M75.02, n=4), and miscellaneous (n=9). Excluding diagnoses with small samples (n<10) Two way ANOVA's (Diagnosis by Outcome Measure Domains) with age and gender as covariates were used to determine if specific diagnoses presented with different initial severity of pain, function, or depression. This was followed by univariate analysis to determine the associations between the disease specific ASES scores and non disease specific PROMIS domains. Correlations of r>0.7 were considered strong correlation, r>0.5 moderate, and <0.5 poor. All analyses were carried out using ***SPSS***® version *22 (copyright 2013).*

**Results:** Two way ANOVA's demonstrated no significant differences of ASES or PROMIS scores across diagnoses, suggesting similar levels of pain, function and depression across diagnoses. PROMIS PF was moderately associated with ASES Function (r=0.61, p<0.01), and ASES Total (r=0.59, p<0.01). PROMIS PI was strongly correlated to ASES Function (r=-0.71, p<0.01) and ASES Total (r=-0.74, p<0.01) as well as moderately correlated to ASES Pain (r=-0.56, P<0.01). ASES Pain had poor correlation to ASES Function (r=0.45, p<0.01). PROMIS Depression had poor correlation to all ASES domains.

**Conclusion:** The non-disease specific PROMIS PF and PI demonstrated the ability to determine disease severity across shoulder diagnosis equal to an accepted disease specific scale (ASES). Furthermore, PROMIS PI had a stronger correlation to ASES Function than either PROMIS PF or the ASES Pain subscore and may more accurately describe the true affect of pain on a patient's daily life. This data shows the potential for the universally available and emerging PROMIS instrument to track shoulder problems similar to a prior established disease specific instrument.

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