



Royal College
of Nursing

Sharps safety

RCN Guidance to support the implementation of
*The Health and Safety (Sharp Instruments in Healthcare
Regulations) 2013*



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Contents

| | |
|--|-----------|
| 1. Introduction | 4 |
| What are sharps injuries? | 4 |
| Who's at risk? | 4 |
| When do accidents occur? | 4 |
| The risks of contracting an infection | 5 |
| 2. The law and sharps injuries | 6 |
| The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 | 8 |
| Who has to comply with the regulations? | 8 |
| Underlying principles | 8 |
| The main requirements of the regulations | 8 |
| Duty on employees | |
| Consequences of not complying with the law | 9 |
| Other requirements on health care providers | 9 |
| 3. Implementing the directive and supporting regulations: from theory to practice | 10 |
| Prevention of sharps injuries | 10 |
| Risk assessment | 10 |
| Preparing the organisation | 10 |
| Five steps to risk assessment and sharps injuries | 11 |
| Selection and evaluation of safety-engineered devices | 13 |
| Policies | 15 |
| Training and information | 15 |
| Incident reporting | 15 |
| First aid | 16 |
| Follow-up | 16 |
| 4. Taking action | 17 |
| What employers should be doing | 17 |
| What can safety representatives do? | 17 |
| What nurses and other health care workers should be doing | 17 |
| 5. References | 18 |
| 6. Further information and resources | 19 |
| 7. Appendix: safety representatives' checklist | 20 |
| Sample risk assessment on sharps injuries | 22 |
| Best practice risk assessment | 23 |

1. Introduction

The Royal College of Nursing (RCN) has a long history of campaigning on improved protection for nurses and health care workers exposed to the risk of needlestick and other sharps injuries. The European Directive (Council Directive 2010/32/EU) to prevent injuries and infections to health care workers from sharps is a major step forward in this campaign. The Directive was transposed into UK Regulations in May 2013 namely, *The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013*. The RCN is committed to working with employers and regulators to ensure these regulations are implemented and health care workers are better protected.

This guide has been developed primarily for RCN safety representatives, but other members of the nursing team with a role in infection prevention and control (IPC) of sharps injuries may also find it a useful reference. For example, this could apply to occupational health nurses and colleagues with responsibility for managing health and safety in their department or ward.

Everyone has a role to play in the prevention of sharps injuries to health care workers. From the chief executive and board directors, who have overall legal responsibility for the health and safety of their staff, to the individual nurse or health care worker – all have a duty to ensure that they protect themselves and others around them by safely using and disposing of sharp equipment.

What are sharps injuries?

The sharp instruments in health care regulations refer to medical sharps as being an object or instrument necessary for the exercise of specific health care activities which is able to cut, prick or cause injury. These include equipment such as needles and scalpels. Injuries presenting a higher risk would be those where the sharp is contaminated with blood where there is the potential of transmitting infectious agents such as hepatitis B or V and human immunodeficiency virus (HIV).

Most sharps injuries can be prevented, and there are legal requirements on employers to take steps to prevent health care staff being exposed to infectious agents from sharps injuries.

Who's at risk?

The short answer is that anyone who comes into contact with a sharp instrument previously used on a patient is at risk. But, perhaps unsurprisingly,

the majority of sharps injuries occur to nurses because they are most likely to be carrying out procedures using sharps, such as giving injections, cannulating or taking blood. Other primary users of sharps are doctors, paramedics, dentists, operating department assistants and phlebotomists. Laboratory workers, podiatrists, radiographers and physiotherapists may also be at risk.

In addition, ancillary staff who work in health care environments or handle health care waste or equipment such as domestics, porters, laundry workers and maintenance workers can be exposed to sharps injuries from needles that haven't been disposed of correctly by a primary user.

Analysis of incidents shows that the majority of injuries occur in wards, theatres, accident and emergency and intensive care units. But, sharps injuries can also occur in community settings such as health centres and in patients' homes (HPA, 2012).

Clean sharps such as glass ampules can also present a risk of injury and steps should also be taken to prevent such injuries.

When do accidents occur?

According to data from the Health Protection Agency (HPA, 2012) and from the USA (Centers for Disease Control and Prevention, 2010), sharps injuries occur:

- during use
- after use, before disposal
- between steps in procedures
- during disposal
- while resheathing or recapping a needle.

Some procedures have a higher than average risk of causing a sharps injury. These include intra-vascular (IV) cannulation and venepuncture. Devices involved in high risk procedures are:

- IV cannulae
- winged steel needles (known as butterfly needles)
- hypodermic needles and syringes
- phlebotomy needles.

Lancets, scalpels, suture needles, razors, scissors, test tubes and even fragments of bones or patients' teeth can all cause sharps injuries.

The risks of contracting an infection

In the UK a small, but significant number of health care workers including nurses, have developed potentially life-threatening diseases as a result of a sharps injury. Since the late 1990s at least 20 health care workers have contracted hepatitis C and there have been five documented cases of HIV transmission (HPA, 2012). All these transmissions have occurred following percutaneous exposure. Mucocutaneous exposures and bites also present the risk of injuries, although the risk is lower than percutaneous exposure.

Percutaneous exposure

The skin of the health care worker is cut or penetrated by a needle or other sharp object (for example, scalpel blade, trochar, bone fragment or tooth), which is contaminated with blood or other body fluid.

Mucocutaneous exposure

The eye(s), the inside of the nose or mouth, or an area of non-intact skin of the health care worker is contaminated by blood or other body fluid.

The risk of infection will depend on a number of factors. They include:

- the depth of the injury
- the type of sharp used (hollow bore needles are higher risk although subcutaneous needles also present a risk)
- whether the device was previously in the patient's vein or artery
- how infectious the patient is at the time of the injury.

