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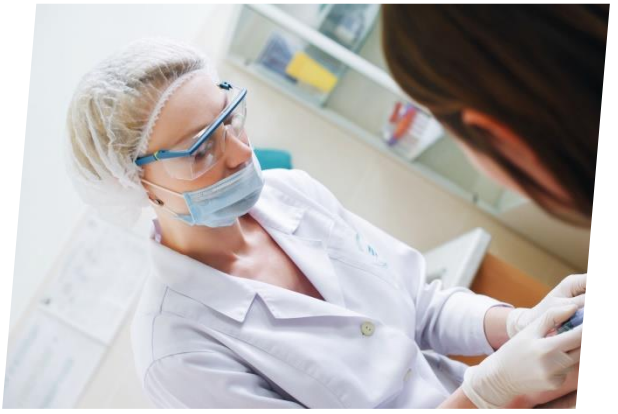
Developing a Sharps Safety Program in 5 Steps



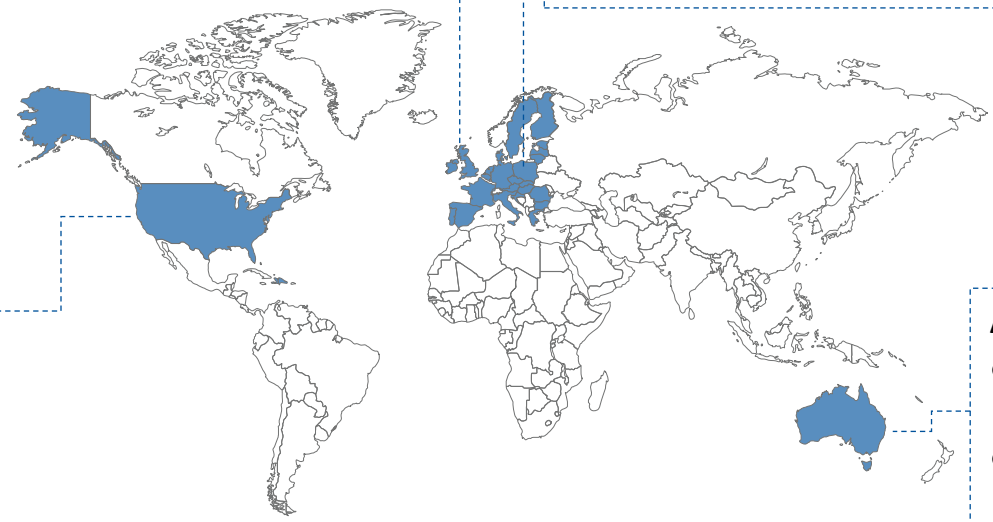



Sharps Safety is mandated

Managing the safety risks from sharps injuries is mandated in regulations and industry standards world-wide.

United Kingdom
- The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 [1]
- Institute of Chiropodists and Podiatrists standard [2]

Europe
- EU Directive 2010/32/EU [3]
  - Austria: Nadelstichverordnung (NastV)[4]
  - Finland: Government decree on the prevention of Sharps Injuries in the hospital sector 317/2013[5]
  - Germany: Ordinance on Biological Agents (BioStoffV)[6]
  - Italy: Protezione dalle ferite da taglio e da punta nel settore ospedaliero e sanitario [7]

