

Sharps Injuries - Prevention in the NSW Public Health System

Summary The purpose of this policy directive and associated guidelines is to prevent or minimise sharps injuries in the NSW public health system by directing organisations to develop a sharps injury prevention program utilising a risk management framework. The document also provides guidance for organisations to meet OHS legal obligations with regards to sharps injuries

Document type Policy Directive

Document number PD2007_052

Publication date 29 June 2007

Author branch Workplace Relations

Branch contact

Review date 31 May 2018

Policy manual Not applicable

File number

Previous reference N/A

Status Review

Functional group Clinical/Patient Services - Infectious Diseases, Incident Management
Population Health - Infection Control
Personnel/Workforce - Occupational Health and Safety, Learning and Development

Applies to Area Health Services/Chief Executive Governed Statutory Health Corporation, Board Governed Statutory Health Corporations, Affiliated Health Organisations, Affiliated Health Organisations - Declared, Public Health System Support Division, Community Health Centres, Dental Schools and Clinics, Divisions of General Practice, Government Medical Officers, NSW Ambulance Service, Public Hospitals

Distributed to Public Health System, Community Health Centres, Dental Schools and Clinics, Divisions of General Practice, Government Medical Officers, Health Associations Unions, Health Professional Associations and Related Organisations, NSW Ambulance Service, Ministry of Health, Public Hospitals, Private Hospitals and Day Procedure Centres, Private Nursing Homes, Tertiary Education Institutes

Audience All Staff

Secretary, NSW Health

This Policy Directive may be varied, withdrawn or replaced at any time. Compliance with this directive is mandatory for NSW Health and is a condition of subsidy for public health organisations.

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Author Branch Health Protection

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Review date 29-Jun-2012

Policy Manual Not applicable

File No.

Director-General **Status** Active

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**POLICY and GUIDELINES for the
PREVENTION of SHARPS INJURIES
in the NSW PUBLIC HEALTH SYSTEM**

May 2007

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1.0 About This Document

- 1.1 Prevention of sharps injuries** This document provides the policy and guidelines for preventing sharps injuries in the NSW public health system.
Copies may be obtained at:
<http://www.health.nsw.gov.au/policies/index/html>
- 1.2 Responsibility** AIDS and Infectious Diseases Branch
- 1.3 Version** Final version - May 2007
- 1.4 Review** This policy directive will be subject to regular review, consistent with PD2005_481: Policy, Guideline and Information Bulletin Distribution System for the NSW Department of Health.
- 1.5 Related NSW Health policies**
- PD2005_409: Workplace Health and Safety: Policy and Better Practice Guide
- PD2007_036: Infection Control Policy
- PD2005_414: Infection Control Program Quality Monitoring
- PD2005_354: WorkCover NSW Reporting Requirements: Occupational Exposures to Blood-Borne Pathogens
- PD2005_311: HIV, Hepatitis B and Hepatitis C - Management of Health Care Workers Potentially Exposed
- PD2007_006: Occupational Assessment, Screening and Vaccination Against Specified Infectious Diseases
- PD2005_162: HIV, Hepatitis B or Hepatitis C – Health Care Workers Infected
- PD2005_187: Orientation Policy for NSW Health
- PD2005_189: Occupational Health, Safety and Rehabilitation Numerical Profile
- PD2005_132 Waste Management Guidelines for Health Care Facilities
- NSW Health Purchasing and Supply Manual for Public Health Organisations
http://www.health.nsw.gov.au/audit/manuals/purch_supply.pdf
- 1.6 Related NSW legislation**
- Occupational Health and Safety Act 2000
- Occupational Health and Safety Regulation 2001

Medical Practice Regulation 2003

Nurses and Midwives Regulation 2003

Dentists Practice Regulation 2004

Dental Technicians Registration Regulation 2003

Physiotherapists Regulation 2002

Podiatrists Regulation 2005

1.7 Additional references and resources

Department of Health
73 Miller Street North Sydney NSW 2059
Ph (02) 9391 9305
<http://www.internal.health.nsw.gov.au/>

Needlestick Injury Hotline: 1800 804 823

WorkCover NSW
Locked Bag 2906 Lisarow NSW 2252
Ph (02) 4321 5000
<http://www.workcover.nsw.gov.au/>

Code of Practice - Notification Requirements for Occupational Exposure to Human Blood-Borne Pathogens

http://www.workcover.nsw.gov.au/NR/rdonlyres/4CE35153-9C01-420E-A055-726CCF4A5C14/0/blood_pathogens_4430.pdf

National Code of Practice for the Control of Work-related Exposure to Hepatitis and HIV (Blood-borne) Viruses, [NOHSC:2010 (2003)], NOHSC, 2nd edition, December 2003.

http://www.ascc.gov.au/NR/rdonlyres/14850412-BF2D-4E22-B4F7-076CBD4383F6/0/HIV_2Ed_2003.pdf

Guidelines for Clinical Products – Health Procurement (2005)
<http://internal.health.nsw.gov.au/business/hp/MainDocs/Library.htm>

NSW Health web address with links to: data on blood-borne virus notifications; and Infection Control
<http://www.health.nsw.gov.au/>

AS/NZS 4360:2004 Risk Management
<http://www.riskmanagement.com.au/>

Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia
<http://www.cdc.gov/sharpssafety/pdf/WorkbookComplete.pdf>

Sharps Safety and Needlestick Prevention, 2nd ed. ©2003 ECRI
<http://www.ecri.org/>

1.8 Key definitions used throughout this document

Clinicians

Healthcare workers who provide direct clinical care to patients / clients.

Clinical assessment

A framework used to assess a clinician's practice including their adherence to a defined set of principles for specific clinical skills or procedures to ensure standardised practices in the delivery of patient care.

Hazard

A source or situation with a potential for harm in terms of human injury or ill health, damage to property, damage to the environment, or a combination of these.

Healthcare workers

Persons involved in the delivery of health care services in, or on behalf of the NSW public health system and who have contact with patients / clients or with blood or body substances. Visiting Medical Officers, students, trainees, mortuary attendants, and hospital support staff such as cleaners and launderers are included under this definition.

Hollow bore needles

These are needles, of varying gauges, designed to enable fluids (bodily or other) to pass through them to or from a collection vessel e.g. a syringe.

Induction program

A program conducted for new staff specifically related to the work area or department in which they will work.

NSW Health Service

Consists of staff employed in all Area Health Services, all statutory health corporations, any declared affiliated health organisations, the Ambulance Service of NSW and the Public Health System Support Division (currently includes the Institute of Medical Education and Training, Health Technology and HealthSupport).

NSW public health system

Consists of all Area Health Services, all statutory health corporations, all affiliated health organisations in respect of their recognised services, the Ambulance Service of NSW and the Public Health System Support Division (currently includes the Institute of Medical Education and Training, Health Technology and HealthSupport).

Organisation

For the purpose of this policy directive, this term refers to any entity that is part of the NSW public health system.

Orientation program

A program whereby new staff are welcomed to an organisation during which the goals and direction for NSW Health and the organisation are articulated.

**1.8 Key definitions
(cont.)**

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(cont.)**

Patient / clients

For the purpose of this policy directive, refers to any person receiving health care on health service property, in the home or in the community.

Phlebotomy

Procedures undertaken for the purpose of vascular access. Such access is predominantly venous in type.

Point of use (sharps disposal containers)

The placement of sharps disposal containers as close as is practical to the site where sharp devices are used so as to limit the distance between their use and their disposal.

Post exposure management

Assessment and treatment of healthcare workers who have sustained a potentially contaminated sharps injury.

Risk

The likelihood and consequence of a potential injury or harm occurring.

Risk assessment

The overall process of estimating the magnitude of a risk arising from a hazard, before deciding what actions will be taken.

Risk control

The phase of risk management that involves implementing policies, standards, procedures and physical changes to eliminate or minimise risks.

Safety-engineered sharps devices

Devices used in the delivery of patient care that have engineering features designed to prevent the device from causing a fluid splash or a sharps injury to those involved in their use or disposal.

Safety-engineered sharps devices (active design)

The safety mechanisms of these devices require activation after use by the user in order to render them safe.

Safety-engineered sharps devices (integrated safety design)

Devices with this type of design have a safety feature that is built in as an integral part of the device and cannot be removed.

Safety-engineered sharps devices (passive design)

The safety mechanism of these devices is integrated and remains in effect before, during and after use. Their activation is not dependent on any action by the user and cannot be bypassed or forgotten.

Sharp

Object or device capable of inflicting a penetrating injury and includes needles, scalpel blades, wires, trocars, auto lancets, stitch cutters and broken glassware.

Sharps injury

Any injury that results in piercing of the skin by a needle or other sharp object or device.

For the purpose of this policy directive a sharps injury (either clean or contaminated) is one that occurs as a result of a work related activity.

Sharps injury prevention program

A systematic approach that operates within an OHS framework and is aimed at eliminating or minimising sharps injuries to healthcare workers.