When all these factors are taken into account, the risk of infection by a contaminated needle can be as high as (HPA, 2012):

- one in three for hepatitis B
- one in 30 for hepatitis C
- one in 300 for HIV.

Fortunately, the majority of sharp injuries don't lead to infections. However, because infections can take months to be diagnosed, health care staff can often endure weeks and months of anxiety while undergoing blood tests and the unpleasant and debilitating side effects of anti-viral drugs. Even when they don't cause life threatening infections, sharps injuries cause unnecessary stress, fear and suffering to health care workers and their families. *For this reason all efforts must be made to prevent them in the first instance.*

Case study (HSE, 2006)

A doctor suffered a needlestick injury during her work as a surgeon, which resulted in extended and debilitating treatment for a potential infection of hepatitis C. She was treated with interferon and other antiviral agents for six months. Treatments required constant monitoring of white cell counts and additional medication to stimulate bone marrow. Overall, the sufferer felt tired, nauseous, anaemic and anxious and has suffered from persistent shaking. She took three days off work as a result of the immediate injury, and was unable to carry out surgical work for a further six months while she waited for the results of her blood tests.

2. The law and sharps injuries

There are a number of laws that require employers to protect health care workers from sharps injuries. An additional European directive targeted at protecting health care workers was introduced in May 2010 and was transposed into UK regulations, *The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013*, in May 2013. These regulations build on the requirements of existing regulations including the Control of Substances Hazardous to Health Regulations 2002.

The overarching law is the Health and Safety at Work etc. Act 1974. This places general responsibilities on employers to ensure, so far as reasonably practicable, the health, safety and welfare of employees. The act requires employers to provide a safe working environment in relation to sharps injuries, together with safe equipment, training, information and instructions on safe systems of work.

Other key pieces of legislation are listed in the table below.

| Regulations | Key requirements | Application to sharps injuries |
|--|--|--|
| Control of Substances Hazardous to Health Regulations 2002 (COSHH) | Employers must identify any exposure to substances hazardous to health, assess the risks from exposure and put measures in place to prevent or reduce and control the exposure (known as <i>control measures</i>). There is also a requirement to monitor exposure, to provide health surveillance and provide information and training. | Assess the risk of exposure to biological hazards including blood-borne viruses and put measures in place to eliminate exposure to such hazards. Where it is not reasonably practicable to do so, employers need to prevent the exposure through using safety-engineered devices, designing safe systems of work and providing protective equipment. Information and training must be provided to all workers exposed to blood-borne viruses. Health surveillance in the form of follow-up blood tests is required where there has been a significant exposure to blood-borne viruses. |
| Management of Health and Safety at Work Regulations 1999 | Employers must carry out suitable and sufficient risk assessments of all significant hazards in the workplace. Employers must also provide employees with information on the risks to their health and safety, preventative and protective measures in place and emergency procedures. | Employers to assess the risk of sharps injuries from work procedures and activities. Employers must provide information and training on the risks of sharps injuries and what measures employees should take to reduce injury risk. Instruction and information on measures to be taken in the event of an injury should be provided. |

Continued...

...Continued

| Regulations | Key requirements | Application to sharps injuries |
|--|--|--|
| The Provision and Use of Work Equipment Regulations 1998 | Employers to select and provide suitable work equipment and provide information and instruction on safe use. | Selection of suitable equipment for example sharps bins and instructions and information on how to use safely. |
| Reporting of Diseases Injuries and Dangerous Occurrences Regulations 2013 (RIDDOR) | Employers to report formally to the Health and Safety Executive (HSE) certain types of occupationally acquired diseases, injuries and dangerous occurrences. | Employers are required to report formally known exposures to blood-borne viruses following a sharps injury for example where the patient is known to be hepatitis C positive. Cases where a health care worker develops a blood-borne virus as a result of a sharps injury or other occupational exposure need to be reported retrospectively if the employer is aware of them. |
| The Personal Protective Equipment Regulations 1992 | Employers to assess, select, provide and maintain personal protective equipment. | Selection of suitable gloves, aprons and goggles where the risk of exposure to blood-borne viruses cannot be eliminated or reduced effectively through other measures. |
| Health and Safety (First Aid) Regulations 1981 | Employers to provide adequate and appropriate equipment, facilities and personnel to ensure their employees receive immediate attention if they are injured or taken ill at work. | Provide first aid treatment following a sharps injury – including out-of-hours support. |
| Safety Representatives and Safety Committee Regulations 1977 | Employers to consult with safety representatives on matters affecting the health and safety of members. Employers to allow safety representatives paid time off to: <ul style="list-style-type: none"> • inspect documents relating to health and safety • investigate RIDDOR incidents and complaints from members • inspect the workplace • set up a health and safety committee. | Consult with safety representatives on the choice of equipment for example safety-engineered devices and gloves, and allow safety representatives paid time-off to inspect: <ul style="list-style-type: none"> • sharps injury reports • wards and departments for safe working practices and safe working environment to prevent sharps injuries. |

The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013

Prior to the publication of European Directive 2010/32/EU, a framework agreement was developed that brought together a number of existing health and safety requirements in order to make the legal framework to protect workers from sharps injuries more explicit. The RCN and other European health care trade unions worked in partnership with European health care employers to develop the agreement. The adoption of the European Directive in May 2010 meant that the UK and all EU member states were required to put into force laws, regulation and administrative provisions necessary to comply with the directive, or to ensure that the social partners (employer and worker representatives) introduced the necessary measures by agreement by May 2013 at the latest. The UK went down the legislative route and *The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013* came into force on the 11 May 2013.

Who has to comply with the regulations?

The regulations apply to employers whose primary activity is to organise, manage and provide health care. This definition includes the NHS and independent sector providers, GP practices, hospices, nursing homes and include situations where health care workers are providing care to people in their own homes.

