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Recovery Time following Operative Versus Nonoperative Humeral Shaft Fracture Treatment

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INTRODUCTION: Humeral shaft fractures represent approximately 5% of fractures in the United States. Treatment modalities include nonoperative, and operative with open reduction internal fixation (ORIF) or intramedullary nail (IMN). There is no consensus on which option is best. The purpose of this study was to compare the length of time from fracture care to radiographic union between nonoperative, ORIF, and IMN treatments for humeral shaft fractures.

METHODS: This retrospective study analyzed trends in the management of midshaft humerus fracture between July of 2013 and December of 2020. Fracture characteristics and treatment outcomes were recorded from patients with humeral shaft fractures at a single hospital system. Treatments included ORIF, IMN, or nonoperative treatment. Time of radiographic union was recorded, defined by a bridging callus across three cortices. Statistical analysis was performed.

RESULTS: 111 total patients were included with 40 nonoperative patients, 62 ORIF patients, and 9 IMN patients. The median time from fracture care to radiographic union in nonoperative patients was 30-31 weeks, while the median for operative patients was 26 weeks.

CONCLUSION: Trends in management of midshaft humerus fracture from 2013 to 2020 are largely unknown. In this patient population there was a large range of recovery time in all treatment groups. The trends indicate that operative treatment may be correlated with faster time to radiographic union compared with nonoperative treatment. Comparing recovery duration trends for humeral shaft fractures may provide surgeons with an expectation on time to fracture healing depending on the chosen treatment for their patients.