



# Research Week 2021

## Patient-Reported Outcomes Measurement Information System (PROMIS) Use in Orthopaedic Surgery: A Scoping Review

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### Keywords

PROMIS, Patient-Reported Outcomes, Orthopaedic Surgery, Orthopaedics

### Abstract

#### Background

A crucial component to improving patient care is better clinician understanding of patients' health-related quality of life (HRQOL). In orthopaedic surgery, HRQOL assessment instruments such as the NIH developed Patient Reported Outcomes Measurement Information System (PROMIS), provide surgeons with a framework to assess how a treatment or medical condition is affecting each patient's HRQOL. PROMIS has been demonstrated as a valuable instrument in many diseases; however, the extent to which orthopaedic surgery subspecialties have used and validated PROMIS measures in peer-reviewed research is unclear.

#### Methods

Systematic scoping methodology was used to investigate the characteristics of studies using PROMIS to assess HRQOL measures as orthopaedic surgical outcomes as well as studies validating computer adaptive test (CAT) PROMIS physical health (PH) domains including: Physical Function (PF), Upper Extremity (UE), Lower Extremity (LE).

#### Results

A systematic search of PubMed identified 391 publications utilizing PROMIS in orthopaedics; 153 (39%) were PROMIS PH CAT validation publications. One-hundred publications were in Hand and Upper Extremity, 69 in Spine, 44 in Adult Reconstruction, 43 in Foot and Ankle, 43 in Sports, 37 in Trauma, 31 in General orthopaedics, and 24 in Tumor. From 2011 through 2020 there was an upward trend in orthopaedic PROMIS publications each year (range, 1-153) and an increase in studies investigating or utilizing PROMIS PH CAT domains (range, 1-105). Eighty-five percent (n=130) of orthopaedic surgery PROMIS PH CAT validation publications (n=153) analyzed PF; 30% (n=46) analyzed UE; 3% (n=4) analyzed LE.

## Conclusions

PROMIS utilization has significantly increased within the past decade, particularly within PROMIS CAT domains. The existing literature reviewed in this scoping study demonstrates that PROMIS PH CAT domains (PF, UE, and LE) are reliable, responsive, and valid for the care of patients in all orthopaedic surgery subspecialties. The expanded use of PROMIS CATs in orthopaedic surgery highlights the potential for improved quality of patient care.