

Do patients prefer optional follow-up for simple upper extremity fractures: A pilot study



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ABSTRACT

Introduction: We aimed to evaluate the results of offering patients optional follow-up for simple upper extremity fractures. Specifically this study tested if there is a difference in (1) upper extremity disability, (2) return to work, and (3) satisfaction with delivered care at 2–6 months after enrollment between patients who choose and do not choose a return visit for an adequately aligned metacarpal, distal radius, or radial head fracture. Additionally we assessed if there was a difference in overall evaluation of the visit at enrollment between those patients and what factors were associated with returning after initially choosing not to schedule a follow-up visit.

Patients and methods: We prospectively enrolled all adult patients ($n=120$) with adequately aligned metacarpal fractures, non- or minimally displaced distal radius fractures, and isolated non- or minimally displaced radial head fractures of whom 82 (68%) were available at 2–6 months after enrollment. Subjects chose to have a scheduled ($n=56$) or optional ($n=64$) return visit. Subsequently, we recorded patient demographics and overall evaluation of the visit. Between two and six months after enrollment we measured QuickDASH, satisfaction with care, and current employment status.

Results: Accounting for potential differences in baseline characteristics by multivariable analysis, return choice was not associated with QuickDASH (β regression coefficient [β] -0.53 , 95% confidence interval [CI] -7.4 to 6.4 , standard error [SE] 3.5 , $P=0.88$), return to work (odds ratio [OR] -1.3 , 95%CI -3.5 to 0.95 , SE 1.1 , $P=0.26$), satisfaction with care (β -0.084 , 95%CI -0.51 to 0.35 , SE 0.22 , $P=0.70$), or overall evaluation of the initial visit (β 0.18 , 95%CI -0.38 to 0.73 , SE 0.28 , $P=0.53$). Of the 64 people choosing optional follow-up, 11 patients returned (17%). The only factor independently associated with returning after initially not choosing to return was greater disability at enrollment (OR 1.05 , 95%CI 1.0050 – 1.098 , SE 0.024 , $P=0.029$).

Conclusions: A majority of patients prefer optional follow-up for simple upper extremity fractures with a good prognosis. Hand surgeons can consider offering patients with low-risk hand fractures an optional second visit. Eliminating unnecessary visits, tests and imaging could lower the cost of care.

Level of evidence: Therapeutic level II.

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Introduction

The cost of medical care in the United States is a strong focus among policy makers and journalists. It is estimated that over \$200 billion is wasted every year in the United States on unnecessary treatment, including overtreatments [1]. Eliminating unnecessary visits, tests and imaging could lower the cost of care. Practice

variation exists among orthopaedic surgeons in the treatment of common fractures [2,3] and the importance of some follow-up visits for some simple fractures with an excellent prognosis with non-operative care is open to question. Several randomized trials comparing casting versus early mobilization of small finger metacarpal neck fractures [4] and minimally displaced distal radius fractures [5–7] showed no detriment among subjects treated for comfort only. A previous study of patients with minimally displaced radial head fractures found that patients who were discharged with instructions and had no additional face-to-face interventions had good outcomes and were highly satisfied [8].

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In our hospital, the current system is that a nonspecialist sees patients with minor fractures in the Emergency Department, splints them and then sends them to a specialist for definitive management. Recently Rymaszewski's group in Glasgow, Scotland, started a "virtual fracture clinic" [9,10]. Several stable, minimal displaced fractures are either discharged directly from the Emergency Department with an information leaflet, or are reviewed virtually and are then discharged or referred to a specialist clinic. In our current practice climate, doctors in the United States might feel that this approach exposes them to unacceptable medicolegal risk. As a first step towards simplifying the care of patients with minor upper extremity fractures, this study was an open label comparison of patients that chose to schedule a return to a hand surgeon a month after initial treatment compared to those that chose to call, email, or return only as needed.

We aimed to evaluate the results of offering patients optional follow-up for simple upper extremity fractures. Our study tested the primary null hypothesis that, accounting for potential differences in baseline characteristics by multivariable analysis, there is no difference in upper extremity disability between patients who chose and did not choose a return visit for an adequately aligned metacarpal, distal radius or radial head fracture at 2–6 months after enrollment. Additionally, we assessed differences in return to work and satisfaction with care delivered at 2–6 months after enrollment, and overall evaluation of the visit at enrollment. We also looked at factors associated with returning after initially choosing not to schedule a follow-up visit.

