

**Opioid Understanding Is Linked to Health Literacy in Orthopaedic Trauma**

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**Purpose:** Prescription opioid analgesia plays a critical role in acute orthopaedic trauma. Yet, there is no current standard for assessing patients' understanding about opioid medication to curb related risks. This study evaluates the validity of a novel opioid literacy tool (OLT) to identify at-risk orthopaedic trauma patients in need of targeted education.

**Methods:** In this subgroup analysis of an on-going randomized controlled trial (NCT04154384), participants admitted to a Level I trauma center for surgical treatment of an isolated traumatic orthopaedic injury were asked to complete the OLT, a brief 7-item self-administered survey, that evaluates (1) Knowledge (scored 0-10), (2) Self-awareness (scored yes/no), and (3) Attitude towards opioids and related risks (scored 0-10). All participants were taking opioids during hospitalization. Participants also completed the validated Opioid Risk Tool (ORT) and health literacy tool (Short Assessment of Health Literacy-English [SAHL-E]). Demographics were collected from participants' health records. Correlation coefficients ( $r$ ) and multivariable regression analyses (odds ratio [OR]) were performed to assess concurrent validity of the OLT with the SAHL-E.

**Results:** Among 136 participants (66.2% Black, 50.7% male,  $42.7 \pm 15.2$  years), 38.2% were at high risk for opioid misuse (ORT  $\geq 3$ ) and 26.5% had poor health literacy (SAHL-E  $\leq 14$ ). All OLT subcategories showed significant positive associations with SAHL-E scores (Knowledge:  $r = 0.36$ ,  $P < 0.001$ ; Self-awareness: OR = 2.66, confidence interval [CI]: 1.14-6.23; Attitude:  $r = 0.35$ ,  $P = 0.024$ ), demonstrating that patients with poor health literacy also reported having poor opioid understanding. OLT scores showed no significant association with ORT scores; however, 35.6% of participants without opioid knowledge were at high risk for opioid misuse (ORT  $\geq 3$ ).

**Conclusion:** Findings confirm concurrent validity of our OLT with the SAHL-E in the orthopaedic trauma setting. Furthermore, these data demonstrate that poor opioid literacy is not associated with traditional opioid risk assessments (eg, ORT) and ought to be considered as a separate, compounding entity in opioid-related risk stratification.