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Standardizing Care for Zone 1 Fifth Metatarsal Base Fractures at the University of Wisconsin Department of Orthopedics

Introduction:

Zone 1 fifth metatarsal fractures are common foot injuries[1,2]. However, UWSMPH did not have a standardized protocol for treatment. Treatment is typically non-operative and uses a short-leg cast, tall or short walking boot (SWB), or a hard-soled shoe (HSS)[1,3,4,5]. X-rays are routinely obtained during 2 and 6 week follow-up visits, despite the fact that radiographic healing does not typically occur until 7 to 9 weeks after injury[6,7]. This QI study addresses the need for standardized care in these fractures by developing a protocol for triage care and providers to follow.

Methods:

The protocol operated from April 1 to October 1, 2023. The triage protocol recommended use of HSS, or SWB if already dispensed, weightbearing as tolerated, and no follow-up radiographs unless clinically indicated. Provider satisfaction was measured via survey at 4 and 6 months. Patient satisfaction will be measured using provider phone calls at 6 months. Patient demographics, follow-up duration, x-rays, and their indications were analyzed via chart review.

Results:

Thirty-one patients were treated April 1 through August 1, 2023. Patients were seen in the orthopedic clinic on average 8.7 days post patient call. At the first orthopedic visit, 22/31 patients were immobilized in a SWB, 7/31 in a HSS, and 2/31 in a tall cast boot. 3/31 had x-rays taken and 28/31 did not. At the second visit (6 weeks post-injury), 12/16 were put into normal shoes, while the other four transitioned the following week. X-rays were taken for 4/16. No patients requested x-rays or additional appointments after their second visit.

Conclusion:

Our findings supported that at UWSMPH, clinical follow-up at 2 and 6 weeks without x-rays was adequate clinical treatment and followed the expected clinical course of healing. The protocol streamlined triage and reduced x-ray usage, saving $154 per x-ray. No harm emerged from omitting x-rays, validating the protocol's continuation. One limitation was the absence of validated patient satisfaction assessment. However, this could certainly be followed with a formal study on patient satisfaction.