



CPD4dentalnurses

YOUR FUTURE IN YOUR HANDS

Disinfection Decontamination: Safe Sharps Handling

Aims: To give an overview of the Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 which implements aspects of the European Council Directive 2010/32/EU (the sharps directive) that are not specifically addressed in existing GB legislation.

Learning Outcomes: On completion of this verifiable CPD article the participant will be able to demonstrate, through completion of a questionnaire, the ability to:

- Identify some of the risks from sharps injuries.
- Demonstrate knowledge of what to do in the event of a sharps injury.
- Demonstrate knowledge of safe management of sharps.
- Identify the regulations relating to the Health and Safety (Sharp Instruments in Healthcare) Regulations 2013.

Introduction

'Sharps' can be defined as "needles, blades (such as scalpels) and other medical instruments that are necessary for carrying out healthcare work and could cause an injury by cutting or pricking the skin."¹ In dental practice, examples of sharps include injection needles, orthodontic bands and wire, scalpel blades, burs, suture needles and dental instruments.²

Under existing health and safety law, employers are required to ensure that risks from sharps injuries are adequately assessed, and appropriate control measures are put in place. Relevant legislation includes:

- HTM 01-05: Decontamination in primary care dental practices.
- The Health and Safety at Work Act 1974.
- The Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended).
- The Management of Health and Safety Regulations 1999.
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR).

The Sharps Regulations (2013) build on the existing law and provide specific detail on requirements that must be taken by healthcare employers and their contractors.³

Risks from Sharps Injury

The most serious types of occupational exposure to blood borne pathogens are accidental percutaneous (through the skin) injuries involving sharps. It is estimated that nonhospital health care workers experience approximately 385,000 sharps-related injuries each year in the United States, European estimates suggest that over one million needlestick injuries occur annually among healthcare workers. Determining the exact number of sharps-related injuries among non-hospital healthcare workers in the UK is challenging due to limited data and underreporting.

Sharps injuries have been implicated in the transmission of more than 20 pathogens. However, the blood-borne viruses of most concern to dental professionals are Hepatitis B, Hepatitis C and Human Immunodeficiency virus. For percutaneous injuries with contaminated blood, the probability of transmission is assumed to be the following:

- **Hepatitis B (HBV)**- 30% for patients that are HBeAg positive (however, a vaccination against Hepatitis B virtually eliminates the risk for contracting Hepatitis B)
- **Hepatitis C (HVC)**- 1.8%
- **Human Immunodeficiency Virus (HIV)**- 0.3%. After mucous membrane exposure, it is estimated at 0.09%. A mucocutaneous exposure involves contact of an infectious substance with mucous membranes, rather than a sharps injury.⁴

Table 1 below lists examples of when sharps injuries may occur within the dental practice.

At the Chairside	During Instrument Processing	At Other Times
When preparing the anaesthetic syringe	When sharpening instruments	When handling sharps in the dental laboratory
When giving injections	When removing needles, scalpel blades, broken items left in tray set ups	
When sharps are passed	When hand scrubbing and rinsing sharps	
When needles are recapped despite regulations discouraging recapping	When placing/retrieving sharp instruments from cleaning solutions	

When needles are discarded	When packaging sharps items for sterilisation	
When exposed sharps are picked up	When organising tray set ups	
When using sharp hand instruments	When handling sterile packages of sharps	
When sharps are laid down		
When manipulating scalpels and blades		
When making incisions		
When suturing		
When placing/removing burs from hand pieces		
When manipulating wires, orthodontic bands and dental appliances		
When gathering items after patient appointments		

Table 1. Examples of when sharps injuries can occur²

Prevention of Sharps Injuries

The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 provide "specific detail on requirements that must be taken by healthcare employers and their contractors." These are:

- 1) Avoid the unnecessary use of sharps
- 2) Where it is not reasonably practicable to avoid the use of medical sharps, the sharps regulations require employers to:

- Use safer sharps and prevent recapping of needles.

- Place secure containers and instructions for safe disposal of medical sharps close to the work area.³

Using Safer Sharps (incorporating protection mechanisms) regulation 5 (1) (b)

Whenever reasonably practicable to do so, the employer must substitute traditional, unprotected sharps with a 'safer sharp'. A 'safer sharp' means medical sharps that incorporate features or mechanisms to prevent or minimise the risk of injury.³ One brand of safety syringe has a sliding plastic tube that covers the needle so it does not need to be recapped (Fig 1). After the procedure, the syringe tube snaps into a locked position and the entire syringe and needle are disposed of in the sharps container. The handle is reusable and can be sterilised.⁵



Fig.1 Safety syringe

When considering using 'safer sharps' the following factors should be considered:

- ✓ The device must not compromise patient care.
- ✓ The reliability of the device.
- ✓ The caregiver should be able to maintain appropriate control over the procedure.
- ✓ Other safety hazards or sources of blood exposure the device may introduce.
- ✓ Ease of use.
- ✓ Is the safety mechanism design suitable for the application?

