Reducing the risks of sharps injuries in health professionals

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Sharps injuries can transmit blood-borne infections and are a serious health risk to nurses and other health professionals. However, there is limited data on the incidence of these injuries in the UK, and low awareness of the risks they pose. New products with enhanced safety features are becoming available but their introduction should be accompanied by education and training to improve practice in relation to sharps and their disposal.

Although there is growing evidence of the risk posed to health care professionals by sharps injuries, many nurses still believe themselves to be at low risk and fail to recognise the potential consequences of these injuries (Leliopoulou et al, 1999). This lack of awareness may be due to the lack of statistical information on the subject, although the issue was mentioned in speeches by both the RCN general secretary Beverly Malone and the health secretary John Reid at the 2004 RCN annual congress.

Although little information is available on the extent of the problem in England and Wales, the Department of Health is expected to announce new data and guidance regarding sharps injuries shortly. In Scotland 2,439 injuries were reported in 1998–1999, most of which occurred in hospital (NHSScotland, 2000) (Box 1), but it is likely that the true incidence is far higher, as it appears that health care professionals often fail to report them. US research suggests that 50 per cent or more do not report their injuries (Centers for Disease Control and Prevention, 2004).

Blood-borne infections such as hepatitis B, hepatitis C, and HIV pose the greatest risk to health, although the risk of transmission is significantly higher for hepatitis B — its seroconversion rate after injury from a contaminated source is 30 per cent, compared with three per cent for hepatitis C and 0.03 per cent for HIV (UK Health Departments, 1988).

Research in the US has estimated that 384,000 percutaneous injuries in hospital workers are caused by needles each year, and 600,000–800,000 in all health care settings (Bandolier Extra, 2003). The country’s Needlestick Safety and Prevention Act 2000 requires employers to introduce safer medical devices and maintain a detailed sharps injury record. In addition the National Institute for Occupational Safety and Health has suggested that devices with safety features such as sheaths or shields over needles may reduce needlestick injuries (Tan et al, 2001). There is no specific legislation regarding sharps injuries in the UK, but the Control of Substances Hazardous to Health regulations 1999 require biological hazards to be assessed and appropriate control measures to be put in place, while the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995 require all cases of hepatitis contracted at work to be reported. The regulations do not cover HIV.

The implementation of clinical governance in the NHS should highlight practitioners’ responsibilities to ensure these incidents are reported. However, in anecdotal discussions nurses have stated that the number of forms there are to fill in and the perceived lack of accessibility to occupational health departments result in some incidents going unreported. The nurses also saw potential health risks associated with sharps as minimal and voiced concerns that if injuries were seen as being their ‘fault’ they could be criticised.

Other studies support these anecdotal findings that nurses may underestimate the risk of injury. One hospital-based study of more than 100 nurses revealed that most thought the risk of injury was ‘unlikely’ or ‘very remote’ (Leliopoulou et al, 1999). This suggests there is a lack of awareness of the risk of exposure, perhaps due to poor education and training on the subject.

Sharps injuries in the UK

Research by the RCN (2003) revealed that of all health care professionals in the UK, nurses sustained the highest number of sharps injuries, 37 per cent having been injured by a needle or other sharp item at some point in their career. Acute adult care, older people’s nursing, and practice nursing had higher than average rates. Twenty per cent of needlestick injuries recorded in the first year of the study occurred after use — either before disposal or as a result of inappropriate or careless disposal, while 20 per cent were caused by sharps protruding from disposal containers. In Scotland, needlestick injuries have been estimated to cost the NHS £260,000 per year in legal costs, compensation, lost staff time, and absence resulting from these injuries (NHSScotland, 2000). This is despite the fact that none resulted in death or serious health consequences such as chronic illness.

Implications for practice and policy

The RCN study data suggests that key areas where changes in practice are needed include:

- A user-friendly system for reporting all sharps injuries;
One of the key requirements if needlestick injuries are to be reduced is to ascertain which strategies would be effective, as there is limited robust data on this. Those suggested to date fall into three categories:

- Education and training;
- Improved provision of equipment for sharps disposal;
- Introduction of new, safer devices.

Information on the effectiveness of strategies to reduce sharps injuries could be generated by thorough clinical audit of local practice. This could:

- Identify problems;
- Evaluate the introduction of new devices and procedures;
- Collect data on the incidence of injuries.

Generating this information would enable health care providers to reduce the incidence of injuries by promoting better working patterns.

Newer drug delivery devices are becoming available that incorporate safety features to reduce the risk of needlestick injuries, although there is only limited robust data on the competence of the safety systems.

In 2003 the RCN IV Therapy Forum had a resolution accepted by Congress to raise awareness of safety developments such as needle-free system IV therapies, and to make these products more widely available, thereby eliminating the inequality in access to these products between US and UK health care professionals. Some manufacturers are developing drug delivery devices with integral sharps protection systems to reduce the risk of injury occurring after use. These include syringes with a protective shield that covers the needle as it is withdrawn from the patient. Self-adhesiveanchoring devices have also been developed to replace suturing of IV cannulas and central lines, which accounts for 20 per cent of sharps injuries reported in intensive care units (RCN, 2003).

Needle-free systems are also available to establish venous access for the administration of parenteral drugs. Product developments of this kind represent an opportunity to reduce the number of injuries and should be welcomed. However, their introduction should be accompanied by education and training for nurses and other professionals to enable them to establish safer practice with regard to the use and disposal of sharp items.

### Reporting injuries

If the available data is representative of all health professionals, under-reporting of sharps injuries is common, and improvements in this area are urgently needed to supply accurate data on the incidence of the problem (Clarke et al, 2002). Any individual who sustains a sharps injury should complete an incident report form, inform their managers and be seen by a medical practitioner. The occupational health service and the risk manager at their place of employment should also be informed. Although some practitioners may see this as a lot of trouble for a simple needle ‘prick’, it is important for a number of reasons.

From the limited data available it is evident that there have been incidences in which health professionals have contracted chronic illnesses and have died from what they considered to be a minor incident (Safer Needles Now, 2004). Clinical governance and risk management aim to avoid such incidents having adverse effect, or to minimise them. Reporting also enables organisations to undertake thorough investigations and thus identify shortcomings in their systems. They may then be able to take remedial action that prevents future injuries, so an injury that does not result in an infection could help to prevent future injuries that would have had more serious consequences. Finally, if the reporting of incidents became routine and the true scale of the problem became apparent, the need for safer systems would be equally obvious.

### Conclusion

In March 2004 a campaign was launched to raise awareness of the incidence and implication of needlestick injuries among professionals in all health care settings. All health care professionals have a responsibility to minimise the potential for sharps injuries both to themselves and to others, as these injuries may seem minor but they have the potential to prematurely end the careers or even the lives of affected individuals (Trim and Elliott, 2003).

The DoH is expected to publish its findings on the incidence of injuries within England and make recommendations for safer systems shortly. However, the fact that Mr Reid raised the issue in his speech at RCN Congress may suggest that he is already aware that the data will be cause for concern. Nurses and other health professionals, and health care providers need to appreciate the gravity of this potential health risk and understand that its true cost is the safety of staff, patients, and visitors in health settings, rather than the extra money required to purchase safer systems.

### REFERENCES