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## Patient-reported outcome measures should guide need for specialty referral in atraumatic shoulder and knee pain

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## **Patient-reported outcome measures should guide need for specialty referral in atraumatic shoulder and knee pain**

### **Introduction:**

Patient-Reported Outcome Measurement Information System (PROMIS) questionnaires have proven utility as an augment to monitoring clinical outcomes in an orthopedic setting. However, there is minimal information regarding the use of PROMIS questionnaires as a screening tool for referrals to specialty providers. The purpose of this study was to evaluate the relationship between PROMIS scores and the level of care and treatment provided by all providers across an orthopedic sports medicine department.

### **Methods:**

500 randomized charts were reviewed between January 1, 2023 and May 31, 2023. All patients 40 years or older who presented to any orthopedic provider within the sports medicine department for atraumatic shoulder or knee pain met inclusion criteria. Data collected included general demographic information, PROMIS, treatment plan at the initial clinic visit, and ICD-10 codes from that same visit. Statistical analysis was performed, first descriptively, and then using paired Student's t-tests to evaluate the relationship between PROMIS scores and the recommended treatment.

### **Results:**

341 patients met inclusion criteria. The average age of the cohort was 60.30. There were 145 patients who presented for shoulder concerns and 196 who presented for knee concerns. Average PROMIS physical function (PROMIS-PF) score was 40.99, average PROMIS upper extremity (PROMIS-UE) 36.54, and average PROMIS pain interference (PROMIS-PI) 61.12. Providers recommended conservative treatment for 251 patients. Additional work-up was recommended for 215 patients – 115 received an injection, 165 had advanced imaging ordered, only 10 were indicated for surgery, and 19 were referred to a different subspecialty. The most common ICD-10 codes for patients presenting with knee concerns were diagnosis codes for primary knee osteoarthritis. The most common ICD-10 codes for patients presenting with shoulder concerns were more variable. When comparing those who were recommended conservative management only with those who required additional work-up or more invasive treatment, PROMIS-PF ( $p < 0.001$ ), PROMIS-UE ( $p = 0.013$ ), and PROMIS-PI ( $p = 0.002$ ) were all found to be significantly associated.

### **Discussion:**

In patients with atraumatic shoulder and knee pain, PROMIS scores are a useful prediction of management, with PROMIS scores indicating greater disability predicting the likelihood of further diagnostic work-up or more invasive treatment recommendations. PROMIS scores should be considered when ordering a referral for patients with atraumatic shoulder or knee pain to prevent unnecessary specialty service appointments which can be costly for both the patient and the health system.