1.9 Glossary of acronyms

BBV	[blood borne virus]
HBV	[hepatitis B virus]
HCV	[hepatitis C virus]
HCW	[healthcare worker]
HIV	[human immunodeficiency virus]
IIMS	[Incident Information Management System]
IM	[intramuscular]
IV	[intravenous]
NSI	[needle stick injury]
OHS	[occupational health and safety]
PD	[policy directive]
PEC	[product evaluation committee]
PEP	[post exposure prophylaxis]
PI	[performance indicator]
PPE	[personal protective equipment]
SC	[subcutaneous]
SESD	[safety-engineered sharps device]

2.0 Introduction

2.1 Background

The General Purpose Standing Committee No.1 inquiry into *Serious injury and death in the workplace* was convened in 2004.

Recommendation 13 of the report that resulted from the inquiry directed NSW Health, in conjunction with WorkCover NSW to undertake further study of the costs and benefits of introducing retractable needles to the NSW health system.

Government response to the report proposed further study of a range of sharps safety devices in addition to retractable needles.

NSW Health established the Sharps Safety Project in April 2005 in response to Recommendation 13. The action plan for this project was structured in accordance with the occupational health and safety (OHS) framework prescribed in PD2005_409 *Workplace Health and Safety: Policy and Better Practice Guide* - NSW Health. A comprehensive approach to reducing sharps injuries in the NSW public health system was undertaken that included an exploration of a range of risk reduction strategies.

2.2 Environmental scan

The Occupational Health and Safety (OHS) Regulation 2001 directs employers to eliminate or control any foreseeable workplace risk. Most sharps injuries are a foreseeable workplace risk and are identified internationally as being a significant problem for healthcare workers (HCWs), particularly needle stick injuries (NSIs). The most considerable risk from NSIs is transmission of blood-borne viruses (BBVs) such as hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV). This risk is dependent on the prevalence of the viruses in the general population; the transmission rate (higher with HBV and HCV than HIV); and vaccination coverage for HBV. Estimations of seroconversion rates following NSI are:

- 1.6% - 40% for HBV, depending on 'e' antigen presence and DNA status;
- 1.8% - 10% for HCV, depending on PCR status; and
- 0.3% for HIV.

The highest *rates* of sharps injuries identified in the international literature are associated with the use of hollow bore needles attached to disposable syringes. The activities associated with the greatest *risks* of sharps injuries are in the administration of routine intramuscular (IM) and subcutaneous (SC) injections followed by phlebotomy procedures. In excess of eighty percent (80%) of all reported sharps injuries involve a contaminated needle.

The use of sharps in organisations that provide health care is ubiquitous due to increased levels of patient acuity, the type of medical interventions undertaken, vaccination programs and patients with increasingly complex illnesses.

In addition, seroprevalence of BBVs is significant within the general community of NSW and it is probable that those who are considered infectious will require inpatient or outpatient health

care at some stage during their lives.

Peer reviewed literature cites a high level of under-reporting (ranging from 30-80%) associated with sharps injuries incurred by HCWs. Factors identified as being associated with under-reporting include: HCWs assessing themselves as having a low risk of disease transmission from their injury; the complexity of injury reporting; or the time lost from the workplace as part of injury reporting and associated management.

In 2005, enhanced data collection was introduced to the NSW public health system (Area Health Services only) via the Infection Control Quality Monitoring Program to assist NSW Health in better understanding the causes and circumstances of sharps injuries. The data will enable more appropriate quality improvement programs and policy initiatives to be developed.

Data reported from NSW public hospitals since commencement of this program indicate that sharps injuries pose a significant risk to HCWs in NSW. Preliminary results indicate that forty percent (40%) of HCWs who experience a sharps injury in NSW are registered nurses with medical officers also highly represented, and that more sharps injuries involve hollow bore needles than any other sharp.

These figures are consistent with those that have been reported by the International Health Care Worker Safety Center at the University of Virginia Health System.
(<http://www.healthsystem.virginia.edu/internet/epinet>).

The prevention of sharps injuries is an important step in preventing the transmission of BBVs to HCWs. While risks to *individual* healthcare workers may be viewed as relatively low, the risk for the healthcare worker *population* is of concern.

The costs associated with sharps injuries are potentially substantial. These costs can be categorised as: emotional (affecting the HCW and their families); physical (including investigative processes and injuries to workers); and financial, associated with both prevention (especially the introduction of safety-engineered technology) and management of injuries.

While a number of generic issues associated with sharps safety are relevant to all organisations, certain clinical specialties have distinct concerns that would best be addressed in a specific risk management program.

2.3 Purpose of the policy directive and guidelines

The purpose of this policy directive and associated guidelines is to prevent or minimise sharps injuries in the NSW public health system. The associated objectives are to:

- ensure that organisations develop a sharps injury prevention program that protects staff, patients and members of the community;

-
- provide a risk management framework for the development of a sharps injury prevention program;
 - provide guidance for meeting OHS legal obligations with regards to sharps injuries;
 - reduce adverse outcomes of sharps injuries such as BBV transmission if, and when such injuries do occur; and
 - ensure that the personal and organisational costs associated with sharps injuries are minimised.

In this document the use of the word:

Must indicates a mandatory practice required by law and/or by NSW Health policy directive; and the word

Should indicates a strongly recommended action or practice that is to be followed unless there are sound reasons for taking a different course of action

2.4 Application of the policy directive and guidelines

This document contains the policy and guidelines for the NSW Health Service on prevention of sharps injuries. In addition, as the Determination of Conditions of Subsidy requires (to the extent permitted by law) non declared affiliated health organisations to comply with policy directives dealing with the terms and conditions of employment of staff employed in the NSW Health Service and to provide to staff the same conditions of employment as those set out in industrial instruments applicable to staff employed in the NSW Health Service, the policy is to be applied across the NSW public health system. The policy also applies to all HCWs providing services on behalf of the NSW public health system (see definitions – page 6).

Licensed private health care facilities in NSW should have regard to this policy directive and guidelines as a reference for the development of sharps injury prevention programs.

2.5 NSW Health policy statement

This document is to be read in conjunction with NSW Health policy directives: PD2007_036 (Infection Control Policy); PD2005_311 (HIV, Hepatitis B and Hepatitis C - Management of Health Care Workers Potentially Exposed); PD2005_354 (WorkCover NSW Reporting Requirements: Occupational Exposures to Blood-Borne Pathogens); PD2005_409 (Workplace Health and Safety: Policy and Better Practice Guide); and PD2005_414 (Infection Control Program Quality Monitoring).

Staff in the NSW public health system have the right to work without concern of experiencing a sharps injury. For this right to be realised, the mutual obligation of employers and staff to ensuring a culture of safety **must** be acknowledged, enhanced and promoted.

To effectively meet obligations arising out of the OHS Act 2000 and the OHS Regulation 2001 organisations **must** address the hazard of sharps injuries. Therefore, organisations within the NSW public health system **must** implement a sharps injury prevention program. The OHS risk management process **must** be

used in the development of a sharps injury prevention program as per the OHS Regulation 2001 (refer to section 3. of this document).

The *process* for developing a sharps injury prevention program **should** therefore include:

- identification and documentation of relevant performance indicators (PIs);
- undertaking baseline measurements prior to commencement of the program;
- planning and implementation of the program;
- monitoring of risk control measures;
- measurement of PIs over time;
- documentation at all stages of the process; and
- evaluation of the program and identification of opportunities for continuous improvement.

An effective sharps injury prevention program **must** include (refer also to section 5. of this document):

- timely, appropriate consultation with HCWs and their representatives;
- identification of foreseeable workplace hazards associated with the use of sharps;
- the risk assessment of sharp devices used in clinical areas;
- the risk assessment of sharp devices used in other work areas e.g. community settings, laundries, waste collection services;
- the implementation of appropriate control strategies;
- appropriate supervision of staff; and
- appropriate education and training programs for staff.

An effective sharps injury prevention program **should** also incorporate:

- the collection and analysis of clinical indicator data relating to sharps injuries (to assist with hazard identification and risk assessment, and to evaluate the effectiveness of risk elimination and control strategies);
- the identification of situations where it may be practicable and clinically appropriate to introduce safety-engineered sharps devices (SESDs);
- clinical practice review and redesign strategies; and
- the formation of and appropriate representation on product evaluation committees.

2.5.1 Clinical indicator data relating to sharps injuries

Clinical indicator data relating to sharps injuries **must** be collected and reported in accordance with PD2005_414 (Infection Control Program Quality Monitoring).

These data should be reviewed regularly at a local organisational level in combination with other relevant data such as those generated by the use of audit tools and risk assessments to provide a comprehensive sharps safety profile. Sharps injury trends, incidence, ongoing risks and compliance with injury reporting that is less than optimal **should** be communicated to appropriate departments and advisory committees within the organisational structure. These include, for example, Infection

Control, OHS and Product Evaluation Committees.

Clinical indicator data relating to sharps injuries **should** be used to inform policy development; improve or modify clinical practice; establish educational interventions; and inform device purchasing decisions. **(SEE TOOL A)**

2.5.2 Safety-engineered sharps devices

As SESDs have the potential to contribute to the reduction or elimination of sharps injuries, organisations **should** consider their use where practicable and clinically appropriate.

