Needles and Sharps – Checklist

PREAMBLE

Once every 39 seconds, a nurse in this country sustains a needlestick injury. While most needlestick injuries result in nothing more than a good scare, far too many of them result in serious, life-altering (and in some cases, life-ending) diseases.

Most nurses and health care workers accept accidental needlesticks as part and parcel of the job. Others are optimistic that it won't ever happen to them.

Needlestick incidents are not situations that affects one person. It affects entire families.

Most cases might be low-risk, but that doesn't negate the fact families are then frightened. The psychological impact is huge."

Close to 400,000 healthcare workers a year sustain an injury by used hypodermic needles and other sharp instruments such as a scalpel blade and suture needles.

Needlestick injuries

Needlestick injuries are wounds caused by needles that accidentally puncture the skin.

Needlestick injuries are a hazard for people who work with hypodermic syringes and other needle equipment. These injuries can occur at any time when people use, disassemble, or dispose of needles. When not disposed of properly, needles can hide in linen or garbage and injure other workers who encounter them unexpectedly.

Sharps

"Sharps" include needles, as well as items such as scalpels, lancets, razor blade, scissors, metal wire, retractors, clamps,

pins, staples, cutters, and glass items. Essentially, any object that is able to cut the skin can be considered a “sharp”.

Needlestick and sharps injuries are all too common in healthcare settings. They are a cause of pain and anxiety, though thankfully rarely serious complications. Care needs to be taken when working with sharps, including safe disposal to keep yourself, your colleagues and patients safe.

Hazards of needlestick and sharps injuries

These injuries transmit infectious diseases, especially blood-borne viruses. Concern includes the Human Immunodeficiency Virus (HIV) which leads to AIDS (Acquired Immune Deficiency Syndrome), hepatitis B, and hepatitis C.

Incidental punctures by contaminated needles can inject hazardous fluids into the body through the skin. There is potential for injection of hazardous drugs, but contact with infectious fluids, especially blood, is by far the greatest concern. Even small amounts of infectious fluid can spread certain diseases effectively.

Sharps can create a cut in the skin which allows contact between blood, or fluids.

The risk of infection after exposure to infected blood varies by bloodborne pathogen.

The Ontario Hospital Association/Ontario Medical Association (2016) estimate that after an injury in workplace situations from a needle contaminated with hepatitis B virus, there is a 6 to 30% chance that an exposed person will be infected. In a similar situation with HIV, there is about a 0.3% chance of infection, and there is about a 1.8% chance of infection for hepatitis C.

Note also that because the hepatitis B virus may survive on environmental surfaces for more than a week, indirect exposure can occur via contaminated inanimate objects.

Injuries have transmitted many other diseases involving viruses,

bacteria, fungi, and other microorganisms to health care workers, laboratory researchers, and veterinarian staff. The diseases include:

- Blastomycosis
- Brucellosis
- Cryptococcosis
- Diphtheria
- Cutaneous gonorrhea
- Herpes
- Malaria
- Mycobacteriosis
- Mycoplasma caviae
- Rocky Mountain spotted fever
- Sporotrichosis
- *Staphylococcus aureus*
- *Streptococcus pyogenes*
- Syphilis
- Toxoplasmosis
- Tuberculosis

Many of these diseases were transmitted in rare, isolated events. They still demonstrate, however, that needlestick and sharps injuries can have serious consequences.

PREVENTION

Ways to stay safe around sharps

1. Training

- Know how to use specific sharp instruments correctly.
- Know how to safely discard or prepare sharp for reuse, if appropriate.
- Recognize safer needle devices and use according to instructions.

2. Discard correctly and walk away

- Never recap, bend, break or remove needles or other sharps after use.

- Discard in a sharps bin.
- Have the bin close to where you are using the sharp.
- Make sure the bin is not overfull.
- Do not put your fingers into the bin.
- Do not push or force items into the sharps bin.

3. Needle free

- Avoid using needles where safe and effective alternatives are available, including:

- Needleless connectors for IV delivery systems.
- Sliding needle shields attached to disposable syringes and vacuum tube holders.
- Needles or sharps that automatically retract into the device.
- Self-blunting needles; and
- Hinged or sliding shields attached to phlebotomy needles, winged-steel needles, and blood gas needles.

