

**Two Years Following Lower Extremity Fracture, Low Pain Self-Efficacy Identified Within 6 Weeks Is Associated With Poor Physical Function and Return to Work**

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**Purpose:** We sought to determine if early psychosocial screening and other patient factors predict return to work (RTW) and self-reported physical function 24 months after lower extremity fracture (LEF) requiring surgical fixation. We hypothesized that pain self-efficacy at 6 and 3 months would be associated with physical function and RTW activity.

**Methods:** 177 patients ( $41.9 \pm 14.5$  years) with LEF requiring surgical fixation were recruited from a Level I trauma center in an observational cohort. Six weeks and 3 months after surgical fixation, patients completed the Pain Catastrophizing Scale (PCS), Pain Self-Efficacy (PSE), and Patient-Reported Outcomes Measurement Information System (PROMIS) questionnaires. At 24 months, participants completed the PROMIS Physical Function and Cincinnati Occupational Rating Scale (CORS), a functional assessment of ability to engage in physical labor. Linear regression analyses were completed for each outcome, including body mass index (BMI), age, gender, smoking, ISS, depression, pain self-efficacy, and pain catastrophizing.

**Results:** 138 subjects (78%) completed this study. Low PSE at 6 weeks ( $b = 0.357$ ,  $P = 0.001$ ) and 3 months ( $b = 0.355$ ,  $P = 0.002$ ) were associated with decreased CORS at 24 months. An elevated BMI at any point was associated with decreased CORS at 24 months (6 weeks:  $b = -0.683$ ,  $P < 0.001$ , 3 months:  $b = -0.732$ ,  $P < 0.001$ ). Low PSE at 6 weeks and 3 months was associated with decreased physical function at 24 months (6 weeks:  $b = 0.243$ ,  $P < 0.001$ , 3 months:  $b = 0.354$ ,  $P < 0.001$ ). Elevated BMI at any point was associated with decreased physical function at 24 months (6 weeks:  $b = -0.336$ ,  $P < 0.001$ , 3 months:  $b = -0.318$ ,  $P < 0.001$ ). A low PSE ( $< 40$ ) at 3 months accounted for 16.8% worse physical function and 31.5% worse CORS at 24 months (t-value: 8.41,  $P < 0.001$ ; t-value: 12.39,  $P < 0.001$ ). Similarly, obesity (BMI  $\geq 30$ ) accounted for 11.4% worse physical function and 38.5% worse CORS at 24 months (t-value: 5.64,  $P < 0.001$ ; t-value: 16.21,  $P < 0.001$ ). Other factors were not associated with poor physical function or RTW status.

**Conclusion:** Low pain self-efficacy and higher BMI identified early in the postoperative period were associated with decreased physical function and ability to return to preinjury work at 2 years. Patients exhibiting these features could potentially receive targeted interventions early in their recovery to improve outcome.