Clinical indicator data relating to sharps injuries, audits and risk assessments **should** be utilised to ensure that SESDs are only considered for the purpose of improving safety at the point where the risk is greatest or where actual injuries have occurred i.e. before use, during use, directly after use, upon disposal or after disposal.

It is advised that prior to the introduction of SESDs into a particular area, devices under consideration **must** be trialed in that area under usual clinical circumstances. Results **must** be evaluated in consultation with users of the device.

Where the use of SESDs is determined by risk assessment to be clinically appropriate a replacement strategy for the existing conventional sharps devices **should** be undertaken. **(SEE TOOL B)**

Where SESDs have been purchased for implementation organisations **should** within 3 years of this policy directive being released:

- develop a coordinated purchasing and usage strategy that includes the specific device categories used within the organisation; and
- ensure available devices are implemented in clinical areas prioritised on basis of risk.

All SESDs that have been implemented **should** be re-evaluated at least annually to:

- evaluate whether they have contributed to a reduced incidence of sharps injuries;
- determine the need for additional training;
- identify adverse affects on patient outcomes;
- identify adverse affects on HCW safety; and
- review contemporary technology trends

2.5.3 Sharps disposal containers

Sharps disposal containers **must** be placed (temporarily or permanently) as close as practical to the point of use of sharp devices to limit the distance between their use and disposal.

If it is determined that (point of use) sharps containers are unable to be made available for specific procedures or settings, rigid containers that are puncture resistant may be used to transport sharps for appropriate disposal

The type of sharps disposal containers in use by organisations **must** be able to accommodate the variation in sizes and quantities of sharps used at a particular location / point of use.

In particular, the type of sharps disposal containers used on resuscitation and emergency equipment trolleys **should** be standardised within each organisation to ensure that they can accommodate all medication ampoules and sharps used in emergency situations.

Optimal height requirements for mounting sharps disposal containers **should** be determined by risk assessment taking into account the type used and the manufacturer's recommendations, the range of heights and reach of HCWs and the nature of the procedure and location (e.g. community setting, ward, trolley).

Once determined, these heights **should** be incorporated in relevant clinical practice policy documents and documentation pertinent to clinical redesign for new buildings and redevelopments.

Standardised methods **should** be developed for securing and carrying sharps disposal containers during transportation by community based HCWs.

PD2007_036 (Infection Control Policy) and the various HCW registration regulations prescribe the minimum requirements for the safe handling of sharps. Each HCW is responsible for the management and disposal of the sharps that they use.

2.5.4 Product Evaluation Committees

A Product Evaluation Committee (PEC) is convened for the purpose of review, evaluation, selection and implementation of medical devices for use within organisations. Such committees may be known by other titles and may be either permanent or short-term entities.

PECs convened to make procurement decisions regarding sharps devices **should** ensure:

- representation for the duration of the selection process by HCWs responsible for direct patient care in those clinical settings where devices under review are being considered for use;
- representation by or consultation with a designated educator from within the health organisation to provide input about educational requirements associated with any implementation process;
- evaluation of the device from the perspectives of HCW safety, impact on patient care (quality and safety) and cost effectiveness; **(SEE TOOLS C & D)** and
- the use of a standardised evaluation form throughout the selection process. **(SEE TOOL E)**

2.5.5 Education and training

An 'organisational learning' model is recommended – where education contributes primarily to the professional development of staff and subsequently to organisational outcomes in terms of practice standards and cultural norms. This approach requires education to function via a partnership model in which relevant and appropriate (including mandatory) education is made accessible to HCWs. Accordingly, education will be conducted at frequent intervals to allow all relevant HCWs the opportunity to attend and managers will release HCWs from clinical duties to facilitate their attendance and participation.

To achieve the minimum standard of health and safety for workers, employers **must** ensure that all new staff members are provided with training and / or skills in accordance with PD2005_187 (Orientation Policy for NSW Health). In relation to sharps injury prevention the following elements **should** be provided:

- overview of the organisation's sharps injury prevention program;
- standard precautions;
- safe handling and disposal of sharps;
- routine use of sharps disposal containers;
- reporting of sharps injuries and other blood and body fluid exposures;
- reporting of identified risks associated with sharps use and disposal;
- hierarchy of risk controls;
- the range of SEDs used throughout an organisation and how the specific safety feature/s operate;
- risks for acquisition of blood borne viruses;
- occupational vaccination and screening; and
- post exposure management processes.

This training **should** also include:

- data relevant to the incidence of sharps injuries within the organisation and the NSW public health system.

In regards to contractors and agency staff, organisations should require such staff to have a basic knowledge about the risks associated with sharps injuries and appropriate prevention strategies prior to service engagement. However, mechanisms should be in place where reasonably practicable, to ensure contractors and agency staff receive relevant education and information about work practices and sharps devices specific to the area to which they are deployed.

Clinicians who are relocating to a different work area within the organisation, either temporarily or permanently, **must** be provided with education or training in the use of sharps devices specific to that area with which they are unfamiliar.

An annual program of education incorporating sharps injury prevention (elements as per bullet points above) **should** be provided by each organisation to all staff exposed to the risk of

sharps injury, including domestic workers such as cleaners, laundry and food service staff. This information can be integrated into existing, associated educational programs.

Education and training **should** also be implemented in response to specific incidents.

Active participation of HCWs can be optimised through the use of a variety of educational techniques. For example, 'train-the-trainer' programs that incorporate the skills and accessibility of front-line staff working in clinical settings **should** be utilised.

Education and training **should** be provided in a manner appropriate to the workplace and take into account any HCW disabilities, language barriers and varying levels of literacy.

De-identified local, aggregate clinical indicator data relating to sharps injuries **should** be made available to staff on a periodic basis (e.g. annually) to raise awareness of exposure trends.

Provision **should** be made for all staff that perform IV cannulation or phlebotomy procedures to undertake a clinical assessment process. **(SEE TOOLS F & G)**

Organisations may choose to take into account prior training and clinical assessment of staff when determining competence in relation to the procedures of phlebotomy and IV cannulation.

Education and training **must** be provided when new devices are introduced or clinical practices are changed. A clinical assessment process for all relevant clinicians **should** be considered following the implementation of new SEDs.

(SEE TOOL H)

2.5.6 Clinical practice review and redesign

There are numerous clinical practices which involve the use of sharps. The process of risk assessment **should** identify those clinical practices and clinical settings that present a risk. For example, individual assessment of a patient prior to the placement of an intravenous device to determine whether the use of a topical, local anaesthetic may reduce the risk of patient movement.

Specific risk elimination and minimisation strategies **should** be developed and prioritised for action. Consideration **should** also be given to:

- the establishment of specific teams of skilled staff to perform phlebotomy procedures; and
- the establishment of specific IV cannulation teams.

If a risk of violence or resistance exists or the patient is a small child, assistance **should** be sought by the attending clinician during any procedure involving injection or venepuncture and restraint considered.

2.5.7 Governance

The Chief Executive (or equivalent) **must** nominate an individual or department to be responsible for the implementation of a sharps injury prevention program within their organisation.

3.0 Risk Management Process

3.1 Introduction

Organisations have a legal responsibility in accordance with the OHS Regulation 2001 to eliminate the risk of sharps injury, or if that is not reasonably practicable, to control the risk of sharps injury.

General risk management **must** include:

- a systematic application of organisational resources to the tasks of identifying, analysing, assessing, controlling and monitoring exposures to risk and adverse affects of those risks; and
- consultation with relevant staff during all stages of the process.

3.2 Hazard identification

Hazard identification is the first step in a risk management framework. Implementation of a standardised process for recognising and defining any hazards relevant to sharps is essential. This **should** include:

- reviewing hazard reports and complaints;
- reviewing incident reports from IIMS (Incident Information Management System);
- reviewing clinical indicator data relating to sharps injuries to identify high risk areas, clinical settings, procedures and staff groups;
- inspecting areas with a high incidence of sharps injuries;
- reviewing procedures where there is a risk of sharps injury; and
- reviewing manufacturer's information on specific devices.

Responsibility for hazard identification in relation to sharps **should** be delegated to and actively undertaken by the most appropriate department(s) and / or individuals within an organisation. HCWs **should** also be encouraged to identify and report any hazards associated with sharps.

3.3 Risk assessment

The risk assessment process assists in:

- evaluating the contribution of risk factors;
- estimating the likelihood and magnitude of the risk arising from an identified hazard; and
- deciding what actions will need to be taken.

Risk assessment is integral to determining the strategies required to achieve the elimination or control of risks. A risk assessment **must** be performed for every identified hazardous procedure where a sharp(s) device is used for that procedure.

In assessing risks associated with sharps, the demographic characteristics of the healthcare workforce need to be considered. These include: clinical areas; training requirements; workforce experience; and clinical environment (including patient characteristics).