The following are relevant:

- If activation of the safety mechanism is straight forward, it is more likely to be used.
- If the safety mechanism is integral to the device, it cannot be lost or misplaced.
- For many uses a single-handed or automatic activation will be preferable.

- An audible, tactile, or visual signal that the safety mechanism has correctly activated is helpful to the user.
- The safety mechanism is not effective if it is easily reversible.

It is important to realise that using 'safer sharps' does not necessarily remove all risks associated with the use of the sharp. The employer's risk assessment should identify all risks associated with the use of sharps and identify appropriate equipment, safe procedures, personal protective equipment, and immunisation required at each stage.³

Preventing the recapping of needles- regulation 5 (1) (c)

An accidental injury can occur if the dental professional holds the needle in one hand and attempts to place a cap on the needle with the other hand (two handed recapping-fig.2).



Fig. 2. Needles should not be re-sheathed using the two-handed technique
 Needles **must not be recapped unless the employer's risk assessment has identified that recapping itself is required to prevent a risk** (for example to reduce the risk of contaminating a needle used to deliver a top-up local anaesthetic) In these limited cases, appropriate devices to control the risk of injury to employees must be provided. For example, needle blocks can be used to remove and hold the needle cap to allow safe one-handed capping (Fig 3).

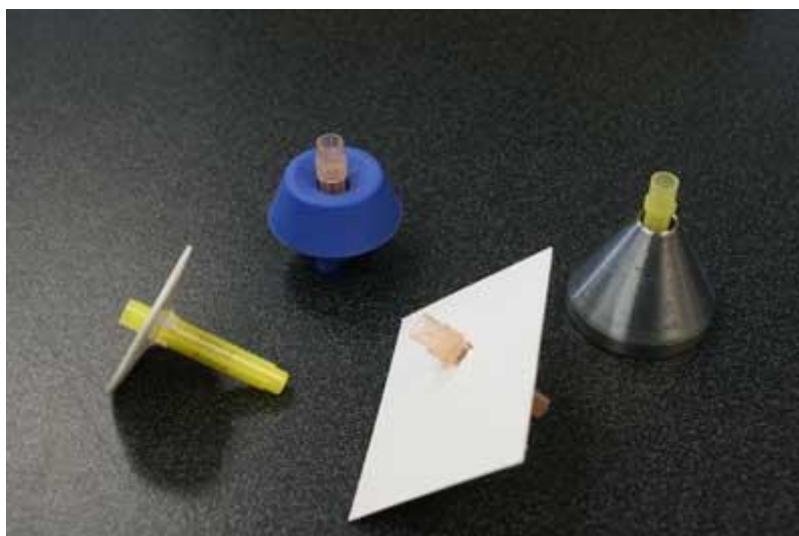


Fig. 3. Example of recapping devices⁵

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

Regulation 7 (6) c of COSHH requires systems to dispose of contaminated waste safely. Clearly marked and secure sharps containers should be placed close to the areas where medical sharps are used (fig.4). Instructions for staff on the safe disposal of sharps must also be placed in these areas.³



Fig.4. Sharps container

Nice Guidance states sharps containers:

- Must be located in a safe position reachable by the clinician, that avoids spillage, is at a height that allows the safe disposal of sharps, is away from public areas and is out of the reach of children.
- Must not be used for any other purpose than the disposal of sharps.
- Must not be filled above the fill line.
- Must be disposed of when the fill line is reached
- Should be temporarily closed when not in use.⁶

Additional steps for remaining 'sharps safe'

The Health and Safety Executive website outlines the following advice for remaining 'sharp safe':

Avoid leaving sharps lying around
Avoid re-sheathing any used needles
Do not bend/break needles before discarding them
Place contaminated sharps in disposal containers approved to BS 7320:1990 immediately after use
Close the aperture to the sharps container when carrying or if left unsupervised, to prevent spillage or tampering

Lock the container before or when it reaches the fill line using the closure mechanism. Do not try to press sharps down to make more room

Place damaged sharps containers inside a larger sharps' container. Lock and label the container with your practice address prior to disposal

Do not place anything sharp inside waste bags as it may cause injury

Do not try to retrieve items from a sharps container

Do not place sharps containers on the floor, windowsills or above shoulder level

They should be stored above knee level and below shoulder level

Carry sharps containers by the handle, away from the body

Keep all sharps waste in a designated, secure area until it is collected⁷

In addition, the following measures should also be taken:

