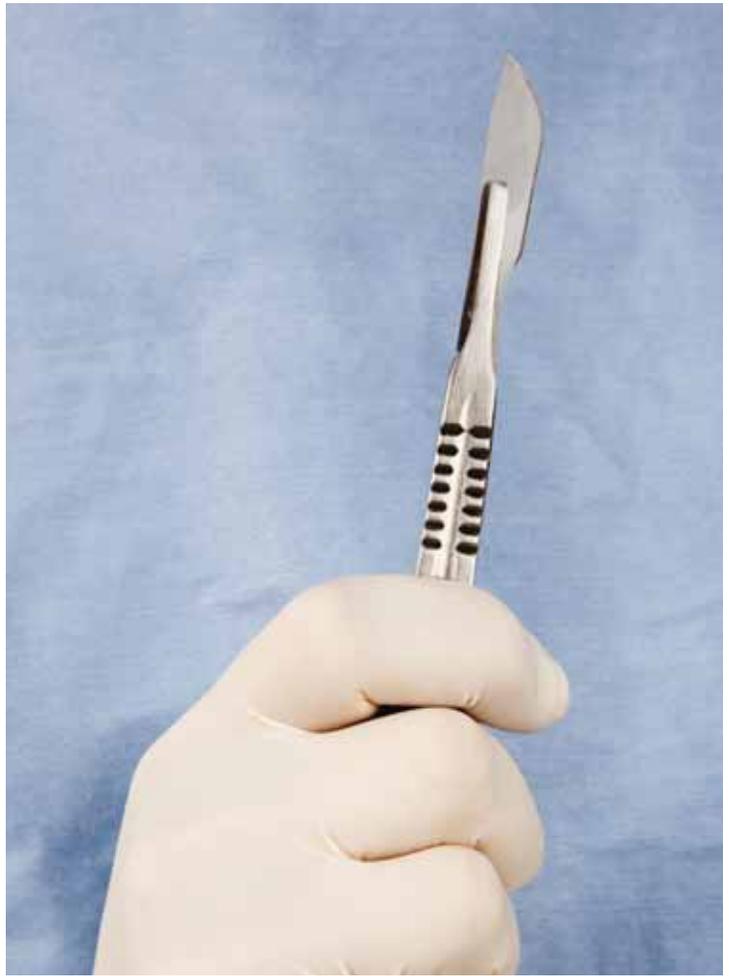


SCALPEL INJURIES IN THE OPERATING THEATRE



RON CHAPPEL/STOCK/FOTOLIA

International evidence based guidelines are needed to standardise approaches to reducing risk, say **Amber M Watt and colleagues**

Despite recognition of the need to reduce injuries from sharp instruments in healthcare settings, the focus has been more on reducing needlestick injuries than on other causes of injury, such as those caused by scalpel blades in operating theatres.

The operating theatre is a unique environment in which many healthcare professionals work in close proximity, often over long periods, and often under emergency conditions. This environment increases the chances of healthcare workers sustaining serious injuries from scalpel blades.

Scalpel injuries represent a multi-faceted risk as they cause mechanical injury and expose both the injured worker and the patient to the risk of contracting blood borne infection. The sequelae of scalpel injuries are time consuming, emotionally fraught, and potentially expensive for the people and institutions involved.

Data on the number of percutaneous injuries sustained by healthcare workers as a result of scalpels are scarce. A quarter of all percutaneous injuries are sustained in the operating theatre; scalpels are the second most frequent cause of injury, after needles.^{w1} The Exposure Prevention Information Network (EPINet), a data sharing programme that has been adopted by many healthcare facilities in the United States, has shown that reusable and disposable scalpels cause 8% of injuries to healthcare workers in all hospital settings.^{w2} However, the reliability of data on injury from sharp instruments is compromised by under-reporting.^{w3}

Where available, the policies and procedures governing the use and disposal

of scalpel blades are highly variable and are inconsistently followed by surgeons and theatre staff. This lack of compliance relates to the poor performance of safety devices; a perception that safety procedures slow or interrupt operations; the lack of equipment or training; and the inability to implement cultural change because of prevailing attitudes among operating theatre staff.^{w4} Adherence to safety practices might not even reduce rates of injury because there is little evidence to support their effectiveness.

The Australian Safety and Efficacy Register of New Interventional Procedures—Surgical (ASERNIP-S) undertook a systematic review to evaluate the evidence for a variety of safety devices and procedures designed to prevent scalpel injuries.^{w5} Very little high quality evidence was available, with a small number of studies reporting that cut resistant gloves and glove liners, hands-free passing, “sharpless” surgery, and single handed scalpel blade removers had all been used with varying degrees of success. However, the studies had methodological shortcomings. This lack of high quality evidence highlights the need for empirical research geared towards prevention of injury and strategies to reduce risk.

Future research should begin with detailed audits of injuries from sharp instruments, so that the incidence, prevalence, and epidemiology of scalpel injuries within specific healthcare environments can be assessed. These data will enable interventions to be targeted to where they are needed most.

Large well designed randomised controlled trials with standardised methodology and assessment of outcomes are

needed to investigate the effectiveness of proposed safety devices and procedures. Results from these trials should be used to develop feasible and robust guidelines, which take into account the complexity of the operative environment and encompass consensus regarding minimum standards of performance. These guidelines must be flexible enough to be responsive to the preferences and clinical judgment of individual surgeons, so that compliance can be increased across a broad range of specialties.

A large part of preventing injuries from scalpels involves creating a culture of safety within an institution and its operative personnel. This culture must be supported by evidence and reinforced through best practice and education. Furthermore, governments and institutions should develop evidence based guidelines so that approaches to occupational health, safety, and welfare can be standardised.

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Competing interests: MJS is a co-inventor, shareholder, and co-director of Qlicksmart Pty Ltd, which produces the Qlicksmart single handed scalpel blade remover.

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