	Specialist clinical areas may require a specific risk assessment. These areas include (but are not limited to) operating theatres, critical care areas, mental health, laboratory settings, dental services, paediatric services and settings where community-based services are provided.
3.4 Risk elimination and control strategies	The OHS Regulation 2001 states that reasonably foreseeable risks must be eliminated. When elimination of the risk is not reasonably practicable, then measures to control the risk must be implemented.
3.4.1 Hierarchy of risk controls	<p>The OHS Regulation 2001 specifies the hierarchy (or order) of risk control measures that must be followed in regards to addressing identified hazards.</p> <p>Measures in relation to the elimination of sharps injuries are:</p> <ol style="list-style-type: none"> 1. Elimination of sharp devices where reasonably practicable For example, pharmaceutical products that exist in a non-injectable form could be administered rather than medications by IM or SC injections. If elimination is not reasonably practicable then the risk must be minimised in the following specified order. A combination of the following measures is required to be taken to minimise the risk to the lowest level reasonably practicable if no single measure is sufficient for that purpose. <ol style="list-style-type: none"> 2. Substitution of the hazard giving rise to the risk For example, the replacement of a sharp drawing up needle with a blunt drawing up needle. 3. Isolation of the hazard from the person at risk For example, the immediate placement of a sharp in a rigid sharps disposal container situated at the 'point of use'. 4. Minimising the risk by engineering controls For example, replacement of conventional intravenous devices with a needle-less system. 5. Minimising the risk by administrative controls For example, the development of a local sharps injury prevention policy that incorporates safe work practices. 6. Use of personal protective equipment (PPE) For example, using double gloves during surgical procedures.
3.4.2 Post exposure management	<p>HCWs who incur a sharps injury require expedient, timely, considerate and knowledgeable post exposure management. The basis of such management must be in accordance with PD2005_311 (HIV, Hepatitis B and Hepatitis C - Management of Health Care Workers Potentially Exposed), the key elements of which are:</p> <ul style="list-style-type: none"> • rapid assessment of an exposed HCW to ensure the timely administration of post exposure prophylaxis (PEP) when

-
- appropriate;
- availability of assessment and management over a 24 hour period; and
 - the process for reporting and post exposure management being made known to new staff during orientation and induction programs.

Information on post exposure management procedures for sharps injuries **should** be provided in a range of formats. For example:

- attached to the identification badge of all workers;
- on safety information flip charts;
- in procedure manuals;
- by utilising the organisation's Intranet facilities; and
- any other notification system used by organisations to notify staff of emergency numbers and safety management strategies.

Exposure management packs **should** be developed and made ready for distribution to healthcare workers and source patients in the event of a sharps injury. **(SEE TOOL I)**

Staff nominated to manage exposed HCWs **should** receive specific training in BBV disease processes and counselling.

4.0 Documentation Relating to Sharps Injury Prevention Programs

4.1 Performance indicators

When developing a sharps injury prevention program, consideration should be given to how the effectiveness of the program will be determined and continuous improvement ensured. Therefore, the identification and documentation of performance indicators (PIs) and the establishment of baseline data are integral components of the process. Specific targets relating to PIs **should** be set by each organisation.

PIs for a sharps injury prevention program may include:

- the number of reported sharps injuries in the short-term (these may increase due to raised awareness among HCWs);
- the number of reported sharps injuries in the medium-long term (these may reduce due to risk control strategies and improved practices);
- the number of workers compensation claims relating to sharps injuries (a reduction desired);
- costs and lost work time associated with post exposure management and treatment (a reduction desired);
- the percentage of managers and/or staff who have attended sharps injury prevention training;
- the number of risk elimination and control strategies developed, implemented and reviewed within an organisation; and
- a change in the type or nature of sharps injuries reported.

4.2 Operational aspects

Prevention of sharps injuries **must** be addressed in the operational policies of organisations such as infection control and OHS manuals. Organisations may also choose to develop separate sharps injury prevention guidelines.

Documentation **should** also be maintained by organisations regarding the development of their sharps injury prevention program. Ideally, such documentation will include all steps of the risk management process, review of clinical practices, the outcomes of device trials and relevant PIs.

4.2 Evaluation and review

Following implementation, all aspects of sharps injury prevention programs (including local documentation) **must** be evaluated. It is suggested that reviews **should** occur at least annually.

Employers and managers **must** consult with staff to determine whether risk controls and other preventive actions are effectively eliminating or minimising the incidence of sharps injuries. Any aspects identified in need of update or improvement **should** be addressed and relevant adjustments made to local policies and procedures.

Policy, procedures and devices **must** be reviewed if an incident occurs or if hazard reports indicate a potential risk.

The OHS Regulation 2001 mandates the review of risk assessments and control measures when:

-
- there is evidence that the risk assessment is no longer valid;
 - injury or illness results from exposure to a related hazard; or
 - a significant change is proposed to the place of work, work practices or procedures to which the risk assessment relates.

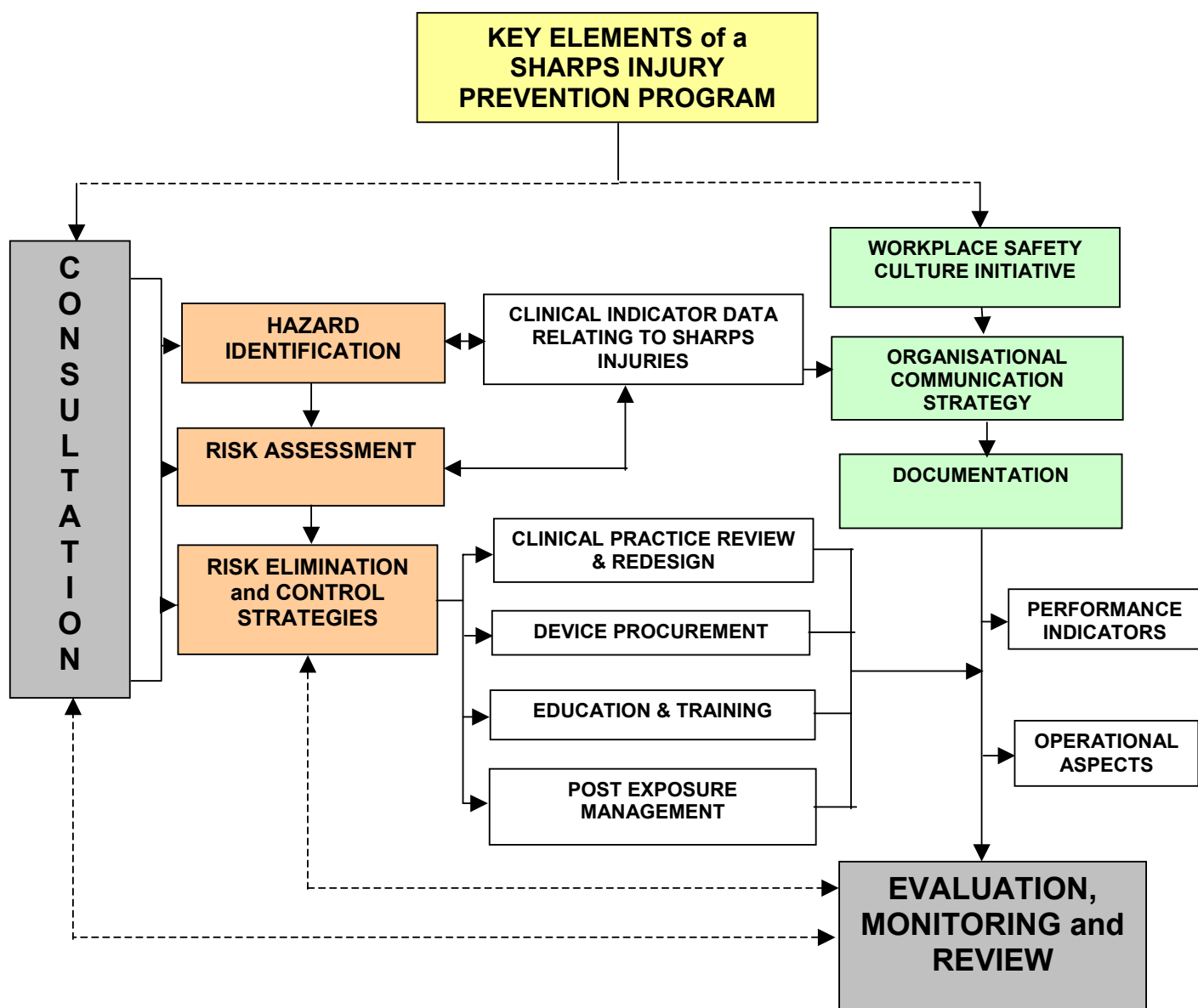
Documentation that includes the names and designations of staff members who attend sharps injury prevention education and the dates of attendance **should** be maintained.

Consideration **should** be given to incorporating documentation of the compliance with safe work practices relevant to sharps injury prevention into the performance evaluation for all staff.

5.0 Guidelines for a Sharps Injury Prevention Program

5.1 Key elements

A sharps injury prevention program should, at a minimum, complement existing risk management programs within each organisation. Given the variability of demographics, case mix, HCW skill mix and service complexity of organisations, sharps injury prevention programs will, by necessity, vary. The international literature clearly specifies that the best outcomes for reducing sharps injuries are achieved when a combination of interventions is used. **(SEE TOOLS J & K)**



6.0 Tools for Use in Developing a Sharps Injury Prevention Program

The following tools are provided to assist and guide the establishment of a sharps injury prevention program. The use of the tools by organisations is optional.