- Avoid hand-hand passing of sharps to another person.
- Make sure handpieces in their holders have the bur pointing away from the operator.
- Organise sharp instruments in a tray so that their tip is not pointing up and always make sure that instruments returned to the tray are placed in a stable position.
- Use instrument cassettes thick enough to avoid sharps from protruding out of the cassette.
- Look before reaching for a sharp instrument or instrument package
- Carefully check instrument packages for protruding instruments before handling.
- Wear heavy duty gloves during operatory clean-up and instrument processing.
- Avoid manual cleaning of instruments (use ultrasonic bath or washer-disinfector wherever possible).
- If an instrument must be hand scrubbed, use a long-handled brush.²

Staff Training

Employers must be able to show that they've taken steps to ensure that all team members have been trained in the management of sharps and that this is updated as

regularly and when new items are introduced. Under the Sharps Regulations, the training provided to employees must cover:

- The correct use of safer sharps.
- How to use PPE provided.
- The findings of any risk assessments.
- Safe use and disposal of medical sharps.
- What to do in the event of a sharps injury.
- The employer's arrangements for health surveillance and other procedures.^{3,8}

Written instructions should be available to employees on the use of sharps and what to do in the event of a sharps injury.

What to do in the event of a sharps injury

If you suffer an injury from a sharp which may be contaminated:

- ✓ Encourage the wound to gently bleed, ideally holding it under running water.
- ✓ Wash the wound using running water and plenty of soap.
- ✓ Don't scrub the wound whilst you are washing it.
- ✓ Don't suck the wound.
- ✓ Dry the wound and cover it with a waterproof plaster or dressing.
- ✓ Seek urgent medical advice (for example from your Occupational Health Service) as effective prophylaxis (medicines to help fight infection) are available.
- ✓ Report the injury to your employer.⁸

The employer should keep a record of any sharps injuries and the circumstances in which the injury took place. The investigation should establish whether the employer's existing risk control measures are adequate. Further information on the reporting of sharps injuries can be found in the non-verifiable link at the end of this article.

Care Quality Commission



The Care Quality Commission (CQC) state the following as mandatory requirements in relation to safer sharps in dental practice:

1. Employers ensure that risks from sharps injuries are adequately assessed, and appropriate control measures are in place.
2. There is a written practice policy/protocol in place, including a risk assessment explaining why they continue to use traditional local anaesthetic reusable syringes (see 3 and 4 below).

3. The employer should ensure that sharps are only used where they are required.
4. The employer must substitute traditional, unprotected medical sharps with a 'safer sharp' where it reasonably practicable to do so.
5. Place secure containers and instructions for safe disposal of medical sharps close to the work area (but **not** sited on the floor)
6. Regulation 7(6)(c) of COSHH requires systems to dispose of contaminated waste safely.
7. Employees are trained so they know how to work safely and without risk to health with the specific sharps equipment and procedures that they will use.
8. An employee who receives a sharps injury at work must notify their employer as soon as practicable. The employer must ensure they have sufficiently robust arrangements to allow employees to notify them in a timely manner, including where the employee works out-of-office hours or away from the employer's premises.
9. If an employee has been injured by a sharp that has or may have exposed them to a blood-borne virus, the employer must:
 - ensure that the employee has: -
 - immediate access to medical advice;
 - has been offered post-exposure prophylaxis and any other medical treatment; as advised by a doctor;
 - considered whether the employee should receive counselling.
10. An employer must: -
 - record a sharps injury when they are notified of it, whoever provides that notification;
 - investigate the circumstances and causes of the incident, and;
 - take any action required.

Conclusion

The dental team are at risk of sharp injury at any time during instrument processing. Employers are required to ensure that risks from sharps injuries are adequately assessed, and appropriate control measures are put in place. Dental Care Professionals should ensure that they understand the potential risks of a sharps injury and that they have reviewed practice policy and have been appropriately trained in sharps handling.

Personal Development Plan and Reflective Learning

This CPD is linked to the following GDC Enhanced CPD Development Outcome:

C. Maintenance and development of knowledge and skill within your field of practice.

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will now be offered the opportunity to answer some reflective learning questions for the CPD you complete. These will be:

- 1) What did you learn (or confirm) from the activity that was helpful or relevant to your daily work and patients?
- 2) Comment on any changes/updates needed in your daily work
- 3) How has completion of this CPD article benefitted your work as a DCP?

Further Reading

[Health and \(Sharp Instruments in Healthcare\) Regulations 2013 Guidance for employers and employees](#)

[Blood-borne viruses in the workplace](#)

References

1. Health and Safety Executive (2013) Sharps Injuries. Available at: <http://www.hse.gov.uk/healthservices/needlesticks/> (accessed 25/02/2025).
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8. Health and Safety Executive (2013) Sharps Injuries. Available at: <http://www.hse.gov.uk/healthservices/needlesticks/> (accessed 25/02/2025).
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