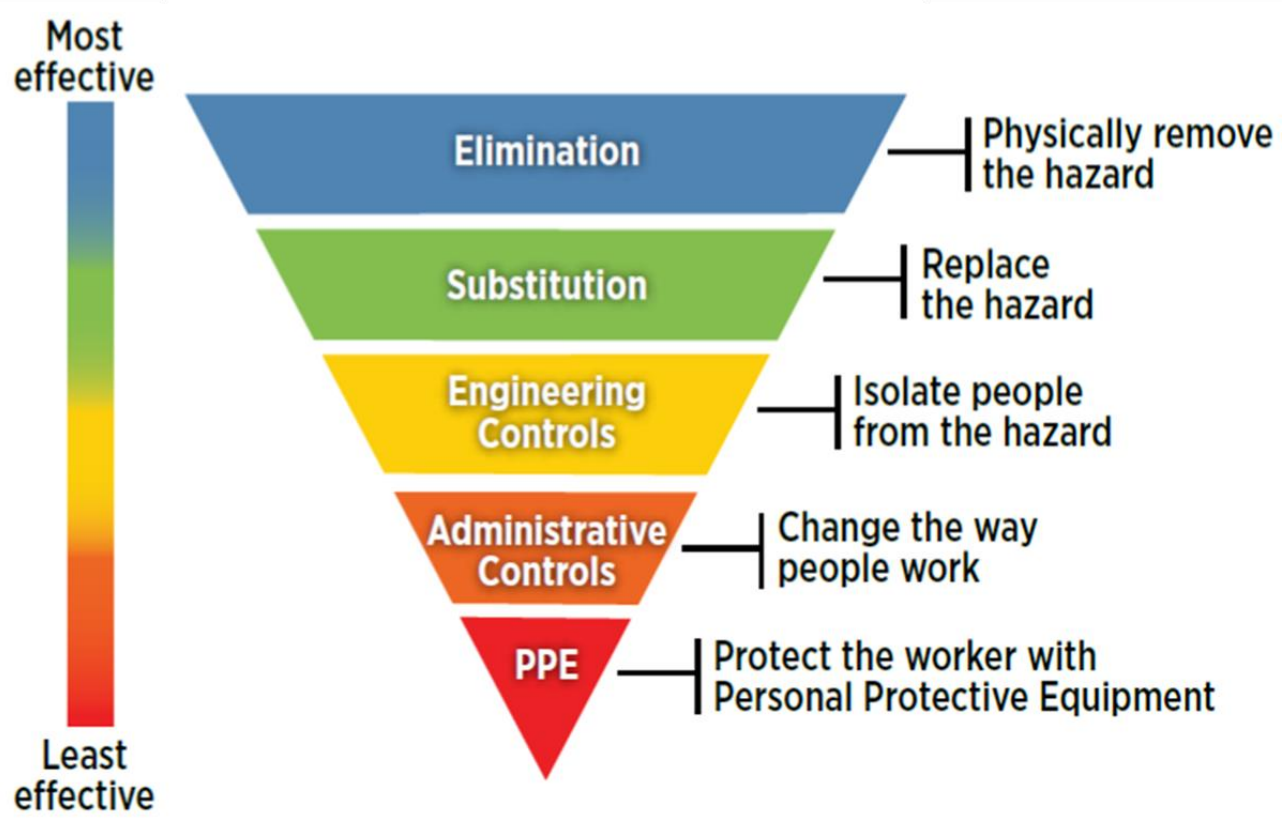


United States of America
- Needlestick Safety and Prevention Act (OSHA enforced) [8]
- CDC recommendations[9]
- AST standard [10]
- AORN guidelines [11]

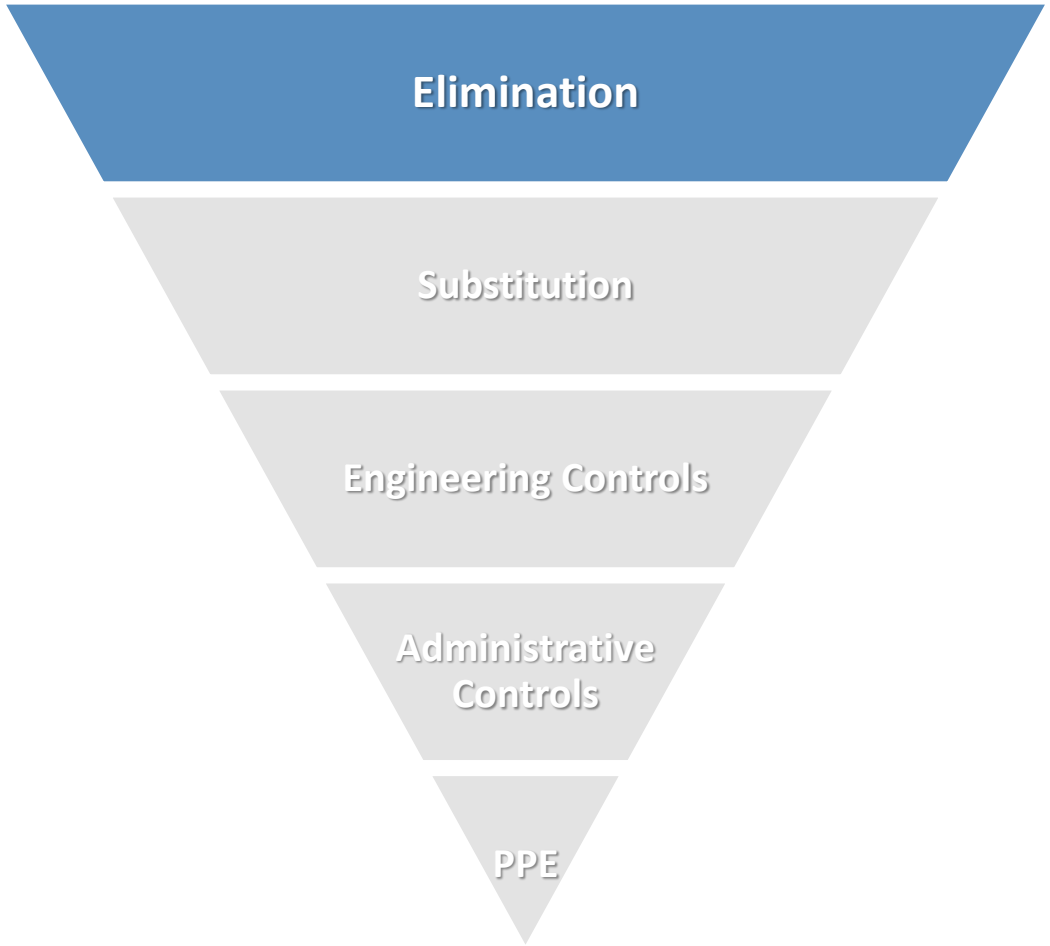
Australia
- Australia Standard AS 3825:2020[12]
- National Health and Medical Research Council guidelines[13]