Tool A. Survey of healthcare workers on exposure to sharps injuries

This survey will assist in assessing the reporting rates of sharps injuries by healthcare workers. It will also assist to review the efficiency of an organisation's post exposure management system. The survey has two sections:

- Part A assesses healthcare workers' knowledge of procedures for reporting sharps injuries and the frequency of under-reporting; and
- Part B allows workers to comment on their experiences with the protocols after reporting an exposure.

Information from this survey can be used to identify problems with either reporting of sharps injuries or the care received after an exposure. It may also help to identify areas for improvement through education, procedure revision, and/or system changes.

An organisation may administer this survey as part of a baseline assessment and periodically thereafter (e.g. bi-annually). The survey could target either all staff or only those exposed to the risk for sharps injuries.

Organisations that choose to administer this survey should adapt it to meet their needs. For example, the period of time for recalling exposures can be changed from 12 months to 3 or 6 months. Likewise, organisations may wish to exclude Part B and focus only on reporting processes.

The survey is intended to protect the anonymity of respondents. If the number of healthcare workers in one or more of the occupational groups included is small (e.g. vascular access team) then these groups should be removed as an independent group and combined with another occupational group (e.g. nursing staff, laboratory staff).

It is important that the confidentiality of the survey be emphasised in order to ensure the collection of accurate information and encourage staff participation. Computer analysis may prove more efficient and aid relevant statistics to be collated.

POLICY SECTION LINK FOR THIS TOOL:

2.5.1 - Clinical indicator data relating to sharps injuries

Survey of healthcare workers on exposure to sharps injuries (sample)

If you have questions relating to the completion of this survey, please ask for assistance.

<p>Question 1. Which of the following best describes your occupation / work area?</p>	<p>(Tick only <u>ONE</u> response)</p> <table style="width: 100%; border: none;"> <tr> <td>Nursing staff</td> <td style="text-align: center;">[]</td> <td>Transport service</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Medical officer</td> <td style="text-align: center;">[]</td> <td>Central Supply staff</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Maintenance staff</td> <td style="text-align: center;">[]</td> <td>Phlebotomy team</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Vascular access</td> <td style="text-align: center;">[]</td> <td>Cleaning staff</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Laboratory staff</td> <td style="text-align: center;">[]</td> <td>Other staff</td> <td style="text-align: center;">[]</td> </tr> </table> <p>(identify): _____</p>	Nursing staff	[]	Transport service	[]	Medical officer	[]	Central Supply staff	[]	Maintenance staff	[]	Phlebotomy team	[]	Vascular access	[]	Cleaning staff	[]	Laboratory staff	[]	Other staff	[]				
Nursing staff	[]	Transport service	[]																						
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Maintenance staff	[]	Phlebotomy team	[]																						
Vascular access	[]	Cleaning staff	[]																						
Laboratory staff	[]	Other staff	[]																						
<p>Question 2. Which shift do you <u>usually</u> work?</p>	<table style="width: 100%; border: none;"> <tr> <td>Rotating shifts</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Permanent day shift</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Permanent afternoon shift</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Permanent night shift</td> <td style="text-align: center;">[]</td> </tr> </table>	Rotating shifts	[]	Permanent day shift	[]	Permanent afternoon shift	[]	Permanent night shift	[]																
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Permanent day shift	[]																								
Permanent afternoon shift	[]																								
Permanent night shift	[]																								
<p>Part A. Reporting of sharps injuries</p>																									
<p>Question 3. Does our organisation have a procedure or protocol for reporting sharps injuries?</p>	<table style="width: 100%; border: none;"> <tr> <td>Don't know</td> <td style="text-align: center;">[]</td> <td>→ Go to question 5.</td> </tr> <tr> <td>No</td> <td style="text-align: center;">[]</td> <td>→ Go to question 5.</td> </tr> <tr> <td>Yes</td> <td style="text-align: center;">[]</td> <td></td> </tr> </table>	Don't know	[]	→ Go to question 5.	No	[]	→ Go to question 5.	Yes	[]																
Don't know	[]	→ Go to question 5.																							
No	[]	→ Go to question 5.																							
Yes	[]																								
<p>Question 4. If yes to question 3, do you know how to report these injuries?</p>	<table style="width: 100%; border: none;"> <tr> <td>No</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Yes</td> <td style="text-align: center;">[]</td> </tr> </table>	No	[]	Yes	[]																				
No	[]																								
Yes	[]																								
<p>Question 5. Who would you contact <u>first</u> if you were injured by a needle or sharp object?</p>	<table style="width: 100%; border: none;"> <tr> <td>Supervisor</td> <td style="text-align: center;">[]</td> <td>Don't know</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Staff health service</td> <td style="text-align: center;">[]</td> <td></td> <td></td> </tr> <tr> <td>Infection control</td> <td style="text-align: center;">[]</td> <td></td> <td></td> </tr> <tr> <td>Emergency Department</td> <td style="text-align: center;">[]</td> <td></td> <td></td> </tr> <tr> <td>General Practitioner</td> <td style="text-align: center;">[]</td> <td></td> <td></td> </tr> <tr> <td>Would not contact anyone</td> <td style="text-align: center;">[]</td> <td></td> <td></td> </tr> </table>	Supervisor	[]	Don't know	[]	Staff health service	[]			Infection control	[]			Emergency Department	[]			General Practitioner	[]			Would not contact anyone	[]		
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Staff health service	[]																								
Infection control	[]																								
Emergency Department	[]																								
General Practitioner	[]																								
Would not contact anyone	[]																								
<p>Question 6. In the past 12 months, have you sustained a sharps injury from a needle or other sharp object / instrument?</p>	<table style="width: 100%; border: none;"> <tr> <td>No</td> <td style="text-align: center;">[]</td> <td>→ complete no more questions</td> </tr> <tr> <td>Yes</td> <td style="text-align: center;">[]</td> <td></td> </tr> </table>	No	[]	→ complete no more questions	Yes	[]																			
No	[]	→ complete no more questions																							
Yes	[]																								
<p>Question 7. If yes to question 6, how many sharps injuries did you sustain during this time period?</p>	<table style="width: 100%; border: none;"> <tr> <td>1 only</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>2 - 5</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>> 5</td> <td style="text-align: center;">[]</td> </tr> </table>	1 only	[]	2 - 5	[]	> 5	[]																		
1 only	[]																								
2 - 5	[]																								
> 5	[]																								
<p>Question 8. Had any of the object(s) which led to the sharps injury (question 7) previously been used on a patient?</p>	<table style="width: 100%; border: none;"> <tr> <td>No - none</td> <td style="text-align: center;">[]</td> <td>Not sure</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Yes - all</td> <td style="text-align: center;">[]</td> <td>Yes - some</td> <td style="text-align: center;">[]</td> </tr> </table>	No - none	[]	Not sure	[]	Yes - all	[]	Yes - some	[]																
No - none	[]	Not sure	[]																						
Yes - all	[]	Yes - some	[]																						

<p>Question 9. How many of these injuries did you report?</p>	<p>None [] All [] → Go to question 11. Some [] → Go to question 11.</p>
<p>Question 10. If you answered 'none' in question 9, for what reasons did you not report the injury?</p>	<p>(Tick all relevant responses)</p> <p>I considered the risk too low to report [] I was unsure about who to report to [] I was advised not to report [] Too much time required to complete process [] Reporting process too complicated [] I was concerned about my confidentiality [] Fear of acquiring hepatitis B, C or HIV [] Concern over being judged incompetent [] Fear of being disciplined [] I accept injuries as an occupational hazard [] I had been vaccinated for hepatitis B [] Other []</p>
<p>Question 11. Did you seek treatment for the injury?</p>	<p>No [] → complete no more questions Yes []</p>
<p>Question 12. Where did you go to receive treatment after the injury?</p>	<p>(Tick only ONE response)</p> <p>Did not receive care [] Staff health service [] Infection control [] Emergency Department [] General Practitioner [] Outpatient clinic [] Other (please explain) _____</p>
<p>Part B. Experience with post exposure management</p>	<p>Directions Please circle the numbers in the table below that most closely reflect your agreement or disagreement with each of the statements</p>

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
A. I was seen in a timely manner	1	2	3	4	5
B. I was given sufficient information to make a decision about post exposure treatment	1	2	3	4	5
C. My questions were answered to my satisfaction	1	2	3	4	5

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
D. I was given sufficient information to understand the follow-up testing regime	1	2	3	4	5
E. Post exposure procedures were followed appropriately by relevant staff during my follow-up treatment	1	2	3	4	5
F. My post exposure treatment was managed in a manner consistent with the information provided during relevant training	1	2	3	4	5
G. I was encouraged to call or come back if I had any concerns	1	2	3	4	5
H. Staff made me feel that it was important to report my exposure	1	2	3	4	5
I. I did <u>not</u> feel rushed during my visit	1	2	3	4	5
J. The place where I received treatment was convenient for me	1	2	3	4	5
K. Appropriate post exposure services were offered e.g. counselling	1	2	3	4	5

Please add any additional comments below.

