Unusual presentation of more common disease/injury

Traumatic hand amputation while wakeboarding

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Summary

Wakeboarding is a sport increasing in popularity in the UK and the rest of the world. It is known to be associated with a high incidence of relatively minor injuries to the participating sportsperson. The authors present the case of a traumatic hand amputation to an associated third party and highlight the potential for serious injuries to all those directly involved with the sport. The authors demonstrate the successful application of military principles to a traumatic amputation in a civilian setting.

BACKGROUND

Wakeboarding is a sport that involves the participant being towed at high speed behind a boat by a cable while both feet are strapped onto a wakeboard. It is known to pose a significant injury risk to the participating sportsperson.¹ Injuries, most frequently encountered are those to the head and upper body.² These occur due to impact at speed with water. Lower limb soft tissue injuries, such as anterior cruciate ligament rupture, are also common.³ These occur due to the relative mobility of the sportsperson's upper body across knees that are relatively fixed while strapped into the wakeboard. Wakeboarding, however, involves a high-powered vehicle travelling at speed; therefore, anyone involved in the water, and not just the participating sportsperson, is at risk of injury.

CASE PRESENTATION

We present the case of a 55-year-old man who sustained a traumatic amputation of his dominant right hand while acting as an amateur wakeboarding instructor. The patient was stationed within the water, acting to assist the launch of a novice wakeboarder. The tow cable became wrapped around the patient's wrist. The driver of the towing jet ski called out to ask if everyone was ready to start, as is standard practice in towing water sports. The driver misheard the patient's reply of 'no' for 'go' and started to drive. The tow cable tightened around the patient's wrist lacerating through the distal forearm. The hand was lost to

the sea. The patient was admitted to the local emergency department.

INVESTIGATIONS

Radiographs demonstrated an amputation through the distal radius and ulna (figures 1 and 2).

TREATMENT

He underwent emergency wound debridement and formal haemostasis by the admitting orthopaedic surgical team. He later underwent a secondary wound closure and stump formation.

OUTCOME AND FOLLOW-UP

While the patient recovered well, his injury had a significant impact on his career as a self-employed manual worker.

DISCUSSION

Initiation of a wakeboarding ride involves communication between the sportsperson and the driver of the towing vehicle that both are ready to start. This occurs across a distance, with the sportsperson partially submerged, often with significant peripheral noise. In light of the reported injury, we propose that as well as a verbal signal, a simple visual signal (such as 'thumbs up') to indicate readiness to start is agreed upon prior to commencing a wakeboarding

Figure 1 AP radiograph of the patient's right forearm demonstrating an amputation of the hand through the distal radius and ulna.

Figure 2 Lateral radiograph of the patient's right forearm demonstrating an amputation of the hand through the distal radius and ulna.

session. If more than one person is in the water then this should be given by everyone involved, and not just the participating sportsperson.

The need for limb amputation for trauma in the civilian setting is relatively rare.⁴ The current military recommendation for amputation involving contaminated wounds is for primary debridement and delayed closure – treating the wound as one would treat a contaminated open fracture.⁵ ⁶ This prevents inclusion within the amputated stump of contaminated or unviable tissue that may not be apparent on initial inspection. This is equally applicable to relevant injuries sustained in a civilian environment.

Learning points

- ▶ Wakeboarding predisposes a sportsperson to a range of injuries, from minor to serious; the incidence and presentation of which will increase in proportion to the increasing popularity of the sport.
- ▶ Contaminated injuries requiring local amputation should be treated according to military principles with primary debridement and delayed closure

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Woodacre T, Marshall M. Traumatic hand amputation while wakeboarding. *BMJ Case Reports* 2011;10.1136/bcr.03.2011.4044, date of publication

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