Developing a sharps safety program: The Hierarchy of Controls

Standard practice for managing safety risks is to follow the Hierarchy of Controls developed by The National Institute for Occupational Safety and Health (NIOSH)[14]. Developing a sharps safety program can be effectively undertaken by following the Hierarchy of Controls to prevent the risk of sharps injuries.



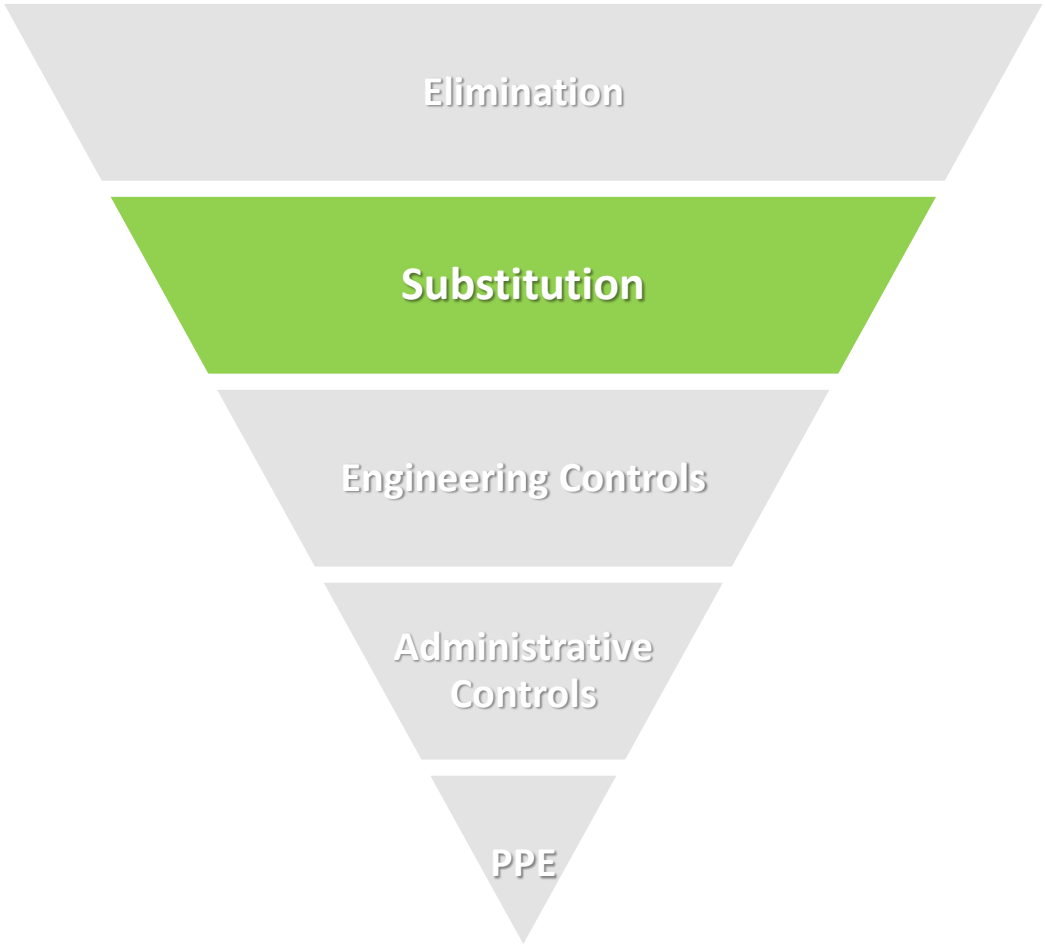
Step One: Elimination



Physically remove sharps injury hazards:

- Determine which injections are unnecessary and implementing practises to eliminate them[9,15,16,17]
- Administer medications through alternative routes to needles, such as via tablet, inhaler, or transdermal patches[9,15]
- Close wounds without using sutures by using stapling devices or skin glue, where appropriate[17,18]