Contractor organisations working for a health care employer, for example providing cleaning services, are also required to take measures to protect their staff. Health care employers must co-operate and share information with contractors to ensure the risks of sharps injuries are adequately controlled.

The Health and Safety Executive's information sheet, *Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 - guidance for employers and employees* (HSE, 2013) provides further clarity on employer and employee groups covered by the regulations.

There are some anomalies with the regulations, for example, if a nurse is employed by a school or local authority they would not be covered or a nurse employed by the prison service. However the requirements of other regulations including COSHH still apply. The RCN believes that the regulations should be extended to cover all health care workers regardless of their employer's main activity.

Underlying principles

There were a number of underlying principles within the directive which are not explicit in the regulations but should inform the development of strategies and policies to prevent sharps injuries. These include:

- the need for a well-trained, adequately resourced and secure health service workforce
- in accordance with their training, workers to take care, as far as possible, of their own health and safety and that of other persons affected by their actions
- prevention of exposure is a priority
- never assume there is no risk of exposure following a sharps injury
- the important role of safety representatives in prevention and the development of health and safety policies and practices
- the importance of partnership working and consultation with workers and their representatives on safe systems of work, selection of safety equipment and how best to carry out training, information and awareness raising
- the employers duty to ensure the health and safety of workers including psycho-social factors and work organisation, for example stress, shift work and working hours
- the need to promote a *no blame* culture to ensure that incident reporting procedures focus on systemic factors rather than individual mistakes.

The main requirements of the regulations

Employers need to assess the risk of sharps injuries under the COSHH regulations. Where risks are identified, the sharps in health care regulations require them to take specific risk control measures detailed below:

- where employer has identified a risk, steps must be taken to avoid the unnecessary use of sharps (Regulation 5 (1)(a))
- where it is not reasonably practicable to avoid the use of medical sharps, the sharps regulations require employers to:
 - use safe sharps (incorporating protection mechanisms) where it is reasonably practicable to do so (Regulation 5(1) (b))
 - prevent the recapping of needles (Regulation 5 (1) (c))

- place secure containers and instructions for safe disposal of medical sharps close to the work area (Regulation 5 (1) (d))

Definition of ‘reasonably practicable’

‘Reasonably practicable’ implies that risks must be measured against the time or money required to avert them. The greater the risk the greater the amount of money and time that should be spent on reducing it.

The RCN believes that contaminated sharps and the risk of blood-borne viruses, in particular injuries from hollow bore needles justify expenditure on control measures such as safer needle devices. However, such devices are often no more expensive than conventional devices.

- provide information to employees on the risks from injuries, relevant legal duties of employers and employees; good practice in preventing injuries; the benefits and drawbacks of vaccination and the support available to an injured person from their employer. The employer must work with safety representatives in developing and promoting this information (Regulation 6)
- provide appropriate training to ensure employees know how to work safely. The training must cover the correct use of safe sharps; safe use and disposal of sharps; what to do in the event of an injury and the employer’s arrangements for health surveillance. (Regulation 6 (4))
- have arrangements in place in the event of an injury. Which includes keeping a record of the incident; investigation of the circumstances of an incident and to take action to prevent a reoccurrence. The HSE advise that records of the incident should include details of the type of sharp involved, at what stage of the procedure the incident occurred and the severity of the injury
- ensure that injured employees who may have been exposed to a blood borne virus have immediate access to medical advice; are offered post exposure prophylaxis or other treatment as advised by a doctor and offered counselling where appropriate. (Regulation 7 (2))
- review, at suitable periods, the effectiveness of procedures and control measures (Regulation 5 (2)).

Duty on employees

The regulations also require employees to notify their employer of a sharps accident as soon as practicable after the event (Regulation 8). Clearly employers will need to have adequate processes in place to allow for prompt notification particularly for out of hours and community nurses. Employees must also be given information and training on reporting procedures (as required under Regulation 6).

Consequences of not complying with the law

Health and safety law is criminal law, and health care organisations can be subject to enforcement action if they fail to comply with the legal requirements relating to the prevention of sharps injuries. In 2010, a hospital trust was fined more than £20,000 after a health care worker contracted hepatitis C following a sharps injury. The trust was found guilty of breaching the Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations (HSE, 2010).

There are also a number of personal injury cases that have been taken under civil law, many of which are settled out of court. But, in 2009 the significant case of *Fryers v Belfast Health and Social Care* resulted in the High Court of Justice in Northern Ireland awarding £3,000 compensation to a hospital worker who sustained a needlestick injury. The worker was injured by a used needle that had been thrown into a yellow clinical waste bag. Treatment and a series of blood tests confirmed that there was no risk of developing an infection. However Mr Fryers went on to develop an adjustment disorder as a result of the stress caused by the injury.

Other requirements on health care providers

There are a number of health care standards and guidelines put in place by the UK devolved administrations to protect patients and employees from health care associated infections. These are listed in the RCN guidance (2013) *Infection prevention and control: information and learning resources for health care staff*, which is available at www.rcn.org.uk/publications

3. Implementing regulations to prevent and manage sharps injuries: from theory to practice

Prevention of sharps injuries

To date, in the UK, much of the focus on sharps injuries has been about changing individual behaviours of sharps users and effective follow-up and support after an injury, rather than prevention. Prevention of exposure is an underlying principle of the EU Directive. Measures to prevent sharps injuries can best be implemented using the *Hierarchy of controls* and principles of prevention frameworks. These are mentioned in EU health and safety directives, and

used widely by occupational hygiene and safety specialists across the world (International Labour Organization (ILO)/World Health Organization (WHO), 2005). The *Hierarchy of controls* focuses on the most effective measure of removing the hazard first, rather than relying on training, behavioural or changes to work practices and the use of protective equipment.

Used alongside risk assessment, the hierarchy provides a framework for reducing the risks of injury. Further details of applying the hierarchy are given in the risk assessment section below.

