



# School of Life Sciences

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## Health & Safety Policy: Safe Use and Disposal of Sharps

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## 1 EXECUTIVE SUMMARY

### 1.1 OBJECTIVES

The use of sharps presents a very significant risk of personal injury to anyone coming into contact with them (often NOT the person who originally used them). Injuries can include cuts, severing of digits/limbs, needle-stick, infection, chemical/radiological poisoning. The use of sharps must therefore be avoided whenever possible. If this is not possible, substitution with safer alternatives and/or strict adherence to safe working and disposal practices must be observed by all persons using sharps. It is the responsibility of those directing work to ensure that staff understand the principles in this policy and comply with it.

### 1.2 KEY POINTS

All staff have a responsibility to ensure that they and others are protected from harm as a result of work with sharps. Managers have additional responsibility for ensuring that their staff comply with this policy.

A hierarchy of control measures must be adopted in all cases where the use of sharps is being considered.

- (1) Avoiding use of Sharps
- (2) Substituting for Safer Alternative, if possible, **linked with...**
- (3) Strict adherence to safe working procedures, **always linked with...**
- (4) Correct Disposal of Sharps
- (5) Action in Event of Injury

### 1.3 SCOPE

Sharps can take many forms, including knives, scalpels, razor blades, guillotine blades, mincing/blending blades, sewing needles and pins, hypodermic needles, etc. This policy includes ANY sharp that has the potential to cause personal injury, although it principally focuses on those sharps used in laboratory situations.

The policy applies to all staff groups who may come into contact with sharps, including research staff, administrative staff, stores staff, janitors, cleaners, Estates & Building staff. It also applies to non-employees who may come into contact with sharps either as a result of the reason why they are within College premises (for example company representatives demonstrating equipment that uses sharps) or incidentally (for example visitors being taken on tours of laboratories). In the case of non-employees, it is the responsibility of the host or guide to ensure that this policy is complied with.

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## 2 INTRODUCTION

### 2.1 BACKGROUND

Sharps can take many forms and be present either intentionally as part of the work being undertaken or unintentionally (usually if carelessly discarded or not adequately shielded / enclosed). Whilst it is not always possible to remove the need for sharps from the workplace, it is always possible to reduce the risk posed by their use and this can be done in a number of ways. A hierarchy of control measures exists and the various measures can also be combined when elimination is not possible.

Sharps have the potential to cause injury in many ways. Knives and blades can cause cuts and severe limbs or digits. Needles can cause penetrative injuries (so called “needlestick” injuries) that can cause infection from adventitious agents (e.g. bacteria) or from agents present within the liquid within the needle (e.g. blood-borne viruses such as HIV or Hepatitis B / C). Needles used in research laboratories often present a chemical safety hazard, since they can contain harmful chemicals. In addition, recent research by Green & Griffiths (2013) shows that psychological illness accompanies the physical illness and this can be the principal issue in many cases, due to the delay in getting the “all clear” following a sharps-related injury.

### 2.2 LEGAL REQUIREMENTS

The law places legal responsibilities on employers and their staff to ensure the health and safety of anyone who may be affected by sharps that are in use. The Health and Safety at Work etc Act (1974) is the principle piece of legislation and imposes a legal responsibility on employers to ensure a safe working environment, safe systems of work and safe equipment. Employees have a duty under the Act to comply with the health and safety requirements of the employer, such as following safe systems of work. The Act is supported by secondary legislation; important examples from the perspective of sharps are:

- The Personal Protective Equipment at Work Regulations (1992)
- The Management of Health and Safety at Work Regulations (1999)
- The Control of Substances Hazardous to Health (COSHH) Regulations (2002)
- The Provision and Use of Work Equipment Regulations (1998)
- Health and Safety (Sharp Instruments in Healthcare) Regulations (2013)

This policy has been produced in accordance with the above legal requirements and is intended to protect employees and others from the hazards posed by sharps. The control measures stated are simple and should be common sense. By applying them whenever the use of sharps is considered, the health and safety of everyone will be maintained to the highest standards.

