How Knowledge Relates to Confidence in Orthopedics and Emergency Medicine Regarding Return to Sport and Rehabilitation in Foot and Ankle Trauma

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OBJECTIVE: The aim of this study was to survey the knowledge of registrars in emergency medicine and orthopedics on 5 common injuries to the foot and ankle and compare this knowledge, and self-reported confidence in giving it, with that of consultants and physiotherapists of various levels of experience.

DESIGN: An online survey was used to gather the information using scenario-based open and closed questions.

PARTICIPANTS: A total of 102 health care professionals, who regularly deal with sports injuries, were recruited. These included consultant orthopedic surgeons with a subspecialty interest in foot and ankle surgery, orthopedic surgeons in other specialties, extended scope physiotherapy practitioners (ESPs) in foot and ankle and general musculoskeletal practice, emergency medicine consultants, emergency medicine registrars, orthopedic registrars, senior physiotherapists, and junior physiotherapists.

SETTING: The participants were drawn from various health care institutions in the North East of England.

RESULTS: Consultant foot and ankle surgeons and extended scope practitioners in foot and ankle both scored significantly on knowledge of rehabilitation program design than either set of registrars. For 2 of the case scenarios, there was a significant difference in scores between either orthopedic consultants or ESPs and registrars ($p < 0.05$). For total score, there was a trend for extended scope practitioners to score higher than both sets of registrars, but this did not reach significance. Correlation coefficients for knowledge and self-reported confidence ranged between 0.009 and 0.33, demonstrating only weak positive linear correlation between scenario score and reported confidence in advice given.

CONCLUSIONS: The most significant area of gaps in knowledge among the 2 groups of registrars was in the specifics of rehabilitation programs. There was markedly higher confidence with greater seniority. Registrars in emergency medicine and orthopedics are likely to benefit from case-based teaching in sports injury rehabilitation. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: foot and ankle, return to sport, rehabilitation, knowledge, confidence

ACGME COMPETENCY: Practice-Based Learning and Improvement

INTRODUCTION

Patients who have sustained foot and ankle trauma are usually managed by consultants and trainees in emergency medicine and orthopedics, with their rehabilitation managed by physiotherapists. Many patients are involved in sports at a variety of levels and are often keen to be given guidance on the likely course and timescale of their rehabilitation back to their preinjury level of participation. Previous work on physician perceptions of sports injury and rehabilitation knowledge found, in a survey of emergency medicine consultants and specialty trainees, that 100% of them felt that they should know and understand the

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prognosis of common sporting injuries, and 95% agreed that they should understand the principles of rehabilitation after injury.[1] A study by Murphy et al.[2] found that emergency department staff would benefit from increased training in sports injury management. Despite this, there is very little time afforded to sports injury or rehabilitation in either the emergency medicine or orthopedic curricula.

The aim of this study was to survey knowledge of rehabilitation in several groups of health care professionals and compare this to self-reported confidence. We reviewed the current state of knowledge regarding rehabilitation following lateral ankle ligament injury, bimalleolar ankle fracture, fifth metatarsal fracture, navicular stress fracture, and tendoachilles rupture, and created 5 clinical scenarios covering these common conditions and used an online survey to gather information on health care professionals' knowledge and confidence in providing guidance on these areas.

METHODS

Questionnaire Design

The questionnaire was created in conjunction with a consultant foot and ankle surgeon with input from extended scope practitioners (ESPs) in foot and ankle, using the current orthopedic and sports medicine literature, to produce a combination of open and closed questions based on clinical scenarios, on return to sport, and rehabilitation principles. The 5 scenarios used were related to (1) bimalleolar ankle fracture, (2) fifth metatarsal fracture, (3) lateral ankle ligament injury, (4) navicular stress fracture, and (5) tendoachilles rupture. The questionnaire was piloted for comprehension and acceptability among orthopedic registrars before more general application.

Subject Selection

A total of 102 health care professionals, who regularly deal with sports injuries, were recruited. This included consultant orthopedic surgeons with a subspecialty interest in foot and ankle surgery, orthopedic surgeons in other specialties, extended scope physiotherapy practitioners in foot and ankle and general musculoskeletal practice, emergency medicine consultants, emergency medicine registrars, orthopedic registrars, senior physiotherapists, and junior physiotherapists. The specialty registrars were randomly selected from the regional database for registrars (specialty trainees years 3-8) in the respective specialties. The consultants, physiotherapists, and ESPs were randomly selected. For each group, 20 individuals were originally contacted, with a mean response rate of 51% (range: 45%-80%), which is above the rate usually expected from internet-administered questionnaires (20%-47%, mean = 33%).[3]

Data Collection and Statistics

Data were collected anonymously using an Internet questionnaire design program (Survey Monkey), allowing data to be exported for analysis using Excel 2010 and Minitab 17. Data were normally distributed and comparison of means was carried out using analysis of variance, with Tukey posthoc testing. Correlation coefficients were calculated using Pearson correlation.

RESULTS

There were 102 survey participants including 11 emergency medicine registrars (two year-1, four year-2, two year-3, one year-4, and two year-6), 11 trauma and orthopedics registrars (three year-1, two year-2, three year-3, two year-4, and one year-6), 13 senior physiotherapists, 9 junior physiotherapists, 10 emergency medicine consultants, 16 orthopedics consultants (from specialties other than foot and ankle), 13 consultant foot and ankle surgeons, 9 ESPs in foot and ankle, and 10 ESPs in other musculoskeletal specialties. Further, 28 had a formal sports and exercise medicine qualification (10 BSc, 2 PgCert, 7 PgDip, and 9 MSc).

The questions in each section were marked against currently available evidence, giving a total possible score for the questionnaire of 23. The mean results for all professional groups for each scenario and the mean total score are presented in Table 1.

For the scenarios dealing with bimalleolar ankle fracture, lateral ankle ligament injury, and Achilles tendon rupture, there was no significant difference in mean scores between any of the professional groups. For the fifth metatarsal fracture scenario, the mean score for the general ESPs was significantly greater than that for the orthopedic registrars ($p < 0.05$), but there were no other differences among groups. For the navicular stress fracture scenario, the mean score for consultant foot and ankle surgeons was significantly greater than that for emergency medicine registrars ($p < 0.05$), but this was the only significant difference. For total score, there was a trend for extended scope practitioners to score higher than both sets of registrars, but this did not reach significance.

Knowledge of time to return to work and sport was assessed using 3 questions on the survey regarding time to return to running and to work involving driving following bimalleolar ankle fracture and time to return to playing squash following Achilles tendon rupture. Orthopedic consultants both in foot and ankle surgery (77%) and other specialties (94%) were most likely to correctly estimate time to return to running following bimalleolar ankle fracture. This has previously been shown to be an average of 9 weeks.[4] Consultants in foot and ankle surgery (55%) and registrars in emergency medicine (55%) were most likely to correctly estimate time to return to squash following Achilles tendon rupture. The greatest variability