Thank you for completing this survey

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia
<http://www.cdc.gov/sharpssafety/pdf/WorkbookComplete.pdf>

Tool B. List of safety - engineered device categories

CATEGORY	DESCRIPTION
1. Injection devices	<p>Used for intramuscular and subcutaneous injections and includes single use syringes (syringe and needle), needles with needle guards for attachment to syringes, needle-less jet injection systems, and pre-filled syringes:</p> <ul style="list-style-type: none"> (A) Hypodermic needles and syringes (sliding sheath/sleeve; needle guards) (B) Retracting needles/syringes (C) Pre-filled Syringes (D) Insulin Injection Needles (E) Other <p>* Devices in this category currently on state contract can be found on NSW State contract number: 689</p>
2. IV medication delivery systems	<p>Used for the administration of medication or fluids through an IV catheter port or IV connector site. Many systems are offered with multiple components for medication vial and IV access for complete needle-less IV delivery</p> <ul style="list-style-type: none"> (A) Needle-less IV access-blunted cannulae (B) Needle-less valve/access ports and connectors (C) Recessed/protected needle IV access (D) Pre-filled medication cartridge with safety needles (E) Needle guards for pre-filled medication cartridges (F) Other <p>* Devices in this category currently on state contract can be found on NSW State contract number: 218</p>
3. IV insertion equipment (IV catheters, etc.)	<p>Used for accessing the bloodstream for the purpose of administering intravenous (IV) fluids. (Note: refer to blood collection section for winged steel needles that are also used for IV administration.)</p> <ul style="list-style-type: none"> (A) Shielded or retracting peripheral IV catheters (B) Shielded midline IV catheters© (C) Other <p>* Devices in this category currently on state contract can be found on NSW State contract number: 218</p>
4. Blood collection equipment	<ul style="list-style-type: none"> (A) Arterial blood gas syringes (B) Safety-engineered blood collection needles (C) Safety-engineered blood collection needle with tube holders (D) Blood tube holders: safety-engineered and single-use (E) Winged steel needle (butterfly) blood collection sets (F) Closed venous sampling system (G) Blood donor phlebotomy devices (H) Plastic fingerstick sampling (capillary) blood collection tubes (I) Plastic blood collection tubes (J) Plastic blood collection tubes with screw caps (K) Umbilical cord sampling (L) Other <p>* Devices in this category currently on state contract can be found on NSW State contract number: 646</p>

CATEGORY	DESCRIPTION
5. Medication vial adaptors / pins	Used to access ports of medication vials * Devices in this category currently on state contract can be found on NSW State contract number: 218
6. Lancets	(A) Retracting lancet (B) Other * Devices in this category currently on state contract can be found on NSW State contract number: 439
7. Surgical devices	(A) Scalpels (retracting, shielded and disposable): (B) Retracting and shielded scalpel blades (C) Suture needles with blunt-tips (Can be used for suturing internal tissues such as muscle and fascia). (D) Other * Devices in this category currently on state contract can be found on NSW State contract number: 914
8. Alternative skin closure devices and products	* Devices in this category currently on state contract can be found on NSW State contract numbers: 915 / 694
9. Laboratory devices	* Devices in this category currently on state contract can be found on NSW State contract number: 646
10. Sharps collection devices / sharps disposal systems	(A) Disposable (B) Reusable * Devices in this category currently on state contract can be found on NSW State contract number: 3011

N.B. The following device categories currently appear on relevant NSW state contracts as conventional items only:

- Injection devices for dentistry injection systems
- Epidural / spinal needles
- Nuclear medicine devices
- Haemodialysis and apheresis devices

N.B. The following device categories do not currently appear on relevant NSW state contracts:

- Other catheter equipment
 - Central venous catheters
 - Peripherally inserted central catheters
 - Radial and other artery catheters
 - Guide wire introducers for venous and arterial percutaneous access
 - Other

-
- Bone marrow collection system
 - Other safety products
 - Huber Needle and related products
 - Catheter securing products
 - Preparation razor
 - Other

POLICY SECTION LINK FOR THIS TOOL:

2.5.2 – Safety-engineered sharps devices

Tool C. Worksheet for estimating implementation costs of safety-engineered medical devices

This worksheet may assist organisations to determine whether the projected costs for purchasing and implementing a specific safety-engineered sharps device will be offset by injury reductions. Completion of this worksheet requires knowledge of the average management and treatment costs of a sharps injury within the organisation.

POLICY SECTION LINK FOR THIS TOOL:

2.5.2 – Safety-engineered sharps devices

Estimating implementation costs of safety-engineered sharps devices (sample worksheet)

Device Type: _____

Step 1. Calculate the projected cost savings resulting from a reduction in injuries		
Line	Action	Numbers
1.	Number of sharps incidents reported in the previous year associated with the conventional device	
2.	Projected annual number of sharps incidents that will be avoided with the safety-engineered sharps device	
3.	Average cost of a needle stick injury within organisation include: laboratory charges, treatment prophylaxis, service charges, consultation, time lost by worker, compensation claims (also refer to EPINet™ data forms)	\$
4.	Projected cost savings from injuries avoided using the safety-engineered sharps device (line 2 x line 3)	\$
Step 2. Estimate the projected costs associated with implementing the safety-engineered sharps device		
5.	Unit cost of the conventional device	\$
6.	Unit cost of the safety-engineered sharps device to which device (in line 5) is being compared	\$
7.	Cost difference (line 6 minus line 5)	\$
8.	Projected annual volume of the safety-engineered sharps device that will be purchased	
9.	Projected annual increase / decrease in the cost associated with purchasing the safety-engineered sharps device (line 7 x line 8)	\$
10.	Indirect costs of implementation (if calculated) e.g. inventory changeover, healthcare worker training, and device evaluation	
11.	Total implementation cost of safety-engineered sharps device (line 9 + line 10 [if calculated])	→
Step 3. Calculate the net implementation cost of the safety-engineered medical device		
12.	Net implementation costs (line 11 minus line 4)	→

N.B. Any projected increase associated with implementation costs must be considered in context of compliance with Occupational Health & Safety Act 2000; reduction in hazards for staff, patients and the community; reduction in the risk of litigation; staff acceptance and recognition of a safe work environment; and the contribution made to the organisation's Corporate Plan.

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia

<http://www.cdc.gov/sharpsafety/pdf/WorkbookComplete.pdf>

Tool D. Safety-engineered sharps device pre-selection worksheet

This worksheet will help members of product evaluation committees (or their equivalent) to discuss and determine relevant criteria when considering a specific safety-engineered sharps device. The worksheet may be completed individually or collectively and should help determine whether a device merits further consideration and, if so, identify questions that should be asked during the process of evaluation.

A variety of factors for consideration are included, and space is provided for others to be added as necessary. Each factor should be assessed for its relevance and importance to the device in question. Committees may want to use this worksheet before looking at a category of devices (e.g. intravenous catheters) in order to decide which criteria are important.

A tool for compiling information after completing this worksheet is not included. Once completed, the team may wish to summarise the responses so as to document the reasons why a particular device was accepted or rejected for further evaluation.

POLICY SECTION LINK FOR THIS TOOL:

2.5.4 - Product evaluation committees

Safety-engineered sharps device pre-selection worksheet (sample)

Type of Device:

Name:

Manufacturer:

1. Clinical considerations	Does this consideration apply to this device?		If yes, what is the level of importance?		
	No	Yes	High	Med	Low
Device use will require a change in technique (compared to conventional product)					
Device permits needle changes					
Device is able to be used multiple times on the same patient during the same procedure (e.g. administration of local anaesthetic)					
Device allows easy visualisation of blood flashback					
Device allows easy visualisation of medication					
Device is latex free					
Device poses no additional risk of infection for the patient compared to conventional device					
Device does not cause increased pain or discomfort to patients					
Device can be used with adult and paediatric populations					
Specialty areas (e.g. operating theatres, anaesthetics, radiology) can use the device					
Device can be used for all the same purposes for which the conventional device is used					
The device is available in all sizes currently used in the organisation					
Comment:					

2. Safety considerations	Does this consideration apply to this device?		If yes, what is the level of importance?		
	No	Yes	High	Med	Low
The safety feature is integrated into the device (i.e. does not need to be added before use)					
The safety feature does not require activation by the user					
Activation of the safety feature (if required) can be performed with one hand					
The worker's hands can remain behind the sharp during activation of the safety feature					
The safety feature is easy to recognise and intuitive to use					
A visible or audible cue provides evidence of safety feature activation					
The safety feature permanently isolates the sharp					
Comment:					

Other considerations	Does this consideration apply to this device?		If yes, what is the level of importance?		
	No	Yes	High	Med	Low
The manufacturer can provide the device in required quantities					
The company representative will assist with training					
Product materials are available to assist with training					
The company will provide samples for trial and evaluation at a mutually agreed cost					
The company has a history of being responsive when problems arise					
The device will <u>not</u> increase the volume of sharps waste					
The device will <u>not</u> require changes in the size or shape of sharps containers					
The company can provide a contact list of references for this product					
The packaging clearly indicates that the device is either single use or requires reprocessing					
Comment:					