Materials & methods

Study design

After institutional review board approval, we prospectively enrolled 120 adult patients (≥ 18 years) with adequately aligned metacarpal fractures ($n=63$), non- or minimally displaced distal radius fractures ($n=39$) and isolated non- or minimally displaced radial head fractures ($n=18$) between May 2012 and September 2014. Patients who were non-English speaking or unable to complete enrollment forms were excluded. Patients were enrolled at the end of their visit with the hand surgeon after diagnosis. Informed consent was obtained prior to enrollment. During the study period, four invited patients declined participation.

At the initial visit patients were informed their fracture had a very low probability of displacement and a very low probability that a change in alignment would alter the preference for non-operative treatment. We also discussed the expected time to recovery. Subsequently, patients chose whether or not to schedule a follow-up appointment. Patients with distal radius fractures and metacarpal fractures were provided with a removable splint when choosing not to schedule a follow-up appointment. They were instructed to wear the splint for about 1 month and then gradually wean out of it as pain allowed. Patients choosing to schedule a follow-up visit were given either a removable splint or cast, depending on their preference. Patients with radial head and neck fractures were instructed to move their arm and stretch it to regain motion. They used a sling temporarily for comfort, but no splint. No additional radiographs were taken for any of the fractures.

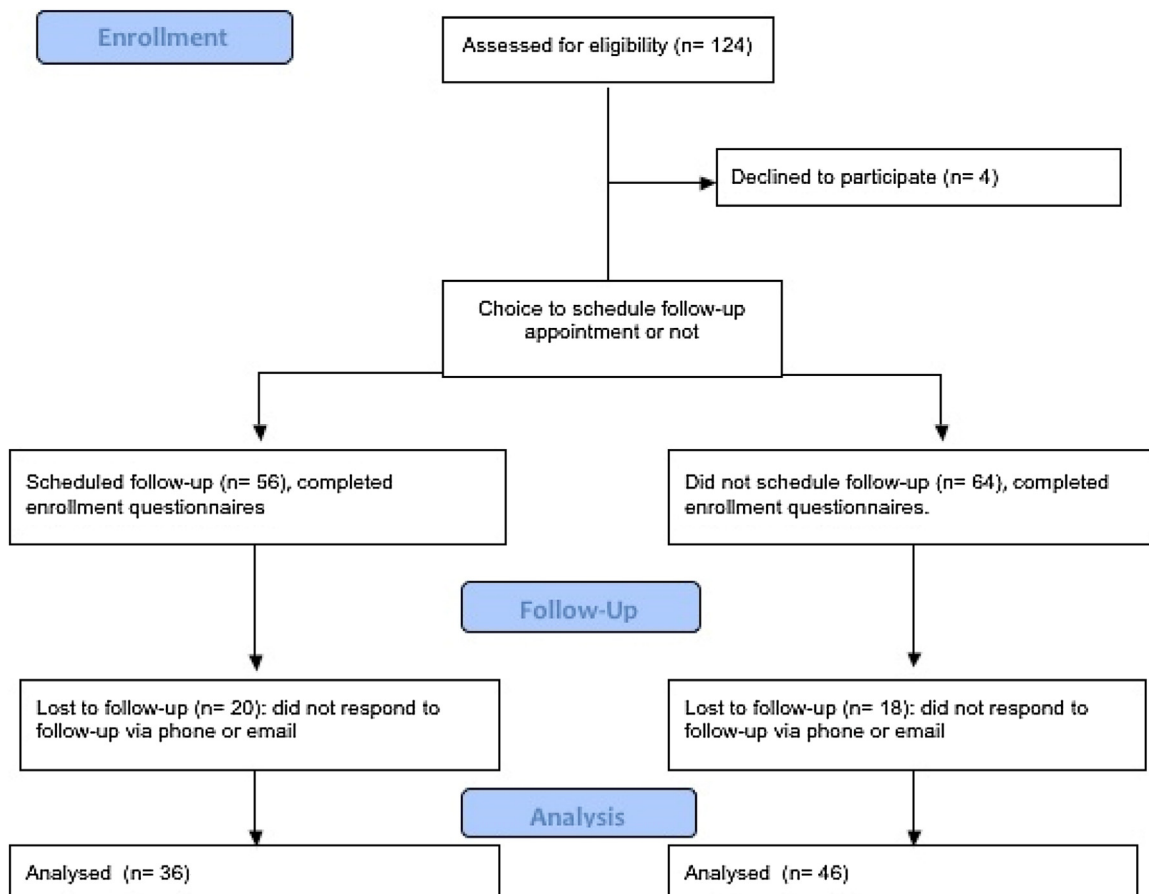


Fig. 1. Flow Diagram of Methods.

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