

Comparison of PROMIS to Legacy Patient-Reported Outcome Scores in Upper Extremity Trauma

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Purpose: The objective of this study was to compare the Patient Reported Outcomes Measurement Information System (PROMIS) to legacy PRO scores in patients following surgery for upper extremity fractures in terms of correlation as well as floor and ceiling effects.

Methods: Patients who underwent open reduction and internal fixation of the distal radius, elbow, humeral shaft, proximal humerus, and clavicle fractures between 2015 and 2016 were enrolled in the study. At follow-up appointments, patients were asked to first complete the visual analog scale (VAS) for pain, the Disabilities of the Arm, Shoulder and Hand (DASH), and the Short Form-36 (SF-36). Upon completion, the participants were then asked to complete PROMIS-Physical Function (PROMIS PF), PROMIS Bank-Pain Interference (PROMIS Pain), and PROMIS Upper Extremity (PROMIS UE). Correlations between the various outcome scores were calculated as well as the amount of floor and ceiling effect for each outcome.

Results: The outcomes scores of 174 patients were analyzed at 263 total time points. The correlation between the PROMIS PF and the legacy physical function outcome scores was high (SF-36 PCS to PROMIS PF rho = 0.70, P <0.001 and DASH to PROMIS PF rho = -0.71, P <0.001). PROMIS UE scores also correlated with the other PF outcome measure scores (SF-36 PCS to PROMIS UE rho = 0.61, P <0.001 and DASH to PROMIS UE rho = -0.76, P <0.001) (Table 1, Fig. 1). Significant ceiling effects were observed using both the DASH and the VAS outcomes, while the PROMIS PF, PROMIS Pain, and PROMIS UE displayed no ceiling effects.

Conclusion: In upper extremity trauma patients, the PROMIS was significantly correlated with legacy outcome scores including the DASH and the SF-36 with less ceiling and floor effects.

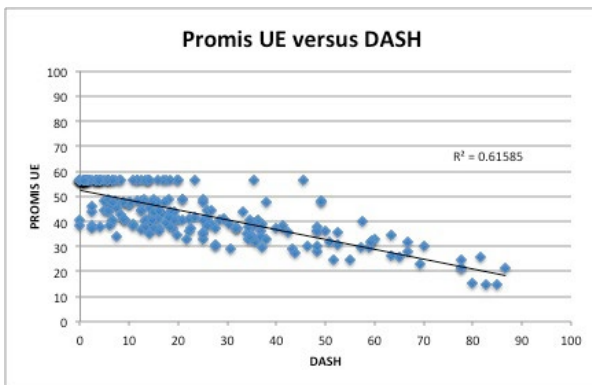


Table 1. Correlations between PROMIS and UE Specific Legacy Outcome Scores

Measures	Correlation (rho)	P	R2	
PROMIS PF CAT-UCLA	0.58	<0.001	0.31	N=74
PROMIS UE CAT-UCLA	0.59	<0.001	0.33	N=74
PROMIS PF CAT-Constant	0.48	<0.001	0.20	N=53
PROMIS UE CAT-Constant	0.46	<0.001	0.20	N=53
PROMIS PF CAT-Mayo	0.33	0.014	0.14	N=56
PROMIS UE CAT-Mayo	0.56	<0.001	0.40	N=56
PROMIS PF CAT-DASH	-0.71	<.001	0.47	N=235
PROMIS UE CAT-DASH	-0.76	<.001	0.62	N=235

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.

PAPER ABSTRACTS