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia
<http://www.cdc.gov/sharpsafety/pdf/WorkbookComplete.pdf>

Tool E. Safety- engineered medical device evaluation form (sample)

Device:	
Supplies/Trade Name:	
Applications:	
Reviewer's name:	
Designation / occupation:	
Number of times the device was used before completing this form:	1-5 [] 6-10 [] 11-25 [] 26-50 [] >50 []
Date:	

Directions

Please circle the numbers in the table below that most closely reflect your agreement or disagreement with each of the statements

HEALTHCARE WORKER SAFETY	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<u>Question 1.</u> The device prevents needle stick injury during and after use	0	1	2	3	4	5
<u>Question 2.</u> Once activated, the safety feature provides protection to the user until after disposal of the device	0	1	2	3	4	5
<u>Question 3.</u> The device provides protection automatically i.e. a specific action by the user is <u>not</u> required to activate the safety mechanism	0	1	2	3	4	5
<u>Question 4.</u> The safety feature of the device is activated (if required) using only one hand	0	1	2	3	4	5
<u>Question 5.</u> The user's hands remain behind the needle/sharp at all times including during activation of the safety feature	0	1	2	3	4	5

Question 6. The device minimised the risk of HCW exposure to blood borne pathogens during and after use	0	1	2	3	4	5
Question 7. During the trial, the device caused no needle stick injuries or “near miss” exposures	0	1	2	3	4	5
PATIENT SAFETY & COMFORT	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Question 8. The safety device does <u>not</u> increase the risk of infection to the patient	0	1	2	3	4	5
Question 9. The device causes no more patient discomfort than a conventional device	0	1	2	3	4	5
Question 10. The safety device was available in small gauge sizes (e.g. 29g, 30g) for the comfort of patients	0	1	2	3	4	5
Question 11. The device attached easily to <u>IV devices</u> (i.e. without causing patient discomfort)	0	1	2	3	4	5
EASE OF USE & TRAINING	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Question 12. The device can be used by a left handed person as easily as by a right handed person	0	1	2	3	4	5
Question 13. There was no major change in technique required to use the safety device	0	1	2	3	4	5
Question 14. It is easy to identify the type and size of the product from the packaging	0	1	2	3	4	5

Question 15. The device provides a visible blood flashback during initial insertion of an intravenous (IV) catheter (or blood collection needle sets)	0	1	2	3	4	5
Question 16. The device was easy to use	0	1	2	3	4	5
Question 17. The training that accompanied the device trial was of value	0	1	2	3	4	5
COMPATIBILITY	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Question 18. The device is compatible with devices (e.g. blood collection tubes) from a variety of suppliers?	0	1	2	3	4	5
FOR IV DEVICES	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Question 19. A. The device is compatible with lipid solutions	0	1	2	3	4	5
B. The device attaches securely at the catheter port	0	1	2	3	4	5
C. The device attaches securely or locks at a Y-site (e.g. for piggy-backing)	0	1	2	3	4	5
DISPOSAL	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Question 20. The device is easy to dispose of in the sharps containers available for use	0	1	2	3	4	5
Question 21. Use and disposal of the device will substantially increase the volume of sharps waste generated	0	1	2	3	4	5

OVERALL	Not tested / not applicable	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
<u>Question 22.</u> I would recommend using this device	0	1	2	3	4	5

COMMENTS e.g. describe how this device will improve your safety at work

POLICY SECTION LINK FOR THIS TOOL:

2.5.4 - Product evaluation committees

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia

<http://www.cdc.gov/sharpssafety/pdf/WorkbookComplete.pdf>

Tool F. Clinical assessment sheet for intravenous cannulation (sample)

CLINICAL ASSESSMENT (sample)
Intravenous cannulation

Adapted from clinical practice manual –
NSCCAHS (Central Coast Health Service)

Name:

Designation / Position:

Employee No.

Department/ward:

Cost Centre No:

(tick and comment in appropriate column)

Indicator	Performance Criteria	Performed	Not Performed
1. Introduces self to patient	<ul style="list-style-type: none"> Follows infection control guidelines if entering isolation room States name, department and the activity to be undertaken Gains consent from the patient and explains the procedure 		
2. Identifies the patient requiring cannulation	<ul style="list-style-type: none"> Assesses the need for IV cannulation by referring to patient's medical record, or acquiring information from the medical officer or nurse looking after the patient Locates patient's identification band 		
3. Identifies a suitable vein and site	<ul style="list-style-type: none"> Assesses patient starting with the non-dominant arm to identify an appropriate vein for cannulation Questions the patient re: <ul style="list-style-type: none"> previous cannulation previous surgery e.g. lymph node removal, mastectomy Identifies the appropriate use of local anaesthetic Does not attempt to cannulate until confident with vein selection Prepares patient appropriately where venous access is difficult 		
4. Performs insertion	<ul style="list-style-type: none"> Considers the purpose of the cannula i.e. type of infusion or medication to be administered Prepares equipment Washes hands with appropriate cleanser Avoids skin contact by wearing gloves Uses a puncture proof dish and appropriate equipment Applies tourniquet, prepares the site and inserts cannula at the correct angle Secures cannula and applies dressing 		

	<ul style="list-style-type: none"> • Demonstrates an awareness of OHS requirements throughout procedure • Follows infection control guidelines if leaving isolation room 		
5. Post procedure	<ul style="list-style-type: none"> • Advises patient of precautions to protect cannula site • Disposes of equipment appropriately • Cleans any blood spills • Documents in patient medical record the procedure performed including: <ul style="list-style-type: none"> • extremity and site • size of cannula and number of attempts • use of lignocaine • problems encountered e.g. unsuccessful 		

Name assessor:	Position:
Signature:	Date:

POLICY SECTION LINK FOR THIS TOOL:

2.5.5 – Education and training

Tool G. Clinical assessment sheet for blood collections (sample)

CLINICAL ASSESSMENT (sample) Performance of blood collections

Adapted from Pathology Collection manual –
NSCCAHS (Central Coast Health Service)

Name:

Designation / position:

Employee No.

Department / ward:

Cost Centre No:

(tick and comment in appropriate column)

Indicator	Performance Criteria	Performed	Not Performed
1. Introduces self to patient	<ul style="list-style-type: none"> Follows infection control guidelines if entering isolation room States name, department and the activity to be undertaken Asks permission of the patient to perform the test 		
2. Identifies correct patient	<ul style="list-style-type: none"> Locates patient's identification band Checks that the patient's name, hospital number and date of birth matches that on the request form 		
3. Performs the collection of blood for laboratory testing	<ul style="list-style-type: none"> Washes hands with appropriate cleanser Avoids skin contact by wearing gloves Uses a puncture proof dish and appropriate equipment Selects a suitable vein Applies tourniquet, prepares the site, inserts needle at the correct angle and collects blood Places blood in correct tubes in order of draw, to the correct fill line After the last tube, releases tourniquet, places cotton ball over site, withdraws needle, applies pressure until bleeding stops and secures cotton wool with tape. Inverts tubes to gently mix Demonstrates an awareness of OHS requirements throughout procedure Follows infection control guidelines if leaving isolation room 		
4. Documentation relevant to procedure	<ul style="list-style-type: none"> Interprets test abbreviations correctly Documents time and date of collection appropriately on the 		

	request form <ul style="list-style-type: none"> • Documents collector's identification • Documents all relevant information on the request form e.g. time of last dose for drug levels 		
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Name assessor:	Position:
Signature:	Date:

POLICY SECTION LINK FOR THIS TOOL:

2.5.5 – Education and training

Tool H. Performance criteria for users of safety- engineered medical devices

A clinical assessment process is recommended for all relevant clinicians following the implementation of new safety-engineered sharps devices. Such a process should be an adjunct to relevant education and training. A tool for use in this process can be developed by organisations and it is suggested that, at a minimum, the performance indicators should include assembly, use and disposal. Examples of performance criteria may include:

- Preparation of the safety-engineered sharps device in accordance with manufacturer's instructions for use
- Ensuring that an appropriate sharps disposal container is at, or near, the point of use where device is to be used
- Activation of the safety feature is in accordance with manufacturer's instructions for use
- Following use and activation of the safety mechanism, the device is disposed in an appropriate sharps disposal container

POLICY SECTION LINK FOR THIS TOOL:

2.5.5 – Education and training

Tool I. Suggested inclusions exposure management packs

A stock of packs made up in advance for distribution when necessary will assist in making processes of post exposure management expedient.

Packs for HCWs may include:

- Instructions for use
- EPINet™ form and / or
- Incident form and / or
- Specific exposure form
- Pathology request form (de-identification of HCW specific information)
- Pathology tubes (de-identification of HCW specific information)
- Information sheet for HCW
- NSW Health fact sheets for hepatitis B, hepatitis C and HIV
- Information on who to contact or how blood test results will be obtained
- NSI hotline number

N.B. Condoms to be issued if considered necessary following risk assessment. Verbal explanation as to why use is required should be provided.