## 3 ROLES & RESPONSIBILITIES

### 3.1. MANAGEMENT ROLES & RESPONSIBILITIES

Managers must:

- (1) Ensure compliance with this policy, taking disciplinary action if necessary.
- (2) Ensure all newly appointed staff are made aware of this policy.
- (3) Identify deficiencies in the policy and bring to the attention of H&S staff.

- (4) Identify learning and development requirements relating to this policy and to incorporate these into staff development plans.
- (5) Ensure that all sharps-related injuries are reported and investigated, with finding recorded and action taken to reduce likelihood of repetition.

### 3.2 STAFF ROLES AND RESPONSIBILITIES

Staff must:

- (1) Read and follow safe working practices contained within this policy.
- (2) Bring to their manager's attention any situation where sharps safety could be improved.
- (3) Report any sharps-related incident (including near misses) to their manager and H&S staff as soon as possible.

## 4 SHARPS RISK ASSESSMENTS

### 4.1 OVERVIEW

An integral part of all sharps risk assessments must be consideration of the points contained below in the hierarchy of control. Simply choosing to use a sharp must never be an option that is tolerated; it must only be chosen after conducting a suitable and sufficient risk assessment that looks at all the alternatives. A COSHH Regulations-style approach to control measures must be implemented.

This hierarchy of control measures must be adopted in all cases where the use of sharps is being considered.

- (1) Avoiding use of Sharps\*
- (2) Substituting for Safer Alternative\*, if possible, **linked with...**
- (3) Strict adherence to safe working procedures, **always linked with...**
- (4) Correct Disposal of Sharps
- (5) Action in Event of Injury

\* There may be a cost implication for making these changes. However, that is **NOT** a reason to ignore these options. The law requires that peoples' safety is ensured "so far as is reasonably practicable". This phrase means that there has to be a grossly disproportionate expense (in terms of time, money or inconvenience) relative to the reduction in risk achieved in order for something not to be done. In practice, if a risk reduction measure is possible, it must be applied.

Each level of this hierarchy is considered in more detail below.

### 4.2 AVOIDING THE USE OF SHARPS

Akin to the first principle of the COSHH Regulations, avoiding the use of sharps whenever possible must be the first option to consider. This could either mean entirely avoiding the task involving sharps or making sufficient changes to the process such that a sharp is no longer required. Examples of such activities are:

- Avoiding the need to use hypodermic needles in order to obtain blood samples from volunteers for analysis by obtaining blood from the Scottish National Blood Transfusion Service (SNBTS).
- Substitution of dialysis cassettes that require a hypodermic needle to load/unload the sample with an alternative type where a regular pipette can be used.

- Substituting the use of glass Pasteur and reusable graduated pipettes for plastic pre-sterilised pastettes and graduated pipettes respectively (see Appendix 1, Figure 1)
- Obtaining pre-cut transfer membranes instead of cutting up larger sheets using scalpels.

Many other examples exist and the intention here is not to list every case. Instead, the crucial point is made that **removing the use a sharp is always the best option whenever this is possible**. Staff should continually evaluate alternatives to the use of sharps and introduce such alternatives whenever possible.

#### 4.3 SUBSTITUTING FOR SAFER ALTERNATIVE

The distinction is made here between substituting the use of a sharp for a method that removes the need to use a sharp altogether (see above) and substituting for a **safer** alternative. The emphasis is on safer rather than safe, since a sharp is still used. Examples are:

- Using a specially designed box opening tool with a guarded blade rather than an unguarded knife (see Appendix 1, Figure 2).
- Using a wheel-type guillotine to cut paper rather than scissors or a knife.
- Using a hypodermic needle with a shield or cover that slides or pivots to cover the needle after use instead of a bare needle (note that when such devices are to be used for medical purposes, consideration must be given to various operational factors. For more information, see HSE guidance (Health and Safety Executive, 2013).

In all cases where a safer sharp is used, it is vital that strict adherence to safe working procedures is ensured. Using a safer sharp still presents a hazard that must be controlled.