Step Two: Substitution

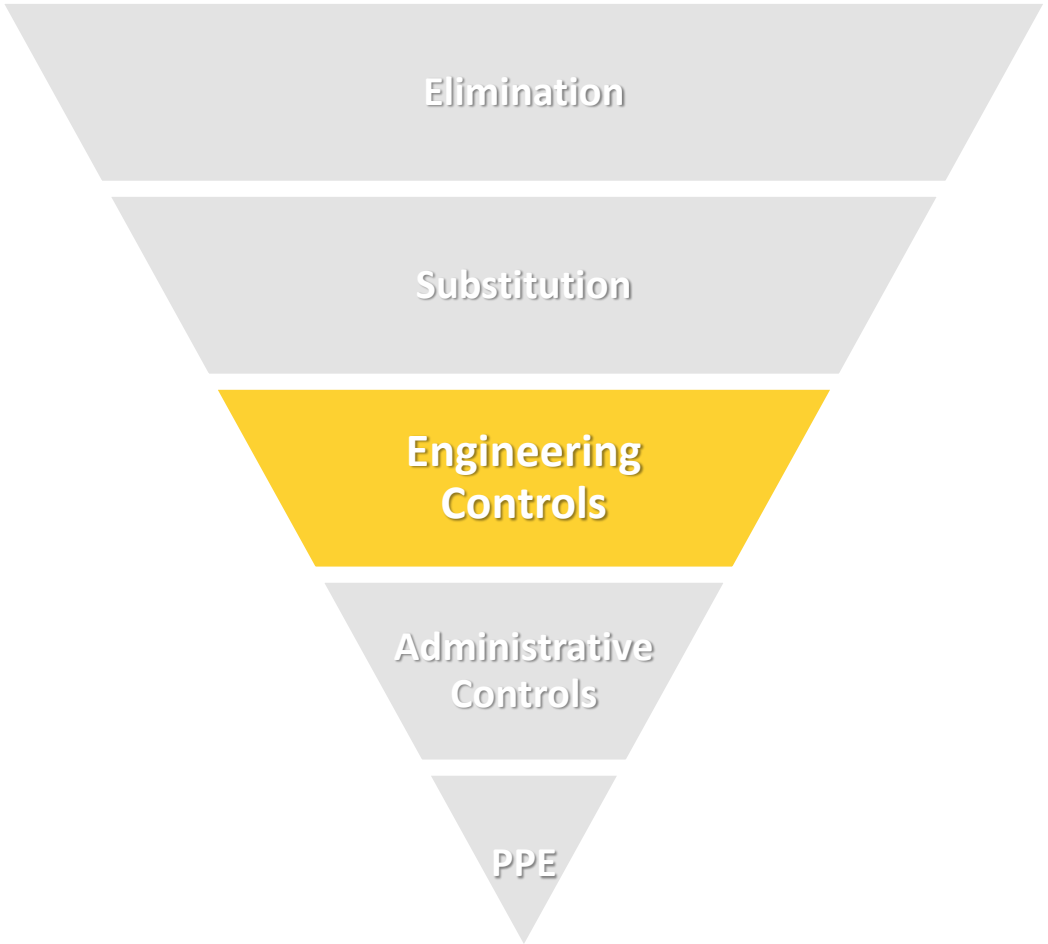


Replace sharps injury hazards:

- Implement the use of needle-free intravenous access system (IV delivery system)[9,15,17,19]
- Use blunt suture devices where appropriate[17,18]
- Jet injection can be considered, where appropriate[15,18]

Where appropriate, Elimination (Step One) and Substitution (Step Two) can be implemented simultaneously

Step Three: Engineering Controls



Isolate people from the sharps injury hazard:

- Provide medical devices incorporating safety-engineered protection mechanisms such as retractable syringes[9,15,16,17,18,19]
- Use sharps removal systems such as scalpel blade removers[17]
- Use rigid sharps containers to contain and dispose of sharps[9,17,18,19]

Engineering Controls are vital where the hazard cannot be eliminated/substituted (eg. Scalpel blades must be used during most surgical procedures).

Step Three: Engineering Controls

What to consider when choosing safety-engineered devices

- ❑ The device must not compromise patient care[9,16,19]
- ❑ The safety mechanism must be an integral part of the safety device[9,16]
- ❑ The device should be easy to use, with minimal change of technique required[9,16]
- ❑ The device should be reliable and automatic[9,16]
- ❑ Single-handed operation of the device is preferable[16]
- ❑ The activation of the safety mechanism must be indicated by an audible, tactile, or visual sign[16]
- ❑ The safety mechanism should not be easily reversible when activated[9,16]
- ❑ The safety device should be cost effective[9]

Safety-engineered devices should be reviewed at least annually, to evaluate whether they have been effective in reducing sharps injuries and to evaluate safer devices in the workplace[9,16,19].