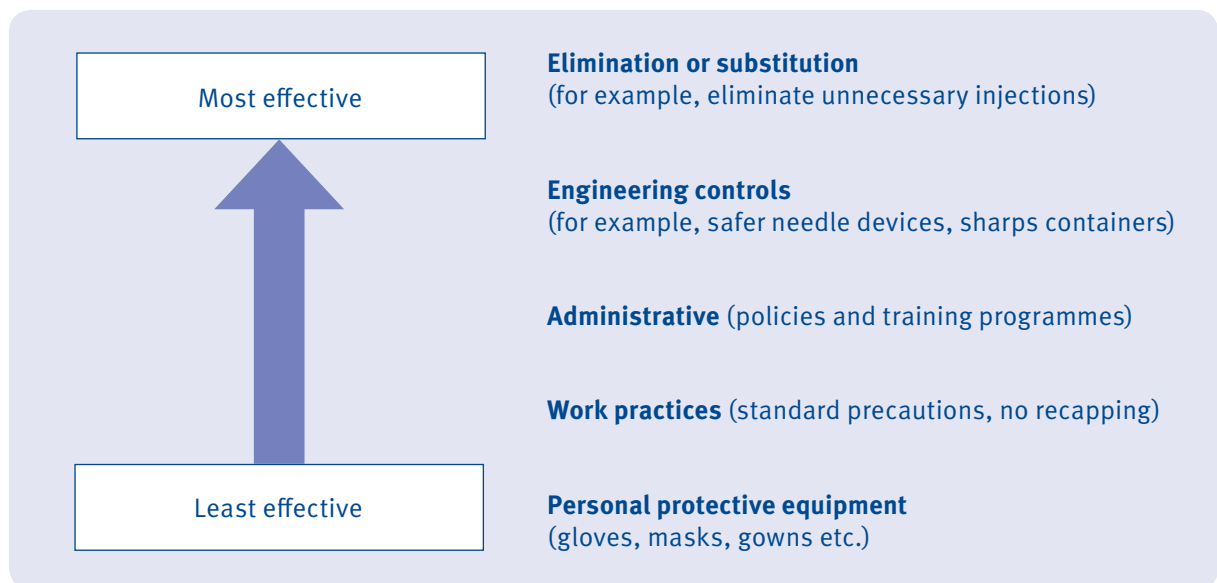


Table 1: *Hierarchy of controls* applied to sharps injury prevention

In reality it will be difficult, if not impossible, to eliminate all sharps from health care environments. So, the next effective step will be using engineering controls that include safer needle devices using innovative designs to limit the risk of injury. A combination of measures may also be necessary, for example, a safer needle device should only be introduced alongside training in its use.

Risk assessment

Risk assessment is central to UK and EU health and safety laws. The HSE provides a useful and simple model of risk assessment entitled *Five steps to risk assessment* (HSE, 2006). We have

used this model to provide practical advice on how to assess the risks of sharps injuries.

Preparing the organisation

The organisation should have a strategic aim or direction to reduce sharps-related injuries, and commitment secured from senior management to put necessary funding and resources into the prevention of injuries. Prevention is cost-effective. Investment in improved safer technology and training will reduce the need for expensive follow-up and treatment of sharps injuries and potential compensation and legal costs (Grime, 2006).

Safety representatives should be consulted and fully involved in all discussions on initiatives to reduce sharps-related injuries. A steering/working group, possibly a subgroup of the health and safety committee, should be established to look at the implementation of the regulations across the organisation. It should be made up of:

- safety representatives
- managers
- procurement
- infection prevention and control
- health and safety
- estates and facilities representatives
- the frontline staff who suffer from sharps injuries.

The steering group should have authority to make decisions on purchasing equipment, and be involved in the monitoring and review of the risk assessment process.

Five steps to risk assessment and sharps injuries

Step 1: identify the hazards

Organisations should familiarise themselves with the requirements of regulations, good practice and any supplementary information to support the risk assessment process (see page 19 for sources of further information).

In most hospital and health care environments there will be varying degrees of exposure to blood-borne viruses. The main blood-borne viruses of concern are hepatitis B and C and HIV.

Accidental injury by a sharp implement, such as a hollow bore needle contaminated with a blood-borne virus, can lead to the transmission of blood-borne viruses. While the risks of contracting a blood-borne virus are variable, the anxiety of having to go through blood tests and possible treatment can cause the worker a great deal of stress.

All sharps injuries are therefore a hazard that could lead to the risk of transmission of blood-borne viruses. Some injuries will be a higher risk than others.

Step 2: decide who might be harmed and how

The sharps regulations cover all workers that are under the managerial authority and supervision of health care employer/organisations. This extends not only to staff that are directly employed, but also some self-employed workers. For example, agency and bank nurses, any workers employed by organisations contracted to provide services for health care organisations such as cleaners and other ancillary staff. There are also requirements to protect student nurses while they are under the supervision of a health care provider.

There are many types of health care and hospital work that can expose individuals to the risk of sharps injuries. They include:

- clinical work - clinical procedures such as phlebotomy, cannulation, vaccination, acupuncture and surgical procedures
- ancillary services – cleaning, portering, hospital laundry and sterile supplies
- diagnostic and laboratory work
- mortuary work.

Groups that carry out the majority of procedures using sharps are those most at risk. These include: nurses, operating departmental practitioners (ODPs), phlebotomists, physiotherapists, doctors, health care assistants and laboratory technicians. In addition, cleaning staff will have a high exposure to risks if sharps are not properly disposed of. Community-based, as well as acute staff, may be injured by inappropriate use or non-disposal of sharps. There may also be issues when community staff are delivering care to patients who have previously self administered injection drugs such as insulin. There are also specific environmental regulations in place to cover the disposal of hazardous health care waste such as sharps in a community setting (DH, 2011).

