

Does Gastric Bypass Surgery Increase the Risk of Complications for Fracture ORIF?*Brett D. Crist, MD; Conor Alan Smith, BS**University of Missouri, Columbia, MO, United States*

Purpose: Our objective was to determine the rate of complications in patients' status after gastric bypass surgery who undergo fracture open reduction and internal fixation (ORIF). We hypothesize that these patients will have a higher risk of complications due to their relative malnutrition.

Methods: After IRB approval, 30 patients were identified who had previous gastric bypass surgery and subsequently had ORIF of a fracture. Retrospective chart review including date of gastric bypass, body mass index (BMI) at time of gastric bypass, type of fracture and mechanism of injury (high vs low-energy), date of fracture, BMI at time of fracture, and presence of comorbidities-nicotine and nonsteroidal anti-inflammatory drug (NSAID) use, and immunotherapy. End points included any unplanned surgery related to their fracture-infection, nonunion, etc.

Results: Patients' average age at the time of fracture was 49 years with an average BMI of 30.66 kg/m². At the time of fracture, the average BMI decrease after gastric bypass was 15.1 kg/m². The average time between gastric bypass and fracture was 1461 days. Type II diabetes was noted in 33.3% of patients (10/30). Fractures sustained included distal radius fractures 30% (9/30), and ulnar, tibia/fibula, and femur fractures at 13.33% (4/30) each. Fall from standing was the most common mechanism of injury-55.2% (16/30), followed by MVC (motor vehicle collision) at 27.6% (8/30). Seven patients (23%) experienced complications requiring operative management including nonunion (4/30, 13.3%), secondary fractures (2/30, 6.67%), and deep infection (1/30, 3.3%).

Conclusion: Our anecdotal experience made it seem like gastric bypass patients had a much higher complication rate after fracture ORIF than the average patient. Our review revealed that although these patients were on average less than 50 years old, their injuries were more consistent with osteoporotic patients-ie, mechanism of injury and distal radius fractures. Furthermore, all of the complication rates exceeded those expected for non-gastric bypass patients-infection, nonunion, and secondary fractures. This study adds to the available literature that can be discussed with patients preoperatively regarding their risks with fracture surgery.