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Paper

The Impact of Emergency Nurse Practitioners on Referrals to a Tertiary Hand Trauma Service: A Pilot of Referral Quality Scoring System

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ABSTRACT

Hand injuries account for 2000 referrals to the Northern Ireland plastic surgery trauma service each year. Emergency nurse practitioners are increasingly utilised to assess and manage minor injuries and independently refer patients to the hand trauma service. This paper uses a newly developed scoring system to assess the impact of varying grades of referring practitioner on the quality and appropriateness of referral.

INTRODUCTION

Hand injuries account for 20% of cases treated in accident and emergency departments [1]. Following the introduction of United Kingdom waiting time targets, more A&E departments have instituted emergency nurse practitioners (ENP) in an attempt to target minor injuries [2]. As a result, increasingly, hand injuries are being assessed by ENPs and referred to tertiary hand trauma services. The Royal College of Nursing (RCN) states there is 'a lack of definition of the role of advanced nursing practitioners' but the accepted legal advice is that practitioners must be judged by the standard of the post, not the person filling the post. The pressure on tertiary care emphasizes the need for appropriate referrals, in order to minimize the need for further investigation and subsequent delays in instituting definitive treatment [3].

In Northern Ireland, the majority of hand injuries are referred to the Plastics and Maxillofacial Service based at the Ulster Hospital, Dundonald. The hand trauma service is based on a daily trauma clinic, which manages approximately 2000 patients per year. This is a 'one stop shop' where patients are assessed, prepared for and proceed to theatre, with the aim of reducing the need for in-patient stay. To this end, telephone referrals are received and patients triaged to attend a trauma clinic, usually within 24 hours. Standard advice on the initial management is issued routinely to all grades of referrers, regarding wound dressings, antibiotics and fasting times.

Due to the increasing workload, there is an ever greater reliance on the quality of history taking, examination and initial management undertaken in accident and emergency departments to ensure appropriate referral and efficient use of scarce plastic surgery resources. An efficient referral process relies on 3 components: history, examination and initial management, accurately taken and appropriately recorded; the appropriateness of the referral to an emergency trauma service; and outcome of the trauma clinic episode. The outcome can be objectively recorded, while appropriateness is the subjective opinion of the receiving clinician. However, no audit tool currently exists that allows the quality of hand trauma referral to be objectively graded and used to analyse trends either between groups or over time. It could be presumed that a high quality referral would be deemed appropriate for management in trauma clinic and in the majority of instances lead to an outcome of surgical intervention or follow-up at hand clinic.

This study pilots a method of generating a Hand Injury Quality Referral score, relating this to the appropriateness of the referral and episode outcome, and analyzing trends across the grades of referrers.

METHOD

Data was prospectively collected from 100 patients attending the trauma clinic. This was collected between October and April with 50 consecutive patients in each group to allow time for adequate induction for rotating junior doctors.

Those with severe hand injuries requiring immediate transfer were excluded. All other patients were discussed in advance with the referring practitioner by telephone, given standard advice in accordance to departmental guidelines on initial management and subsequently assessed at the trauma clinic within 24 hours.

The data was collected on a standardised proforma, taking the information from the referral documentation (either a referral letter or A&E 'flimsy') and supplemented with patient questioning if necessary. Data was collected on elements of the history, examination and initial management which combined to generate the Hand Injury Referral Quality score and was calculated by the authors, independent of the receiving surgeon who was blinded to this process. The outcome of the patient episode and appropriateness of the referral as judged by the receiving surgeon was also recorded.

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The details on the Hand Injury Quality Referral score are presented in Table 1, and were calculated by an independent scorer.

Table 1.

Hand Injury Quality Referral Score The maximum score possible is 23. However this can be adjusted for individual injuries and local protocol and allowances for variations in injuries and different practices can be made. For example, a closed injury would be allocated 1 for each of the elements of wound management and antibiotics to allow for direct comparisons between varying injury patterns.

History and Examination Elements (1 point for each recorded on referral)	**Initial Management Elements (1 point for each completed)**
Mechanism of injury	Relevant imaging
Date of injury	Hard copies
Excluded other injuries	Wound washout & closure
Past medical history	Wound dressing
Drug history	Antibiotics
Allergies	Analgesia
Hand dominance	Tetanus
Site	Fasting status
Side	
Neurological status	
Perfusion status	
Functional loss	
Accurate description	
Total: /15	Total: /8

RESULTS

ENPs generated 52% of referrals followed by SHO equivalent grades (32%) and registrars (11%). We separately recorded 5% of referrals as 'Doctor' as the grade of medical staff was not clarified. The mean, range and 95% confidence intervals for the Hand Injury Quality Referral Score did not show significant differences between referral groups, although the widest range of scores were observed in the ENP group. The majority (73%) required surgical intervention while 15% of all referrals were discharged immediately with no planned follow-up. The ENP group most frequently referred patients who were subsequently discharged (22%) but the difference across referring groups was not statistically significant. Overall 17% of total referrals were deemed to be inappropriate.

Of those referrals deemed inappropriate by the receiving surgeon, 70% were generated by ENPs, which was statistically significant (p=0.042). Drug history was the most poorly recorded (24% of referrals), and a high proportion of patients did not receive antibiotics (18%), have their tetanus status clarified (26%) or receive information about fasting (40%).

DISCUSSION

ENPs refer more patients to our service than all medical grades combined which is a recent phenomenon as only referrals from doctors were previously accepted. Hand Injury Quality Referral scores across the referring grades were not found to be significantly different. Using this new scoring system, referrals from ENPs can be considered to be as complete and accurate as those from any grade of doctor, which is in keeping with the literature[4]. ENP referrals were more likely than other groups to be judged as inappropriate by the receiving surgeon and more likely to be immediately discharged without need for surgical intervention or subsequent follow-up at an outpatient clinic. Overall, accepting referrals from ENPs is clinically justified and they are providing a safe service equivalent to medical staff. However, as a group they would benefit greatly from feedback to highlight the elements of a good quality referral, such as antibiotic and tetanus administration. Due to the long tenure in such posts, targeted training is likely to yield discernible benefits. By using the Hand Injury Quality Referral Score changes in referral patterns can be monitored effectively and used to target training in hand injuries.

The authors have no conflict of interest

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