#### 4.4 SAFE WORKING PROCEDURES

This is the least desirable of the hierarchy of control measures to use for the work process, since removing the sharp is a much safer measure. However, strict adherence to safe working procedures can significantly reduce the likelihood and severity of injury. Key aspects of safe working practices are:

- Competence of the user is vital. The degree of competence required will vary according to the task and sharp being used, but may be significant and may require verification by examination.
- Following the safe operating procedure for the sharp (consult the manufacturer's instructions).
- Use of appropriate personal protective equipment (PPE), such as puncture or cut resistant gloves and chain-mail gloves.
- Safe storage of sharps (NOT in lab coat pockets).
- Safe disposal of sharps (covered in more detail below).

#### 4.5 CORRECT DISPOSAL OF SHARPS

Sharps must be disposed of safely, both for the operative using the sharp and for anyone else who might otherwise come into contact with the sharp later. The key points are:

- Needles must never be re-sheathed before disposal. This presents a very significant needlestick injury potential. Needles are single use, disposable items. Sharps safes contain built-in needle removal devices that allow users to take needles off of syringes and other items safely if there is a need to separate the needle from another item prior to disposal of the needle.
- Sharps must never be left unprotected (e.g. shelves, benches, drawers, pockets). Once used, they must be disposed of immediately.
- Sharps must only be disposed of into a suitable "Sharps Safe", conforming to BS7230: 1990, UN3291

(see Appendix 1, Figure 3).

- Sharps safes must be assembled correctly (see manufacturer's instructions).
- Adequate numbers of appropriately sized sharps safes must be made available at the site of sharps use and these must be used according to the manufacturer's instructions.
- Sharps safes must not be filled above the manufacturer's stated volume.
- Sharps safes must be closed up (see manufacturer's instructions) immediately when at capacity and then sent for disposal via the approved route (see local rules).

#### 4.6 ACTION IN EVENT OF INJURY

Taking the correct action is vital for reducing the potential for further injury resulting from the initial sharps incident. The key steps are:

- Seek first aid assistance from a qualified first aider.
- Encourage the wound to bleed so that material introduced into the body is expelled.
- Wash the wound with soap and water, but avoid scrubbing. Dry and cover with a dressing.
- If injury is serious or there is reason to believe that harmful chemical or biological agents might have been involved, seek immediate medical assistance (attend A&E or your GP).
- Management are responsible (in cooperation with appropriate H&S staff as necessary) for investigating all sharps-related incidents and implementing additional control measures to prevent (if possible) or minimise the likelihood of future injuries occurring.

Report the incident as soon as possible to CLS H&S staff.

#### 5 FURTHER READING

- Green, B. & Griffiths, E.C. (2013). Psychiatric consequences of needlestick injury. *Occupational Medicine* 63, 183-188.
- Health and Safety Executive (2013). *Health Services Information Sheet 7, Health and Safety (Sharp Instruments in Healthcare) Regulations 2013. Guidance for employers and employees.* HSE.
- The Control of Substances Hazardous to Health Regulations SI 2002 No. 2677.
- The Health and Safety at Work etc Act (1974).
- The Health and Safety (Sharp Instruments in Healthcare) Regulations SI 2012 No. 645.
- The Management of Health and Safety at Work Regulations SI 1999 No. 3242.
- The Personal Protective Equipment at Work Regulations (as amended) SI 1992 No. 2966.
- The Provision and Use of Work Equipment Regulations SI 1998 No. 2306.

#### 6 DOCUMENT CONTROL

Date	Author	Changes
21-7-13	N Helps	V0.1 Initial draft version
13-8-13	N Helps	V0.2 Correct typos and include statements regarding accident investigation
23-9-13	N Helps	V1.0 Approved at CLS H&S Management Committee
26-2-19	N Helps	V1.1 Updated formatting and added information about sharps safe features

APPENDIX

FIGURE 1. EXAMPLES OF SUBSTITUTING SHARPS FOR NON-SHARPS.



FIGURE 2. EXAMPLE OF SUBSTITUTING A SHARP FOR A SAFER SHARP.



FIGURE 3. APPROVED SHARPS SAFE (MANUFACTURED TO BS7230: 1990, UN3291)

