

responsiveness will be assessed by comparisons of change in the expectation survey scores to change in the PRWE and COPM.

Results: In phase 1, 244 expectations were volunteered from which 22 distinct categories were discerned and became the items for the draft survey. In phase 2, the draft survey was completed twice, 3-5 days apart. In phase 3, all 22 items were retained for the final survey. The items addressed pain, mobility, sports, resumption of functional activities, active lifestyle, future function, and psychological well-being. An overall score is calculated from the number of items expected and the amount of improvement expected, and ranges from 0-100; higher represents increased expectations. For phase 2 patients, mean scores for both administrations were 74.5(\pm 17.8, range = 37.5-98.9) and 76(\pm 21.2, range 30.7-100).

Cronbach alpha coefficients were .91 and .93, and the intraclass correlation coefficient between administrations was .85. The range of endorsement for items was 63% (remove need for pain medications) to 100% (relieve pain with tasks and activities; stop wrist condition from getting worse). The range of weighted kappa values was .39 to .96, and for 18 of 22 items the weighted kappa value was $>$.60 Phase 3 results are pending.

Conclusion: We developed a patient-derived survey that is reliable and addresses a spectrum of expectations for patients undergoing degenerative wrist arthritis surgery. The survey is designed to generate an overall score that is easy to calculate and interpret and offers a practical and comprehensive way to record patients' pre-operative expectations.

Defining individual patient expectations and understanding how well different interventional methods achieve those self-defined expectations can lead to customized patient care, where clinician and patient together select the treatment that best meets the specific needs of the patient. Ultimately, information from this tool can be used to define and align expectations, choose the right treatment for the patient, and measure post-operatively how closely expectations have been met.

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The Impact of Mental Health and Pain on Patient-Reported Physical Function in Traumatic Versus Non-Traumatic Upper Extremity Conditions

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Purpose: Individuals with orthopedic conditions are at greater risk for experiencing depression, anxiety, and pain that interferes with functional ability. However, it is not clear how these factors may influence the effect of upper extremity musculoskeletal conditions on a patient's perceived function over the course of treatment. This study was conducted to determine if the effects of mental health and pain factors on perceived function differed between patients presenting with traumatic and non-traumatic upper extremity conditions.

Methods: This case-control study analyzed retrospective data from orthopedic patients presenting to a tertiary hand center between April 2016 and November 2017. Patients 18 years of age and older completed self-administered PROMIS Anxiety, Depression, Pain Interference, and Physical Function computer adaptive tests at each visit. Patients were assigned to non-traumatic condition if diagnosed with ICD-10 codes for Carpal Tunnel Syndrome, Cubital Tunnel Syndrome, DeQuervain's Tenosynovitis, or Trapeziometacarpal Arthritis. Patients were assigned to traumatic

injury if diagnosed with Distal Radius Fracture, Metacarpal or Phalanx Fracture. We examined Pearson correlation between all PROMIS measures. Multivariable linear regression models showed the effect of PROMIS depression, anxiety, and pain interference scores at initial visit to PROMIS physical function scores at initial and follow-up visits, accounting for age, sex, race, and socioeconomic deprivation index (SDI).

Results: The 3,524 patients were predominantly Caucasian (82.4%), female (61.6%), and had an average age of 52.0 (\pm 16.6) years. SDI scores ranged from 0 to 99 and 32.2% had traumatic injuries. PROMIS scores showed high correlation for baseline pain and function ($r = -0.64$) and moderate correlation for anxiety ($r = -0.48$) and for depression ($r = -0.41$) to function. We stratified the data and ran separate models for traumatic and non-traumatic cases.

First we examined baseline mental health and pain scores to the absolute function scores at follow up in multivariable linear regression models adjusting for covariates. Results showed significant relationships between depression, anxiety, and pain to physical function scores at follow up ($p < 0.001$) for each model.

Next we examined baseline mental health and pain interference scores to a change in function scores (from baseline to follow up), separately for traumatic and non-traumatic cases. In traumatic cases, baseline depression was significantly associated with a change in function score (Beta 0.09; $p = 0.04$) but no association with non-traumatic cases (Beta 0.02; $p = 0.88$). Models with PROMIS anxiety significantly predicted functional changes for traumatic (Beta = 0.15; $p < 0.01$) and non-traumatic cases (Beta 0.07, $p = 0.01$). Pain interference showed strong associations in both traumatic (Beta 0.36; $p < 0.01$) and non-traumatic (Beta 0.22 $p < 0.01$) models.

Finally, we examined models to assess whether high levels of depression, anxiety, or pain interference were associated with functional change scores. Mental health predictors were dichotomized at clinical threshold scores (depression 59.9; anxiety 60.2) and pain interference at 1 standard deviation above the mean (pain 60.0) and entered in separate models to predict functional change scores. Results showed high levels of depression was not associated with function in traumatic nor non-traumatic cases. High pain was strongly associated with a change in function scores (2.2 points in non-traumatic, 5.3 points in traumatic cases). High levels of anxiety was not associated with functional change among non-traumatic cases ($p = 0.11$). In the traumatic model, high anxiety scores were associated with a functional change of 2.7 points ($p = 0.009$), in addition to changes from high pain interference of 4.7 points ($p < 0.001$).

Conclusion: Baseline depression, anxiety, and pain scores are associated with change in function, primarily driven by pain with greater effects in traumatic cases. Depression had no effect on non-traumatic cases. High levels of pain and anxiety were directly associated with large changes in function in traumatic cases, with lesser changes in non-traumatic cases. These findings suggest that there is therapeutic value to addressing and making efforts to reduce reported symptoms of anxiety. Anxiety symptoms may stem from pain, fear of surgery, inability to perform essential occupations, or from a lack of understanding the recovery timeline and expected functional outcomes. Therapists can use anxiety reducing techniques to promote empathetic care, to educate patients on physical and functional expectations, and to best prepare patients for stressful experiences. The PROMIS measures may be used to assess patient mental health and functional status periodically during the rehab process and to provide insight into factors affecting functional recovery of the patient.