Retractable safety syringe listed by International Sharps Safety Prevention Society[20]

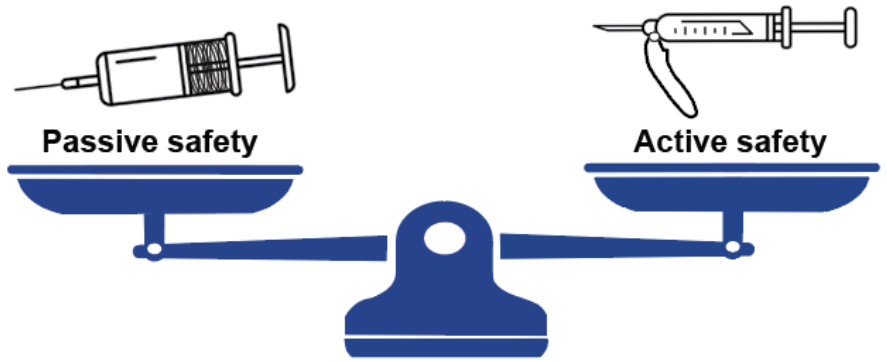
Qlicksmart scalpel blade removers listed by International Sharps Safety Prevention Society[21]

Step Three: Engineering Controls

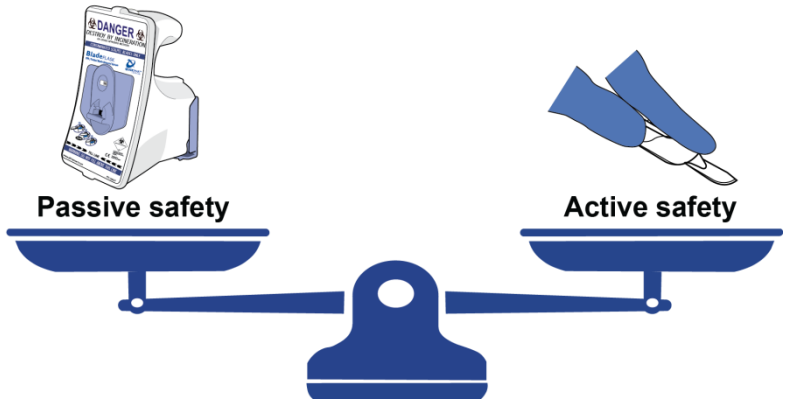
Passive (automatic) vs Active (manual) safety-engineered devices

- Passive safety-engineered devices have safety mechanisms which are automatically activated[9]
- Active safety-engineered devices have safety mechanisms which must be manually activated by the user[9]
- Studies show that passive safety devices offer superior safety compared to active safety devices[22,23].