Packs for 'source' patients:

- Instructions for use
- Occupational exposure form **and/or** incident form
- Pathology request form
- Pathology tubes
- Information sheet for source
- NSW Health fact sheets for hepatitis B, hepatitis C and HIV
- Information on who to contact or how blood test results will be obtained

POLICY SECTION LINK FOR THIS TOOL:

3.4.2 – Post exposure management

Tool J. Baseline sharps injury prevention program assessment worksheet

This worksheet is designed to help organisations perform a baseline assessment of activities or processes that support a sharps injury prevention program. Questions related to several program areas are included as a guide for performing this assessment. Once completed, the worksheet can be used to discuss improvements that may assist in the reduction of sharps injuries sustained by healthcare workers. Organisations should adapt the worksheet as necessary to meet their program needs.

POLICY SECTION LINK FOR THIS TOOL:

5.0 – Guidelines for a sharps injury prevention program

Baseline sharps injury prevention program assessment worksheet (sample)

1. Culture of safety		
Leadership commitment	Current practice	Improvement strategies (if needed)
1.1 Does the organisation's mission statement reflect that patient and healthcare worker safety are priorities?		
1.2 What strategies does management of the organisation use to communicate the importance of a safe environment for patients and healthcare workers?		
1.3 How has management shown support for the introduction of safety interventions (e.g. devices with safety-engineered features, sharps disposal containers)?		
Identification and removal of sharps injury hazards	Current practice	Improvement strategies (if needed)
1.4 What strategies are used by the organisation to identify sharps hazards in the work environment?		
1.5 How are front-line healthcare workers involved in identifying and removing sharps injury hazards?		
Feedback systems to improve safety awareness	Current practice	Improvement strategies (if needed)
1.6 What strategies are used to document that sharps injury hazards have been corrected?		
1.7 How are workers who identify a hazard informed that corrective action has been taken?		

1.8 How has the subject of sharps injury prevention been incorporated into educational presentations or department/unit discussions?		
Promotion of individual accountability	Current practice	Improvement strategies (if needed)
1.9 How is assessment of accountability for sharps safety made and documented during annual performance evaluations?		
Safety culture data sources	Current practice	Improvement strategies (if needed)
1.10 What data sources (e.g. written or observational surveys, incident reports) are used to measure improvements in the organisation's safety culture?		

2. Reporting of sharps injuries		
Questions	Current Practice	Improvement strategies (if needed)
2.1 Where are copies of the organisation's policy/procedure for reporting sharps injuries and blood and body fluid exposures located?		
2.2 Are copies accessible to all staff?		
2.3 On what date was the policy/procedure last reviewed?		
2.4 What items of information (e.g. name, date, device, procedure) are collected on the injury report form?		

2.5 How has HCW compliance with the organisation's policy for reporting been assessed?		
2.6 What data sources are used for monitoring improvements in sharps injury reporting (e.g. reporting surveys, changes in injury reporting trends)?		

3. Analysis of clinical indicator data relating to sharps injuries		
Questions	Current practice	Improvement strategies (if needed)
3.1 How is clinical indicator data relating to sharps injuries stored e.g. software database?		
3.2 Where is the information kept?		
3.3 Who compiles, analyses, and interprets the data?		
3.4 How often is this done?		
3.5 What denominator is used to calculate injury rates?		
3.6 How is this information obtained?		
3.7 How often are summary reports on injury trends prepared?		
3.8 Who receives copies of this information?		
3.9 Can managers access data for analysis?		
3.10 What committees review(s) the data?		

<p>3.11 What data sources (e.g. committee reports) are used to monitor analysis improvement of the clinical indicator data relating to sharps injuries?</p>		
<p>3.12 What committee is responsible for decision making regarding the recommendations made from the data review?</p>		

<p>4. Identification, selection and implementation of prevention strategies</p>		
<p>Questions</p>	<p>Current practice</p>	<p>Improvement strategies (if needed)</p>
<p>4.1 What committee or group is responsible for evaluating safety-engineered sharps devices?</p>		
<p>4.2 How are front-line workers involved in this process?</p>		
<p>4.3 How is information on current and emerging safety devices obtained?</p>		
<p>4.4 How are priorities determined for devices which will be considered for implementation?</p>		
<p>4.5 Which devices currently have the highest priority?</p>		
<p>4.6 How are criteria for assessing the acceptability of a device determined?</p>		
<p>4.7 How are devices evaluated before implementation?</p>		
<p>4.8 How are healthcare workers trained in the use of new devices?</p>		

4.9 Who is responsible for ensuring that training is done, and how it is documented?		
4.10 How are other prevention interventions (e.g. work practices, policies and procedures) evaluated?		
4.11 What data sources (e.g. changes in procedure, committee reports) are used to monitor improvements in methods used to select and implement new interventions?		

5. Education and training for HCWs on sharps injury prevention		
Questions	Current practice	Improvement strategies (if needed)
5.1 What system is in place to ensure that all workers who may use or be exposed to sharps receive training?		
5.2 How does the organisation ensure that students and contractors receive training on sharps safety devices used in the organisation?		
5.3 How is completion of training documented?		
5.4 Who is responsible for maintaining this information, and where is it located?		
5.5 What information on sharps injury prevention is provided at orientation?		
5.6 How and when are healthcare workers updated on this information?		

5.7 Are data on specific risks for injury used in the development of a training curriculum for the organisation?		
5.8 How do HCWs receive hands-on training to learn safe work practices in the handling of sharp devices?		
5.9 Who facilitates this training?		
5.10 What training tools are used?		
5.11 What data sources (e.g. staff development reports, training evaluations, percentage of people trained) are used to measure improvement in the training of HCWs?		

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia
<http://www.cdc.gov/sharpssafety/pdf/WorkbookComplete.pdf>

Tool K. Survey to measure healthcare personnel perceptions of a safety culture

This survey may assist organisations to measure how their workers perceive safety. The questions are designed to provide an overview of the culture of safety as it generally applies to healthcare worker safety and to assess safety culture from the perspective of sharps injury prevention.

Organisations that choose to administer this survey should adapt it to meet their needs, including changing categories of occupational groups to more closely reflect those within the organisation.

The survey form is intended to protect the anonymity of respondents. If the number of healthcare workers in one or more of the occupational groups included is small (e.g. vascular access team) then these groups should be removed from the form and combined with another occupational group (e.g. nursing staff, laboratory staff).

Both an overall score and scores for individual items can be collated and analysed. The overall score provides a general picture of the organisation's safety culture, and individual scores can be used to identify specific strengths and weaknesses in areas that influence the culture of safety.

5.0 – Guidelines for a sharps injury prevention program

Survey to measure healthcare personnel's perceptions of a safety culture (sample)

The **(insert department)** of **(insert organisation)** is conducting an anonymous, voluntary survey of staff to assess the adequacy of safety in the workplace in relation to sharps. Please answer the following questions and return this form to **(insert name)**. Your responses are important and will be used to guide future improvements in our overall safety program.

Please circle the number that most closely reflects your agreement or disagreement with each of the following statements.

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
1. The safety of workers is a priority in this healthcare organisation	1	2	3	4	5
2. The safety responsibilities for all staff are clearly defined and documented in relevant position descriptions	1	2	3	4	5
3. Safety issues are an ongoing agenda item for discussion during staff meetings	1	2	3	4	5
4. The organisation actively encourages staff to report incidents and injuries involving sharps	1	2	3	4	5
5. Personal accountability for safety is assessed during annual performance evaluations	1	2	3	4	5
6. Hazards related to sharps are quickly corrected once they are brought to management's attention	1	2	3	4	5
7. Sharps containers are available where and when needed to dispose of needles and other sharp devices	1	2	3	4	5
8. Employees and management work together to ensure the safest possible healthcare environment for patients and staff	1	2	3	4	5

9. Sharps injury prevention education and training is part of orientation and / or induction programs	1	2	3	4	5
10. The organisation purchases safety-engineered sharps devices to assist in the prevention of sharps injuries	1	2	3	4	5

Which designation best describes your occupation / work area? (Tick appropriate box)

- | | | | |
|-------------------------------|--------------------------|---------------------------------|--------------------------|
| Nursing staff | <input type="checkbox"/> | Transport service | <input type="checkbox"/> |
| Medical staff | <input type="checkbox"/> | Central Supply staff | <input type="checkbox"/> |
| Phlebotomy team | <input type="checkbox"/> | Maintenance / Engineering staff | <input type="checkbox"/> |
| IV team | <input type="checkbox"/> | Housekeeping / Laundry Services | <input type="checkbox"/> |
| Laboratory staff | <input type="checkbox"/> | Security | <input type="checkbox"/> |
| Technician | <input type="checkbox"/> | Student - Medical | <input type="checkbox"/> |
| Dental staff | <input type="checkbox"/> | Student - Nurse | <input type="checkbox"/> |
| Clerical/Administrative staff | <input type="checkbox"/> | Other Staff | <input type="checkbox"/> |

Comments:

Thank you for completing this survey

* Tool adapted from the Sharps Injury Prevention Workbook – Centers for Disease Control and Prevention. Atlanta: Georgia
<http://www.cdc.gov/sharpsafety/pdf/WorkbookComplete.pdf>