Injury can occur with a wide range of items, but those with a higher risk of injury include:

- hollow bore hypodermic needles
- IV cannulae
- winged steel needles (*butterfly*)
- phlebotomy needles.

Existing data on sharps injury reports can be used to identify areas where high numbers of injuries

are reported. However, there is often under reporting of sharps injuries in organisations, so figures should be treated with caution.

The matrix on page 23 entitled best practice risk assessment has been developed to support the risk assessment process by prioritising higher risk procedures and equipment.

Step 3: evaluate the risks and decide on precautions

The law requires employers to do everything reasonably practicable to protect people from harm. The easiest way to start step three is to compare what you are doing now with the requirements of the directive and good practice.

To help prioritise actions the steering group should review written arrangements and policies, identify what hazardous sharps equipment is being used and what presents the highest risk. The group should consider whether the hazard can be removed altogether, and if not how the risks can be controlled so that harm is minimised.

The *Hierarchy of controls* on the prevention of sharps injuries (outlined in Table 1) is a way of implementing the law and best practice. The hierarchy is detailed below.

Elimination of hazard

Complete removal of a hazard from the workplace is the most effective way to control hazards; this approach should be used whenever possible. Examples include:

- removing sharps and needles when possible for example using needleless intravenous systems/needle free connectors
- eliminating all unnecessary injections
- eliminating unnecessary sharps such as towel clips.

Engineering controls

These are used to isolate or remove a hazard from a workplace. Examples include:

- adequate numbers of easily accessible sharps disposal containers
- environmental factors including good lighting and adequate space to carry out the procedure
- use of safety-engineered devices for all procedures (devices with needles that retract, sheath or blunt immediately after use).

Administrative controls

These are policies and practices that aim to limit exposure to the hazard. Examples include:

- health and safety responsibilities of all staff are clear, well co-ordinated and adequately resourced
- sharps injury prevention committee, which may be part of the health and safety committee
- a sharps policy that covers exposure prevention as well as treatment and follow-up
- reference to sharps injury prevention in infection control and procurement policies
- removal of all unsafe devices
- safe systems of work, particularly high risk areas such as theatres, obstetrics and emergency care
- consistent information and training that includes: safe systems of work; correct use and disposal of sharps; the use of safety-engineered medical devices incorporating sharps protection mechanisms; measures to be taken in the event of a sharps injury; and how to use personal protective equipment provided
- promotion of a no-blame culture
- incident reporting procedures and investigations that include feedback to staff/staff groups involved
- vaccination programmes and follow up procedures for example free hepatitis B.

Work practice controls

These controls aim to change the behaviour of workers to reduce exposure to occupational hazards. Examples include:

- no needle recapping or resheathing
- safe construction of sharps containers
- placing sharps containers at eye level and within arm's reach
- disposing of sharps immediately after use in designated sharps containers
- sealing and discarding sharps containers when they are three-quarters full
- establishing means for the safe handling and disposal of sharps devices before the beginning of a procedure.

Personal protective equipment (PPE)

Personal protective equipment provides barriers and filters between the worker and the hazard. Used properly it can prevent exposure to blood splashes, but will not prevent needlestick injuries. Examples include:

- eye goggles
- masks
- gloves.

There is evidence that gloves can reduce the risk of infection, in particular double-gloving in operating theatres. The glove material will remove up to 86 per cent of the blood on the outside of the needle, and the inner glove will remove most blood not removed by the outer glove (Mast et al., 1993).

Infection control and glove use policies and standard precautions (formerly known as universal precautions) will outline what PPE is needed in what circumstances.

Employers must ensure that staff and their safety representatives are involved in decisions to eliminate and control the risk of injury.

Step 4: record your findings and implement them

The findings of the risk assessment should be documented and form part of the action plan to reduce the risks of injury. The action plans should be time sensitive. The risk assessment can be organisation-wide if it is small, such as a GP practice or ward-based in a larger health care site such as a hospital.

The results of the risk assessment should be shared with all workers identified as being at risk.

Where staff are based in the community there may be a need to liaise with GP services to ensure risk assessment findings are implemented.

Performance indicators such as the increase in the number of safety devices being purchased can be used to ensure that risk assessments are being implemented.

Step 5: review your assessment and update if necessary

Steps should be taken to periodically review the effectiveness of the risk assessment and control measures in place. This could be reactive after an incident report, a proactive audit or workplace inspection, or consist of analysing performance

indicators, for example, the number of devices being purchased. It is recommended that a review date is set for a risk assessment.

