



Diagnostic Accuracy and Appropriateness of Patients Transferred to a Level 1 Trauma Center for Hand Surgery Evaluation



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Introduction

Regional hospitals are often not equipped to handle complex trauma cases, so they elect to transfer patients to facilities that have these capabilities. In our experience, many significant upper extremity injuries are transferred to our level I trauma center, and many times the diagnosis upon arrival differs from the perceived diagnosis at time of transfer.

We studied the appropriateness of the received transfers and hypothesized that there is no difference in diagnosis at time of transfer from the outside hospital and diagnosis at time of patient arrival to our institution. In addition, we were interested in the number of transfers outside of regular hours, trauma designation of the transferring hospitals and if our hospital was the closest level I trauma center for transfer.

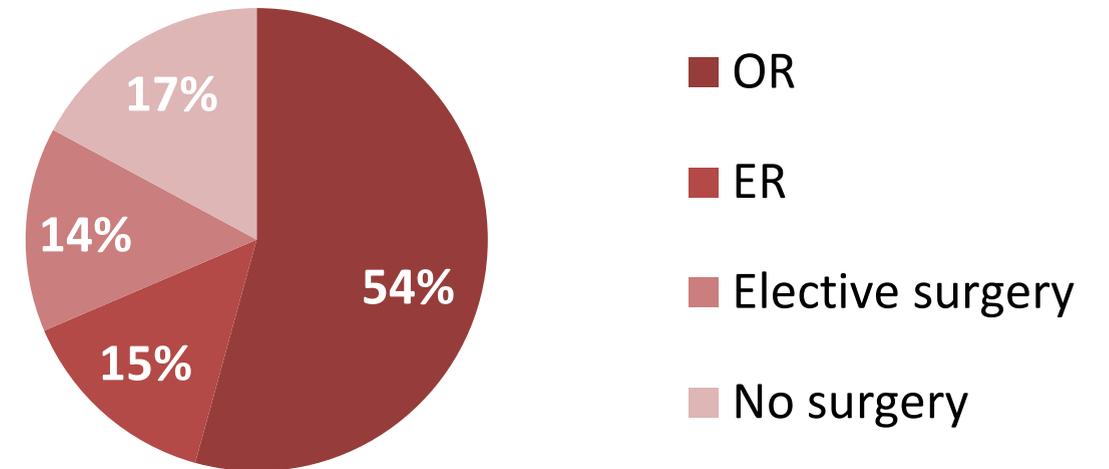
Methods

All adult patients transferred to our level I trauma center for advanced care of hand and upper extremity injuries were included in this study. From August 2016 till February 2017, 3 hand fellows collected patient and injury related information upon acceptance of transfer and arrival at our hospital. Patients transferred to other inpatient services or directly ER to ER without involvement of the hand fellow on call were not included in this study.

Results

We tracked 35 patients in 7 months:

- For non-infection cases, 31% (10/32) had the wrong diagnosis at the time of referral
 - 4/10 injuries were underdiagnosed
 - 6/10 injuries were over diagnosed
- 50% of tendon injuries were appreciated by OSH
- 2/3 cases had an accurate infection diagnosis
- 20/35 transfers occurred either during the evening (6PM-6AM) or during the weekend or a holiday weekday.
- 9/35 transferring hospitals had a closer level 1 trauma center than to the Boston area and 3 patients were directly transferred from a level 1 trauma center.



Conclusion

- One third of patients had a different diagnosis upon arrival at our institution compared with the diagnosis given by the referring outside hospital; slightly more patients were over diagnosed in regards to the severity of the injury.
- More patients transferred after hours and/or during weekends/holidays.
- The majority of patients required surgical intervention, though only 54% of patients were in need of acute operative treatment.
- 26% of the referring hospitals had a level I trauma center located closer which was bypassed to get to our center, mostly transferred due to amputation injuries.
 - Of these, 9% were transferred directly from a level I trauma center. This suggests that regional microsurgery expertise does not correlate with Level I trauma designation, and establishment of designated microsurgery centers and formal referral guidelines may be beneficial for management of these difficult injuries.