
Part 35 Health Care and Industries with Biological Hazards

Highlights

- Section 525.2 introduces new requirements for safety-engineered medical sharps.
- Section 526 specifies requirements applicable to sharps containers.
- Section 527 prohibits the recapping of waste needles.
- Section 528 requires employers to establish policies and procedures for storing, handling, using and disposing of biohazardous materials. (Section 8 of the *OHS Regulation* requires that the procedures be in writing and available to workers.)
- Section 530 requires employers to establish policies and procedures for the post-exposure management of workers exposed to biohazardous material. (Section 8 of the *OHS Regulation* requires that the procedures be in writing and available to workers.)

Requirements

Section 525.1 Exposure control

This section serves to remind employers and workers that worker exposure to blood borne pathogens is a hazard that must be controlled according to the hazard elimination and control requirements of section 9.

Section 525.2 Medical sharps

Subsections 525.2(1), 525.2(2) and 525.2(3)

Safety-engineered medical sharps

The requirements of subsections (2) and (3) come into effect on July 1, 2010. This delayed effective date is intended to provide employers with sufficient time to establish budgets, assess and select appropriate safety-engineered devices, change workplace policies and practices, and train workers.

A “safety-engineered medical sharp” is a medical sharp that is designed to, or has a built-in safety feature or mechanism that eliminates or minimizes the risk of accidental parenteral contact while or after the sharp is used; parenteral contact means piercing mucous membranes or the skin.

Specially designed medical sharps e.g. hollow-bore needles, suture needles, scalpels, etc. reduce the risk of needlestick injuries and other puncture wounds from contaminated sharps. Self-sheathing needles have a built-in sheath or sleeve that extends to cover the needle. Retractable syringes are designed so the needle can be pulled up inside the syringe.

Needleless systems use threaded ports on IV tubing, so healthcare workers can remove the needle from the syringe after drawing up medication, and then simply screw the syringe directly into the port. Disposable safety scalpels have a built-in sheath that covers the blade between use and disposal, and suture needles for sewing tissues other than skin are available with blunted tips.

Alberta’ *OHS Act* defines a work site as a location where a worker is, or is likely to be, engaged in any occupation and includes any vehicle or mobile equipment used by a worker in an occupation. Examples of work sites where subsections (2) and (3) may apply include, but are not limited to,

- Hospitals
- Ambulances
- Homecare sites where a community health nurse visits
- Blood collection clinics
- Correctional institutes
- Dental offices
- Medical and dental laboratories
- Health clinics, including those located in industrial facilities
- Outpatient facilities (including renal dialysis clinics and cancer treatment centres)
- Hemodialysis centres
- Drug treatment centres
- Hospices
- Residential care facilities
- Assisted living residences
- Physicians’ offices
- Veterinary clinics
- Naturopaths’ offices
- Acupuncture clinics
- Tattoo parlours

Despite subsection (2), there are times when a safety-engineered medical sharp cannot be used because its use is not clinically appropriate or the required safety-engineered sharp is unavailable in commercial markets. The person who determines that use of the required safety-engineered medical sharp is not clinically appropriate should have the clinical knowledge and experience necessary to make that assessment. This person should also have expertise in the procedure in question, as well as knowledge of the devices that are commercially available for the procedure. The reasons why the device required under subsection 525.2(2) is not clinically appropriate should be well documented for each procedure or type of procedure where that determination is made. In some situations it may be clinically appropriate to use the required device even though its use in turn requires modification of a medical procedure.

The person determining that the required safety-engineered sharp is not available in commercial markets should have similar clinical knowledge and a comprehensive knowledge of what products are commercially available.

Subsections 525.2(4), 525.2(5) and 525.2(6)

Safe work procedures and training

The employer must establish safe work procedures for the use and disposal of medical sharps if a worker is required to use or dispose of a medical sharp. The procedures must include a discussion of

- (a) the hazards associated with the use and disposal of medical sharps,
- (b) the proper use and limitations of safety-engineered medical sharps, and
- (c) procedures to eliminate accidental contact with medical sharps.

Additional relevant information can also be included as necessary.

As required by section 8 of the OHS Regulation, the safe work procedures must be in writing and available to workers. The purpose of the procedures is to limit the possibility of workers coming into contact with medical sharps that could cause a cut or puncture wound. Workers must be trained in the safe work procedures so that the procedures are understood and followed.

Workers are required to use and dispose of medical sharps in accordance with the training they have received.

Section 526 Sharps containers

Biohazardous material

Sharps include needles, knives, scalpels, blades, scissors and other items that can cut or puncture the skin, and may also be contaminated with a biohazardous material.