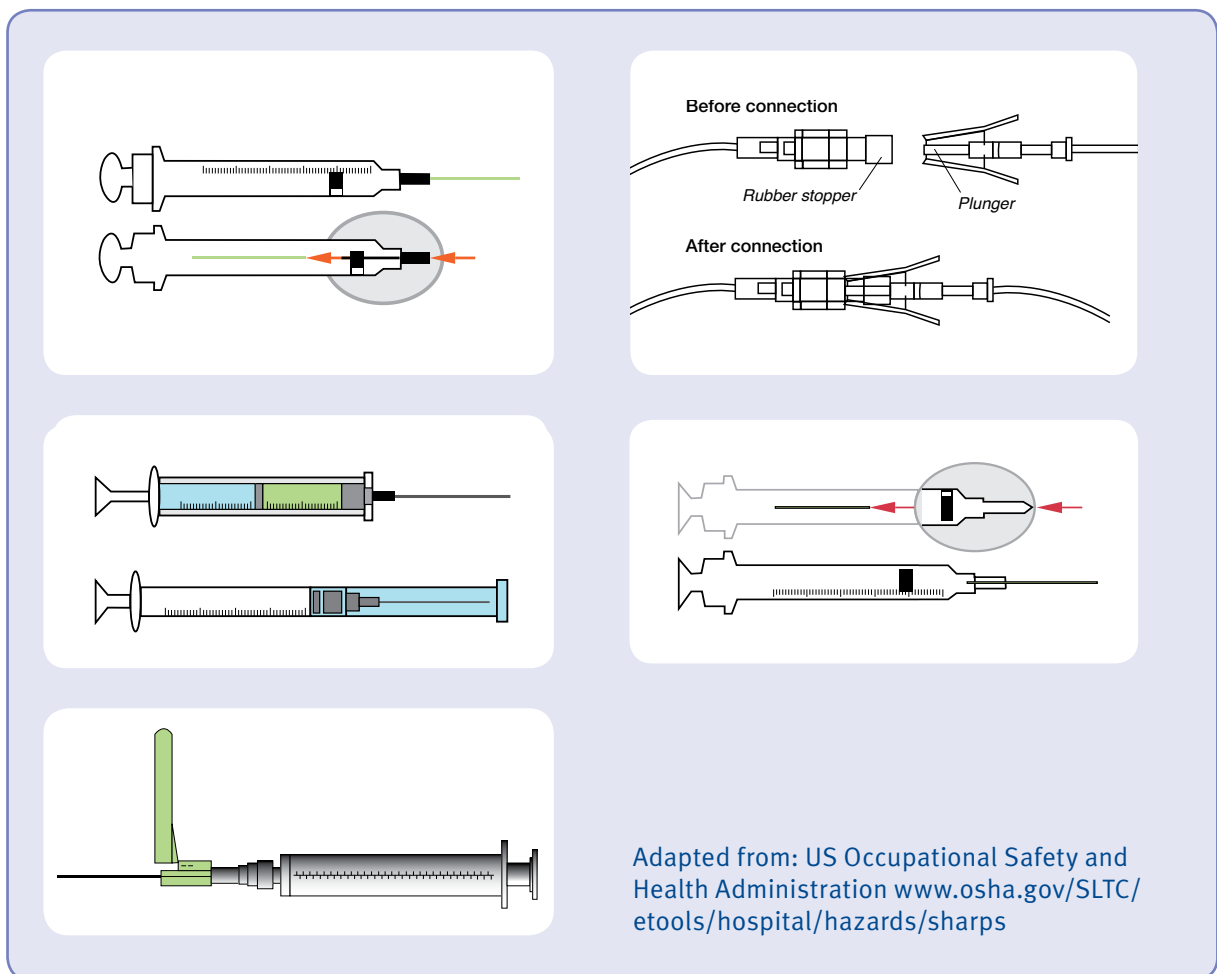
Risk assessments should also be reviewed if changes take place to work practices or new equipment is introduced.

Selection and evaluation of safety-engineered devices

If a risk assessment indicates that there could be potential injuries leading to blood-borne infections because a hazard cannot be eliminated, the directive requires employers to provide medical devices that incorporate safety-engineered protection mechanisms. Safety-engineered devices are also known generically as safer needle devices or safety devices. These devices have a built-in safety feature to reduce the risk of a sharps injury before, during or after use. Devices can be passive or active. For example, passive devices have an automatic safety mechanism that is activated after use, such as when a cannula is withdrawn from a patient's vein. An active device needs to be manually activated by the member of staff.

| Types of safety-engineered devices | Example |
|------------------------------------|---|
| Needleless connector systems | Connectors use devices other than needles to connect one IV to another. |
| Protective sheaths | Sliding or hinged needle shields attached to disposable syringes. |
| Retractable needles or blades | Needles of sharps that retract into a syringe or back into the device. |
| Self-blunting | A blunt cannula seated inside a phlebotomy needle is advanced beyond the needle tip before the needle is withdrawn from the vein. |

Examples of safety-engineered devices



When selecting and evaluating a safety device the following features should be considered:

- the device must not compromise patient care
 - the device must perform reliably
 - the safety mechanism must be an integral part of the safety device, not a separate accessory
 - it should be easy to use and require little change of technique
 - activation of the device must be convenient and allow care give to maintain appropriate control over the procedure
 - the device must not create other safety hazards or sources of blood exposures
 - single handed or automatic activation is preferred
 - activation must manifest itself by means of an audible, tactile or visual sign to the health professional
 - not reversible when activated.
- (Safer Needle Network/Partnership for Occupational Safety and Health in Health Care, 2010)

Safety representatives and safety device users should always be consulted and involved in their selection and trial, together with specialist staff such as clinical procurement specialists, and infection prevention and control nurses.

The market in safety devices is constantly evolving and new products are being developed. The latest in a line of new innovations is a needleless injection system where an injection is delivered by high pressure rather than a needle. Many suppliers will provide organisational support, change management processes and training when new devices are introduced to a workplace.

Policies

Organisations should have an up-to-date policy on the prevention and management of sharps injuries. The policy should contain the following:

- a strategic/corporate aim acknowledging that sharps injuries are a major health and safety problem and a commitment to reduce sharps injuries
- definitions and causes of sharps injuries
- arrangements for the prevention of exposure to blood-borne viruses that cross reference to any other relevant policies such as:
 - roles and responsibilities
 - risk assessment procedures and control measures to prevent exposure
 - education and training
 - procedures for supervising new and inexperienced staff
 - safe working practices (for example no recapping)
 - safe disposal procedures
 - procedures in the event of an injury
 - post-exposure treatments
 - immunisation procedures
 - reporting procedures
 - how the implementation and effectiveness of the policy and risk assessments will be reviewed and evaluated
 - how the policy and associated information will be communicated to all staff including new, temporary staff and contractors such as ancillary services.

Training and information

The directive and other regulations require employers to provide training, information and instruction on the prevention of sharps injuries and the risk of blood-borne viruses. Training, information and instruction should occur on induction for new and temporary staff/students. It should also be repeated when new technology such as safer needle devices or new procedures are introduced.