4. Report injury

- Complete necessary documentation.
- Get details and blood samples from patient.
- Give your own samples promptly.
- Attend follow-up sessions.

What most employers and employees need to do to prevent injury from needlestick incidents in the workplace.

Employers:

- Implement the use of engineering controls to reduce needlestick injuries.
- Avoid the use of needles when there are other safe alternatives.
- Implement use of devices with safety features.
- Set priorities and strategies for needlestick injury prevention by examining local and national information about risk factors.
- Ensure proper training of employees on the safe use and

disposal of needles.
- Modify work practices that have an increased risk of a needlestick injury.
- Promote safety awareness in the work environment.
- Establish procedures for and encourage the reporting of all needlestick and other sharps-related injuries.
- Evaluate the effectiveness of prevention efforts and provide feedback on performance.

Employees:

- Avoid recapping needles.
- Before beginning any procedure using needles, plan for safe handling and proper disposal.
- Help your employer select and evaluate devices with safety features.
- Use devices with safety features.
- Report all needlestick and other sharps-related injuries.
- Dispose of used needles in appropriate sharps disposal containers.
- Inform your employer of hazards from needles that you observe at work.
- Participate in bloodborne pathogen training and follow recommended infection prevention practices, including hepatitis B vaccination.

Employees who experience needlestick/sharps injuries.

They should **immediately**:

- Wash wound with soap and water
- Flush out mouth, nose, or skin with water
- Irrigate eyes with water, saline, or sterile irrigates
- Report the incident to your supervisor
- Immediately seek medical treatment at the nearest ER or treatment facility.

Needlestick and Sharps Injury Prevention

Preventing injuries is the most effective way to protect workers.

A comprehensive sharps injury prevention program includes:

- Recommended guidelines.
- Improved equipment design.
- Effective disposal systems.
- Employee training.
- Safe recapping procedures, where necessary.
- Surveillance programs.

Preventing injuries from sharps and needlesticks is considered a part of the "routine practices" used by healthcare workers.

Workers who use sharps require education and training as part of a sharps injury prevention program. Workers should be educated in how to protect themselves during use, and to protect others who may encounter the device during or after procedures.

The use of safety-engineered devices such as protected needle devices, or needle-free systems with self-sealing ports and syringes is encouraged. PHAC states that use of such safety devices is required by some jurisdictions. Using these devices must take into consideration both the safety of the health care worker and the patient.

PHAC recommends that:

- Needles should not be recapped. Used items should be placed immediately in a designated puncture-resistant container that is easily accessible at the point-of-care.
- Healthcare workers should cover open skin areas or lesions on hands and arms with a dry dressing at all times. Hand hygiene is still essential, so consultation is necessary if the dressing interferes with this procedure.
- Eyes, nose, and mouth should be protected if splashes with blood or body fluids are anticipated.
- Immediately perform first aid if someone has been exposed to blood or body fluids. First aid should include:
    - Thoroughly rinsing the injury site with running water, and gently cleaning with soap and water if possible.
    - Flushing the eyes, nose, or mouth with running water

if they have been exposed.
    - Broken skin should be rinsed thoroughly.
- Report the incident and exposure immediately to your employer.
- Follow instructions for further treatment and follow-up from medical professionals, where necessary.

PHAC also refers to the CDC "Workbook for designing, implementing and evaluating a sharps injury prevention program" as an example of a program. This workbook uses a hierarchy of control approach, including:

Elimination – find ways to eliminate or reduce needle use during procedures, medication delivery, and specimen collection.

Engineering controls – remove or isolate the hazard by using sharps disposal containers or other devices that have an integrated injury prevention feature. Safety devices must be chosen with care as no one device or strategy will work in every situation.

Work-practice controls – Steps that can be taken to reduce injuries include using instruments to grasps needles or load/unload scalpels, avoiding hand-to-hand passage of sharps, separating sharps from other waste, not carry garbage or linen bags close to the body, etc.

Personal Protective Equipment (PPE) – PPE should be used as the last control approach, where appropriate.

In situations where recapping is considered necessary, develop safe approaches which workers can follow. Workers should never move an exposed needle tip towards an unprotected hand. Recap by laying the cap on a flat surface and scoop it onto the tip of a syringe held in one hand. Keep the free hand away from the sheath and well behind the exposed needle.

In addition, all workers at risk should be aware that there is a vaccine available for Hepatitis B.