

**Ankle Fractures: What Role Does Insurance Play in Postoperative Recovery?**

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**Purpose:** Ankle fractures are common injuries that occur across a wide variety of patients. Therefore, exploration of determinants of patient outcomes holds great clinical significance. This study aims to explore any relationship that may exist between a patient's level of insurance and factors affecting their postsurgical course and outcomes.

**Methods:** A retrospective analysis was performed from January 2013 to January 2015 in all patients who had operatively treated ankle fractures (OTA 44A-C). Patients were separated into 2 groups, insured and under/uninsured patients. Medical records from all patients were evaluated to determine the amount of narcotic refills and compliance with follow-up visits. Additionally, patient outcomes were tracked via prospectively collected VAS (visual analog scale) pain scores and PROMIS (Patient Reported Outcomes Measurement Information System) scores. Perioperative complications, including revision surgery, were also evaluated. Data were compared between the two groups using statistical analysis. Statistical significance was determined as  $P < 0.05$ .

**Results:** A total of 150 patients met criteria for evaluation. 34 patients were noted to be under/uninsured (23%) and the remaining 116 (77%) were insured. No significant difference was noted between the groups in terms of age, fracture pattern, syndesmotic injury, or medical comorbidities. The underinsured group was found to have a significantly higher mean postoperative narcotic requirement, 2.6 refills, than the fully insured group, 1.2 refills ( $P < 0.01$ ). Missed appointments were also significantly higher in the underinsured group (average 1 visit) versus the insured group (average 0.2 visits,  $P < 0.01$ ). Both groups had a similar number of postoperative office visits, with the fully insured group visiting more often (6.4 and 6.3, respectively). VAS pain scores were higher for the underinsured at 1 year out from surgery (3.2) versus the fully insured (1.4,  $P < 0.01$ ). Analysis of PROMIS (National Institutes of Health [NIH]) data demonstrates that in categories of function, pain, and mood, the underinsured group performed significantly worse than the insured group. Mean function scores were  $37.6 \pm 6.2$  in the underinsured, versus  $43.9 \pm 8.7$  in the fully insured indicating worse function in the underinsured ( $P < 0.01$ ). Mean pain scores in the underinsured and fully insured groups were  $59.6 \pm 10.1$  and  $54.3 \pm 9.2$ , respectively ( $P = 0.03$ ). Mood scores were an average of  $55.2 \pm 12.4$  in the underinsured group, with  $47.4 \pm 10.5$  in the fully insured group, with higher scores indicating worse depressive mood symptoms ( $P < 0.01$ ). Average body mass index was also significantly different between the groups (34.9 underinsured, 30.0 fully insured,  $P < 0.01$ ). Postoperative complication and repeat surgery rates were similar across the groups, with  $P = 0.90$ .

**Conclusion:** Despite similar patient demographics and fracture characteristics, there were significant differences in insured versus under/uninsured patients. Underinsured patients

had significantly higher narcotic usage with worse pain and PROMIS score outcomes. There was a higher rate of missed appointments in the underinsured, with a similar number of follow-up visits meaning costly increased rescheduling requirements. Further understanding of the psychosocial factors of this subset of patients is needed to identify means and potentially improve outcomes in operatively treated ankle fractures.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.