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INTRODUCTION

Hand and upper extremity injuries are among the most common presenting problems to emergency departments. Currently, there is no clear consensus as to which consulting service should provide care for these patients with common consultants including general orthopaedic surgeons as well as hand surgeons and orthopaedic trauma surgeons. To better understand how upper extremity injuries in the emergency department (ED) are currently triaged to specialists and to assess the current opinion among hand and orthopaedic trauma specialists as to how these injuries should be best triaged to specialists based on injury location and severity a survey was constructed with the hypothesis that there would be no consensus.

MATERIALS & METHODS

The American Association for Hand Surgery (AAHS) membership and Orthopaedic Trauma Association (OTA) membership were surveyed using an online questionnaire. The questionnaire included 16 demographic questions and 12 clinical scenarios designed to elicit opinion on how upper extremity injuries should be triaged to specialists based on injury location, type, and severity. Confounding injuries in addition to the fracture were also included such as nerve injury, vascular injury, and infection.

TABLE I

ANATOMIC LOCATION	AGREEMENT	ODD'S RATIO	95% CI	P-VALUE
DISTAL HUMERUS	76%	2.93	0.28-8.94	0.596
OLECRANON	76%	4.10	0.47-7.21	0.378
BOTH BONE	59%	13.35	0.88-10.80	0.078
DISTAL RADIUS	41%	14.41	1.54-6.59	0.002
CLAVICLE AND RADIUS	71%	4.52	0.71-5.19	0.195
DISTAL HUMERUS WITH RADIAL N. PALSY	83%	1.45	0.61-2.26	0.631
OLECRANON with SOFT TISSUE COMPROMISE	71%	6.38	0.71-7.05	0.170
FOREARM with RADIAL ARTERY INJURY	61%	4.85	1.04-3.80	0.039
DISTAL RADIUS with ACT	45%	11.43	1.43-5.82	0.003
COMPARTMENT SYNDROME FOREARM	49%	14.53	1.31-7.79	0.011
NECROTIZING FASCIITIS OF FOREARM	48%	9.75	1.35-5.36	0.005

Table 1. All p-values less than 0.05 indicate a statistically significant disagreement with respect to call assignment.

RESULTS

A total of 103 responses from the AAHS and 114 responses from the OTA were received. 22% of respondents report an inadequate number of physicians available in their call pools. Nearly 50% of respondents report no formal anatomic line as to how upper extremity injuries are currently triaged to specialists from the ED. 31% of the AAHS participants stated that hand call should begin at the level of the distal radius, followed by 20% indicating that call should begin at the level of the forearm. 51% of the OTA respondents indicated hand call should begin at the radio-carpal joint followed by 20% indicating call should begin at the carpal-metacarpal joint. There was strong agreement among respondents of both groups that trauma surgeons should be called for injuries at the level of the elbow or more proximally. There was increasing agreement among respondents that complex injuries involving neurovascular compromise be assigned to hand call.

FIGURE I

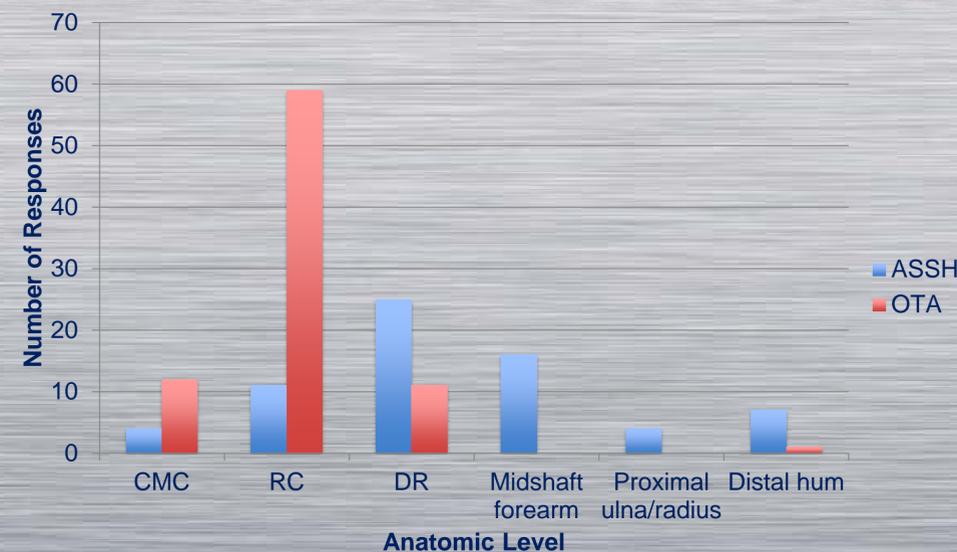


Figure 1. Number of responses to the question "In your opinion, at what anatomic level of the upper extremity should Hand call begin?" by organization at select anatomic levels.

DISCUSSION

There is agreement that proximal to the elbow the trauma consultant should be called and distal to the distal radius the hand consultant should be called. However, there is lack of agreement between members of both the AAHS and OTA who should be responsible for call between the elbow and the hand. In order to optimize patient care, better allocate consultant resources, and minimize conflict between consultants, establishing anatomic guidelines for consultation should be considered while also taking into account available consultant resources and expertise.