Superior Safety **Inferior Safety**

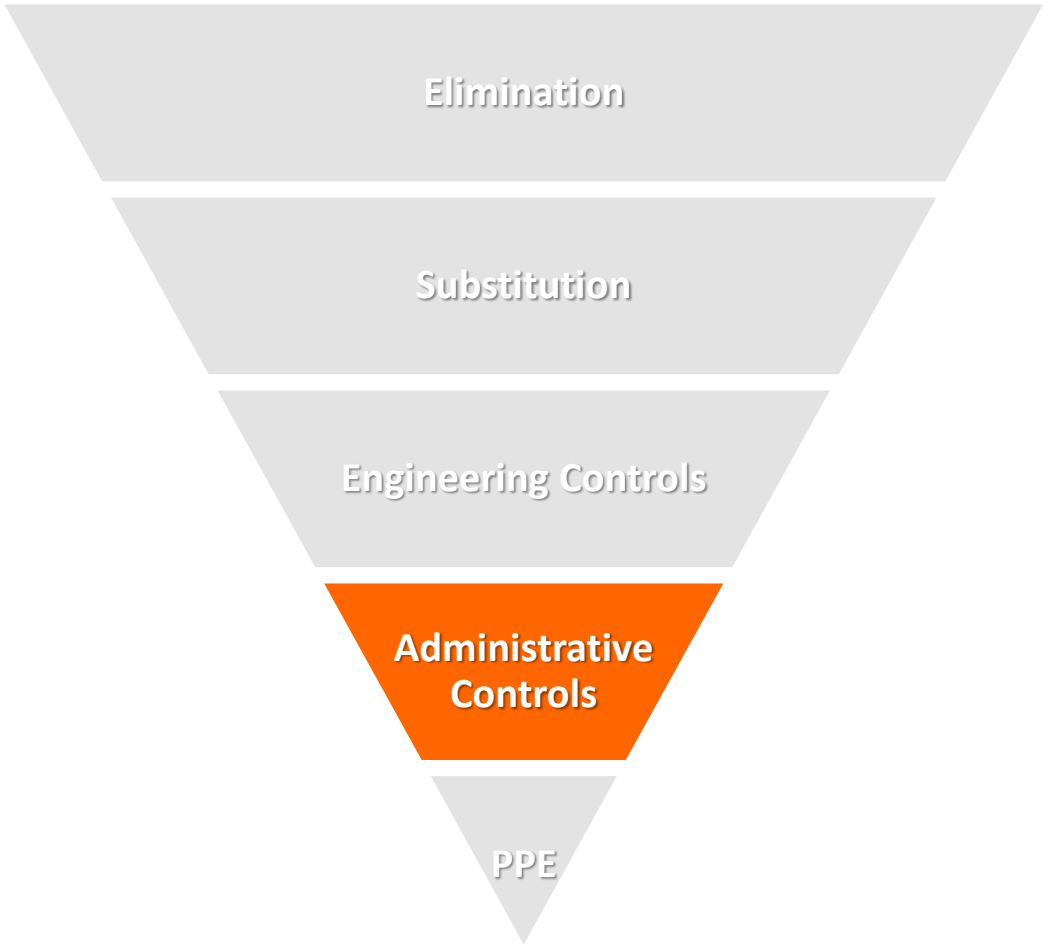


(Left): retractable safety syringe with automatic activation
(Right): early "safety syringe" with a manually-activated guard[23]



(Left): single-handed scalpel blade remover with automatic activation
(Right): early "safety scalpel" with a manually-activated sheath[23]

Step Four: Administrative Controls



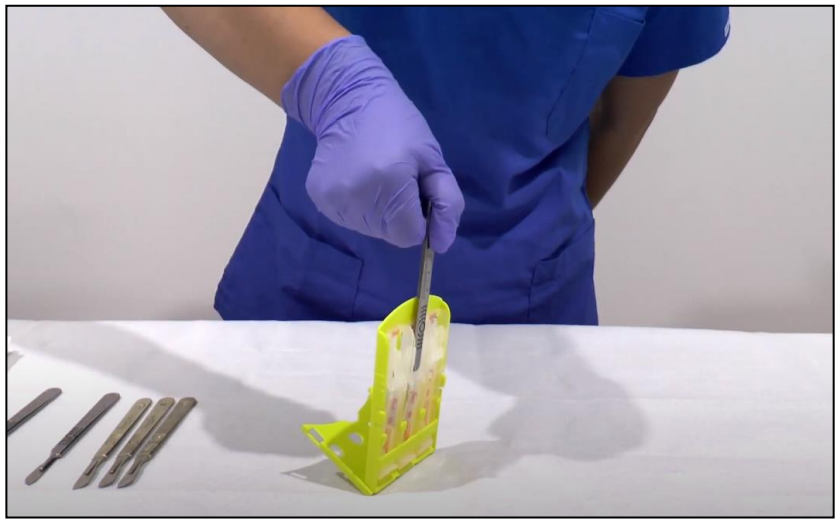
Change the way people work:

- Specify sharps safety practices through policies and/or an Exposure Control Plan[15,18]
- Ensure compliance with safe work practices including
  - Avoid recapping syringes[9,15,16,17,18,19]
  - Place sharps containers at point-of use[15,17,18,19]
  - Use a hands-free technique when passing sharps[9,18]
  - Vaccination of all staff exposed to sharps[17,18,19]
  - Sharps injury incident reporting processes[9,15,16,17,18,19]
- Implement a sharps safety training program for all staff exposed to sharps[9,15,16,17,18,19]

Step Four: Administrative Controls

What to include when developing a sharps safety training program

- ❑ Number of sharps injuries reported at the facility with case studies[9]
- ❑ Most common ways injuries can occur in the facility[9]
- ❑ Correct use of sharps safety-engineered devices[9,17,19]
- ❑ Correct sharps disposal techniques, such as disposing used sharps only in approved sharps containers[9,17,18,19]
- ❑ Correct needle handling techniques, such as avoid recapping[9,17,18,19]
- ❑ What PPE should be used to protect staff exposed to sharps injuries[9]
- ❑ Reporting, response, and monitoring procedures for occupational exposures[9,17,18,19]