Incident reporting

It is widely recognised that there are high levels of under reporting of sharps injuries. There are many theories why nurses and other health care staff do not report injuries. But, it is vital that injuries are reported to ensure that appropriate follow-up treatment is given to the injured person, and that patients are not put at risk if the injured health care worker goes on to perform exposure-prone procedures. Also, the cause of the incident must be examined and necessary measures put in place to reduce the risk of further injury. Employers are also less likely to invest in risk reduction measures where there are low levels of incident reporting.

The directive calls for a *no blame* culture, and it is important that sharps injuries are properly investigated to identify systemic failures. They could include, for example: lack of training or supervision for newly-qualified staff; lack of safety equipment; staff shortages/pressure of work; and poor physical environment (space and lighting). Safety representatives should be involved in incident investigations.

Employers should make efforts to encourage and emphasise the importance of incident reporting and first aid during training and other methods of communication such as newsletters, screen savers and posters.

Employers must comply with the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013 relating to sharps injuries and report sharps injuries formally to the HSE. They must do this when the source patient is known to carry a blood-borne virus, is subsequently found to have a blood-borne virus, or the health care worker develops a virus following a sharps injury.

First aid

Organisations must have first aid procedures in place so that staff know what to do in the event of an injury and who to report an incident to. Organisations must communicate these procedures to all staff at risk of sharps injuries, including new and temporary staff, contractors and students.

Current first aid measures are to encourage the wound to bleed (but do not suck) and rinse thoroughly under running water (do not scrub). If running water is not available, cleansing wipes provided in first aid kits should be used. Wounds should be covered with a dry plaster/dressing.

Follow-up

The directive advises member states to comply with existing guidance on follow-up and treatment protocols for staff exposed, or potentially exposed to a blood-borne virus after a sharps injury. Comprehensive guidance exists in the UK (DH, 2008).

The key is the promptness of follow-up advice and support, particularly for nurses and health care assistants working out-of-hours, in community settings or for the independent sector. The risk of infection must be assessed by a specialist, and post-exposure prophylaxis (PEP) treatment protocols started immediately after the injury if advised.

Employers need to communicate the importance of follow-up and treatment, and attending all appointments for blood tests. Staff must be released from work to attend the follow-up appointments. Counselling should be available for all staff at risk of sharps injuries.

4. Taking action

What employers should be doing

Employers should be aware of their legal duties under existing legislation and the new regulations, which emphasise carrying out risk assessments on the prevention of sharps injuries. There should be a strategic level commitment to reducing sharps injuries. Employers need to work with *competent* staff such as occupational health, infection prevention and control and health and safety workers to:

- review current policies and procedures and risk assessments to ensure that they are complying with existing legislation and the new directive
- assess the need to implement further control measures including safety-engineered devices to reduce the risk of injuries
- where indicated by risk assessments introduce new safety measures, equipment and information and training to prevent sharps injuries among staff
- ensure adequate resources are available to support the review and the purchase and introduction of new safety measures.

The directive was established as a result of partnership working between employers and employee representatives at a European level. The RCN expects this level of partnership-working to continue at a local level too when implementing the regulations. Safety representatives should be fully involved in any workplace initiatives to improve sharps safety, and given the time off that is necessary to attend meetings on sharps safety and carry out inspections.

What can safety representatives do?

- Ask for the issue of sharps safety and the sharps regulations to be put on your health and safety committee agenda.
- At the health and safety committee meeting ask what steps your employer is taking to ensure that they comply with the new regulations?
- Carry out themed workplace inspections and/or surveys of members to examine the impact of local policies, procedures and risk assessments.
- Ensure that you are consulted and fully involved in any work on the prevention of sharps injuries for example a member of the working group, involved in policy and risk assessment reviews, purchasing decisions on safety devices and consulted on the development of training programmes.
- Ensure that employers are following the *hierarchy of controls* when carrying out risk assessments.
- Work with RCN learning representatives to ensure that training and education programmes on the prevention and management of sharps injuries are fit-for-purpose.
- Encourage members to report sharps incidents and seek follow-up treatment.
- Work with your employer to promote incident reporting for example through joint communications and initiatives and the provision of information in relation to policies and procedures.
- Ensure that all nursing staff have access to immediate follow-up support and, where appropriate, counselling following a sharps injury.

What nurses and other health care workers should be doing

- Ensure they are familiar with local policies, procedures and risk assessments and are following safe systems of work.
- Do not recap or resheath used needles.
- Report any concerns about sharps safety through their local RCN safety representative.
- *REPORT* all sharps injuries following local reporting procedures, and ensure that the local RCN safety representative is made aware of injuries.
- Get vaccinated against hepatitis B.

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6. Further information and resources

Health and Safety Executive (HSE)

Information on sharps injuries and links to relevant legislation and documents on the HSE's health sector web pages: www.hse.gov.uk

Safer Needles Network

The RCN is a member of the Safer Needles Network, a group that was established in early 2000 to campaign for prevention of needlestick and sharps injuries. There are a number of resources and links to research papers on their web pages: www.saferneedles.org.uk

NHS Employers

The RCN has worked closely with NHS Employers, the Safer Needles Network and other health care trade unions to develop information and resources on prevention of sharps injuries and implementation of the sharps directive. There are a number of resources and examples of good practice on preventing sharps injuries on the health and safety section of their website: www.nhsemployers.org

European Agency for Safety and Health at Work (EU-OSHA)

EU-OSHA, the official health and safety agency for the European Union, has developed risk assessment guidelines for sharps injuries see: [http://osha.europa.eu/en/sector/health care](http://osha.europa.eu/en/sector/health%20care)

European Biosafety Network

The European Biosafety Network is a network of organisations committed to the early implementation of the sharps directive. The network has developed an implementation toolkit that can be accessed at: www.europeanbiosafetynetwork.eu

Evaluation checklists

There are a number of evaluation checklists available that can be adapted for local use. Useful resources can be found at: The International Sharps Injury Prevention Society has resources on evaluating various devices: www.isips.org/ispef.php

Centers for Disease Control and Prevention (2010) *Workbook for designing, implementing and evaluating a sharps injury prevention programme*. Available at: www.cdc.gov

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7. Appendix: safety representatives' checklist

This checklist can be used as part of a themed workplace inspection to assess organisational and ward/departmental level compliance with regulations and associated best practice on sharps safety. The inspection report form in the RCN *Safety representatives' handbook* and online at www.rcn.org.uk/publications should be used to report back any concerns.