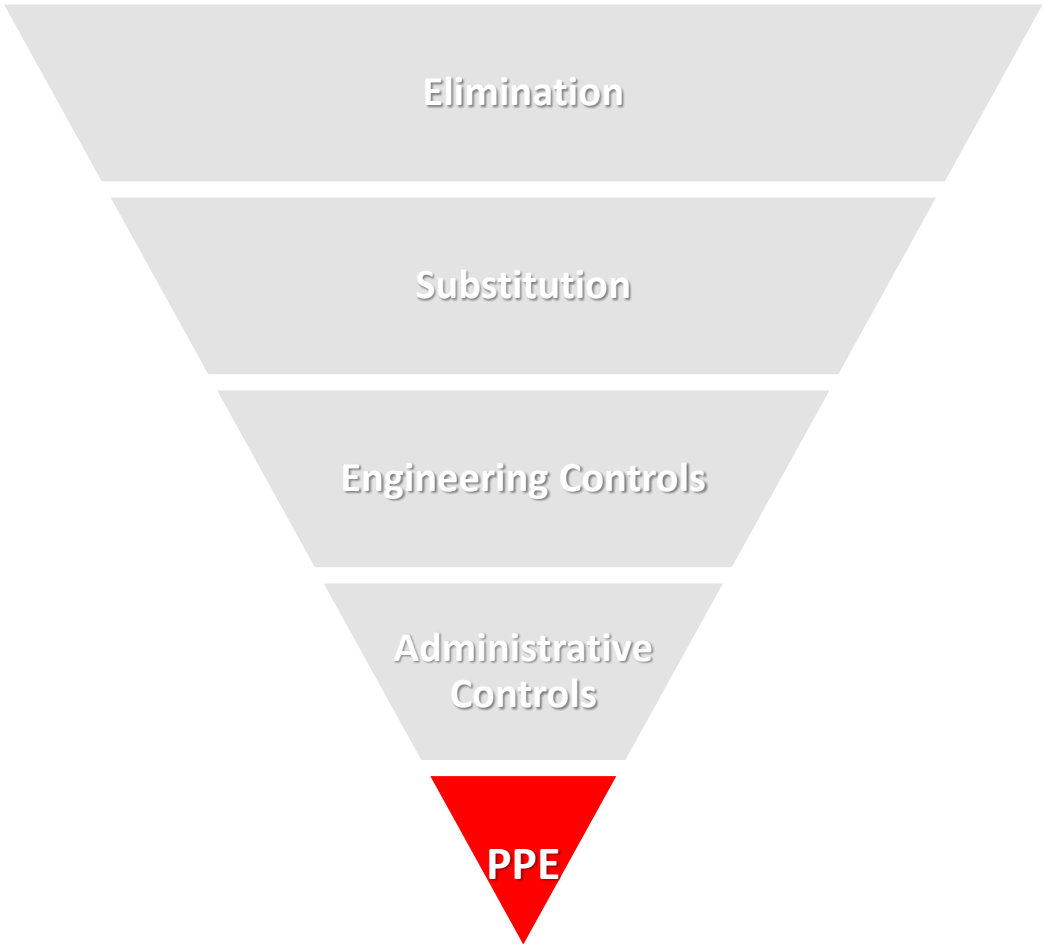


Training should include how to correctly use the safety-engineered devices being used at the facility.

Training should be conducted:

- ❑ At induction of the staff worker exposed to sharps[9,5,15,17,18,19]
- ❑ Annually for all staff exposed to sharps[9,16,17,19]
- ❑ When a new sharps safety device is introduced to the facility[9,17,19]

Step Five: Personal Protective Equipment



Protect the worker with PPE:

- Enforce the use of PPE as a barrier between the worker and the sharps injury hazard[15,16]
- Necessary PPE may include:
  - Double-gloving[9,17,19]
  - Protective footwear[17]
  - Needle-stick resistant gloves[19]
- PPE should also be provided to workers outside the healthcare area where there are sharps safety hazards, such as waste collection[19]
- PPE is considered the least effective. The first 4 levels need to be given greater importance and need to be implemented in conjunction with PPE – not replaced

Assessing the sharps safety program

What to consider when assessing the performance of a sharps safety program

- ❑ Sharps injury incident reports should be analysed to measure the effectiveness of control measures, and plan improvements to sharps injury prevention policies[9,15,16,17,19]
- ❑ Assess the process for identifying, selecting, and implementing safety-engineered devices[9,17]
- ❑ Use an audit tool to calculate the utilisation of safety-engineered services[24]
- ❑ Send reports to key stakeholders and established committees[17]

Scalpel Safety Score Card

Facility Name: *Seattle Grace*
Completed By: *Meredith Grey*
Date: *01/02/2015*

Scalpel Safety product purchased	Safety grading	Formula	Before safety program implementation (Time Period) 2011	After safety program implementation (Time Period) 2012	(Time Period) 2013	(Time Period) 2014
No safety product (standard scalpel blades)	Unsafe	A	550	450	300	200
Safety Scalpel	Active	B	150	250	300	250
Single-handed scalpel blade remover (with standard scalpel blades)	Passive	C	100	100	200	350
Total products		A+B+C	800	800	800	800
Overall Safety Score		B+C/A+B+C	250/800 = 0.31	350/800 = 0.44	500/800 =0.63	600/800 = 0.75
Active Safety Score		B/A+B+C	150/800 = 0.19	250/800 = 0.31	300/800 = 0.38	250/800 = 0.31
Passive Safety Score		C/A+B+C	100/800 =0.13	100/800 = 0.13	200/800 = 0.25	350/800 = 0.48

Has the Overall Safety Score improved? YES ✔ NO ☐ Has the Passive Safety Score improved? YES ✔ NO ☐

An audit tool like the Sharps Safety Score Card can help assess a facility's utilisation of safety-engineered devices

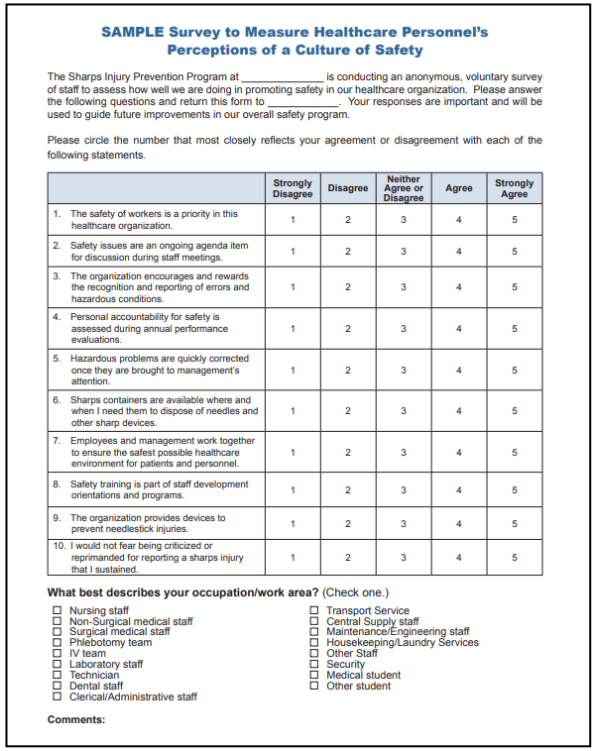
Organisational Factors to Consider

Organisational Factors that can impact the effectiveness of a sharps safety program include:

- The facility's safety culture[9,18]
- Management support [9,25]
- Nurse staffing ratios[9]

Ensure the success of the sharps safety program by implementing:

- ❑ Adopting a "No blame, no shame" sharps injuring reporting policies[9,18]
- ❑ Allocating financial resources to purchase safer sharps devices [9,15]
- ❑ Surveying staff to measure their perceptions of the facility's safety culture, and improve where appropriate[9]
- ❑ Establishing a safety committee consisting of representatives from different disciplines (infection control, clinicians, management, etc)[9]
- ❑ Ensuring that nurse staffing ratios are adequate [9]



SAMPLE Survey to Measure Healthcare Personnel's Perceptions of a Culture of Safety

The Sharps Injury Prevention Program at _____ is conducting an anonymous, voluntary survey of staff to assess how well we are doing in promoting safety in our healthcare organization. Please answer the following questions and return this form to _____. 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 Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. The safety of workers is a priority in this healthcare organization.	1	2	3	4	5
2. Safety issues are an ongoing agenda item for discussion during staff meetings.	1	2	3	4	5
3. The organization encourages and rewards the recognition and reporting of errors and hazardous conditions.	1	2	3	4	5
4. Personal accountability for safety is assessed during annual performance evaluations.	1	2	3	4	5
5. Hazardous problems are quickly corrected once they are brought to management's attention.	1	2	3	4	5
6. Sharps containers are available where and when I need them to dispose of needles and other sharp devices.	1	2	3	4	5
7. Employees and management work together to ensure the safest possible healthcare environment for patients and personnel.	1	2	3	4	5
8. Safety training is part of staff development orientations and programs.	1	2	3	4	5
9. The organization provides devices to prevent needlestick injuries.	1	2	3	4	5
10. I would not fear being criticized or reprimanded for reporting a sharps injury that I sustained.	1	2	3	4	5

What best describes your occupation/work area? (Check one.)

- ☐ Nursing staff
- ☐ Non-Surgical medical staff
- ☐ Surgical medical staff
- ☐ Phlebotomy team
- ☐ IV team
- ☐ Laboratory staff
- ☐ Technician
- ☐ Dental staff
- ☐ Clerical/Administrative staff
- ☐ Transport Service
- ☐ Central Supply staff
- ☐ Maintenance/Engineering staff
- ☐ Housekeeping/Laundry Services
- ☐ Other Staff
- ☐ Security
- ☐ Medical student
- ☐ Other student

Comments:

The CDC has sample surveys to measure staff perception of the facility's safety culture[9]

Benefits of Investing in Sharps Safety

A systematic focus on safety has been reported to have the following flow-on effects[26,27]:

- Increased quality of patient care and service
- Efficient patient flow
- Decreased absenteeism and overtime
- Reduced lost time (caused by injuries or sickness)
- Reduced need for agency staff (lower costs)
- Higher staff retention
- Improved communication and teamwork
- Higher work satisfaction and productivity
- A healthier, stable workforce

Staff and patients are benefitted by healthcare facilities investing in safety and implementing a sharps safety program

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