The inspection report can be presented to the working group and/or the health and safety committee.

The inspection can be carried out through a mixture of examination of documents and policies, observational or walk-through inspection and discussions with members.

| | Organisational level | Yes/No | Don't know/notes |
|----|---|--------|------------------|
| 1 | Are sharps injuries identified on the corporate risk register? | | |
| 2 | Is there an organisation-wide policy on the prevention and management of sharps injuries | | |
| 3 | Is the policy up to date and does it cover the issues outlined on page 15 of the RCN's sharps guidance? | | |
| 4 | Is the prevention of sharps injuries on the agenda of the health and safety committee? | | |
| 5 | Is data on sharps injuries reported to the health and safety committee? | | |
| 6 | Are safety representatives consulted on measures to protect members from sharps injuries | | |
| 7 | Has a sub-committee or working group been set up to review policies and risk assessments in light of the sharps regulations? | | |
| 8 | Is there partnership working between occupational health, infection prevention and control, procurement and health and safety advisers/risk managers on this issue? | | |
| 9 | Do risk assessments exist for sharps injuries at a ward/departmental level or for procedures? | | |
| 10 | Are all staff at risk of sharps injury identified in risk assessments | | |
| 11 | Have control measures been introduced in line with the <i>hierarchy of controls</i> (on page 10) | | |
| 12 | Is training provided for all at risk staff on the prevention of sharps injuries, safe use of equipment, reporting and first aid measures? | | |
| 13 | Are sharps injuries routinely investigated and root causes identified? | | |
| 14 | Are there follow up procedures in place for dealing with sharps injuries? | | |
| 15 | Are there follow up procedures in place for sharps injuries that occur out of normal working hours? | | |

| | Ward/department/community level | Yes/No | Don't know/notes |
|----|---|--------|------------------|
| 16 | Are frontline managers aware of their responsibilities to risk assess and implement safety measures? | | |
| 17 | Do staff know how and who to report a sharps injury to? | | |
| 18 | Do staff feel able to report incidents without fear of repercussions? | | |
| 19 | Are staff given feedback on the results of incident investigations? | | |
| 20 | Are staff offered hepatitis B vaccination? | | |
| 21 | Are staff able to attend training on sharps safety? | | |
| 22 | Are accident reporting systems (online or hardcopy) readily available for staff? | | |
| 23 | Where possible, are sharps and needles replaced with needless systems? | | |
| 24 | Are safer needle devices used instead of conventional needles devices? | | |
| 25 | Are there safe systems of work in place in high risk areas such as theatres, obstetrics and emergency care? | | |
| 26 | Are sharps bins in use compliant with current standards (BS7320:1990)? | | |
| 27 | Are sharps bins readily available at the point of use? | | |
| 28 | Do staff know how to assemble and use sharps bins? | | |
| 29 | Do staff know how to dispose of (and lock) sharps bins? | | |
| 30 | Are sharps bins closed and removed when three quarters full? | | |
| 31 | Is personal protective equipment (gloves, goggles, aprons) readily available and used where indicated by risk assessment? | | |
| 32 | Is the lighting sufficient to carry out procedures involving sharps? | | |
| 33 | Is there adequate space to carry out procedures involving sharps? | | |
| 34 | Are long working hours or pressure of work increasing the risks of sharps injuries? | | |

Sample risk assessment on sharps injuries

| Department: All clinical areas | | Activity: heparin injections | | | | |
|--------------------------------|---|---|--|--|--|---------------------------|
| What are the hazards? | Who might be harmed and how? | What are we already doing? | What further action needs to be taken? | Action is taken by | When is action taken? | When is action completed? |
| Sharps injury | Nurses who administer the injection. | <ul style="list-style-type: none"> • Training for clinical staff on induction and annual refresher that includes session on prevention of sharps injuries. • Training for clinical staff on safe injection technique. • No recapping of used | <ul style="list-style-type: none"> • Evaluate safety devices for administering sub cut heparin. • Roll out of safety devices and staff training on their safe use. | Sharps safety sub-committee. Clinical nurse managers/infection control link nurses (with support from manufacturers). | October 2013 November 2013- January 2014 | 20 October 2013 |
| | Ancillary staff that may be exposed to needles that have not been disposed of safely. | | | | | |

Best practice risk assessment

| | | | | | |
|--|--------------------------|----------------------------|------------------------------|---------------------------|--------------------------------|
| RISK by amount of blood exposure per device | Potentially fatal | eg central venous catheter | eg peripheral vein catheters | eg blood drawing needle | eg butterfly for blood drawing |
| | Serious | | eg intra-muscular syringes | eg port catheters | eg scalpel blades |
| | Medium | | | eg sub-cutaneous syringes | eg lancets, herapin syringes |
| | Low | eg needles for acupuncture | | | eg pens for insulin |
| | | Seldom | Sometimes | Often | Frequently |

FREQUENCY of NSI in healthcare settings

Legend

- Risk is not acceptable
Action to address the risk is very urgently required
- Risk is not acceptable
Action to address the risk is required
- Risk is acceptable
Standard precautions are appropriate

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The RCN represents nurses and nursing, promotes excellence in practice and shapes health policies

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