Typically, only those workers involved in health care are thought of as being at risk of contracting disease from biohazardous materials. However, other workers can also be exposed to biohazardous materials. This includes workers involved in law enforcement, workers who provide fire and rescue services, workers who work at correctional institutions and funeral homes, and workers who function as first aiders at worksites.

The definition of “biohazardous material” in this section applies to organisms that may cause disease in humans. In particular, it applies to pathogens that are or would be classified by the Public Health Agency of Canada, Office of Laboratory Security as Risk Group 2, 3 or 4 as described in the Laboratory Biosafety Guidelines (2004).

Risk Group 2 (moderate individual risk, limited community risk)

Risk Group 2 includes any pathogen that can cause human disease but, under normal circumstances, is unlikely to be a serious hazard to laboratory workers, the community, livestock, or the environment. Examples of Risk Group 2 pathogens include the Hepatitis B and C viruses, salmonella, and E. coli bacteria. Effective treatment and preventive measures are available and the risk of spread is limited.

Risk Group 3 (high individual risk, low community risk)

Risk Group 3 includes pathogens that usually cause serious human disease, or can result in serious economic consequences. Risk Group 3 pathogens do not ordinarily spread by casual contact from one individual to another; antimicrobial or antiparasitic agents can treat the pathogens. Examples of Risk Group 3 pathogens include hantavirus, tuberculosis, human immunodeficiency virus (HIV), and the virus causing Creutzfeldt-Jakob disease (CJD).

Risk Group 4 (high individual risk, high community risk)

Risk Group 4 includes pathogens that usually produce very serious human disease, often untreatable, and may be readily transmitted from one individual to another, or from animal to human or vice-versa directly or indirectly, or by casual contact. Examples of Risk Group 4 pathogens include the hemorrhagic fevers such as Ebola, Marburg and Lassa.

Under WHMIS, biohazardous infectious materials are classified under Division 3 of Class D (Poisonous and Infectious Material). This division applies to organisms such as viruses, bacteria, rickettsia, fungi, protozoa, and helminthes, which cause disease or are reasonably believed to cause disease in persons or animals, and to the toxins produced by such organisms.

The Public Health Agency of Canada classifications also include pathogens that are capable of causing disease in humans or animals. The definition of “biohazardous material” in this section does not apply to organisms capable of causing disease in animals, but does include toxins produced by organisms capable of causing human disease.

For more information



www.phac-aspc.gc.ca/publicat/lbg-ldmbl-04/pdf/lbg_2004_e.pdf

Laboratory Biosafety Guidelines – 3rd Edition (2004)



www.phac-aspc.gc.ca/publicat/ccdr-rmtc/97/pdf/cdr23s3e.pdf

Preventing the Transmission of Bloodborne Pathogens in Health Care and Public Service Settings – Health Canada

Sharps container design

A sharps container is a container into which sharps are placed for safe containment and disposal. Sharps containers are made from a variety of materials, including lined cardboard, metal and plastic. To be acceptable for use, the container must have the following characteristics:

- (1) *puncture resistant* – the container must be sturdy enough to prevent contained sharps from puncturing the container during normal conditions of use and handling, particularly when being disposed;
- (2) *fill line* – the container must have a fill line indicating the maximum level to which the container can safely be filled. For most containers, this should be no more than $\frac{3}{4}$ full;

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- (3) *closable* – during normal handling and disposal, contained sharps must not be able to fall out;
 - (4) *leakproof on the sides and bottom* – this prevents any accumulated fluids from leaking out of the container and posing a hazard to workers; and
 - (5) *labelled or colour-coded* – the container must be clearly labelled as containing sharps or colour-coded according to the employer's safe work practices. Acceptable labelling includes the universal "biohazard" symbol, the WHMIS biohazard symbol or the word "SHARPS" appearing on the container. In all cases the label must be clearly visible.

Many types of sharps containers are commercially available. Containers emptied of their original contents are also acceptable for containing sharps as long as all of the above criteria are met.

In terms of safe use practices, sharps containers should:

- (a) not be filled to more than $\frac{3}{4}$ of their maximum capacity – this prevents injuries due to overfilling;
- (b) be upright during all times of use – to prevent spills and leaks;
- (c) not be emptied into another container and the original sharps reused – this exposes workers to an unacceptable hazard for injury; and
- (d) have their lids in place – this prevents spills and limits access to the collected materials. Immediately before a sharps container is removed or replaced, its lid must be secured in place to prevent the contents from spilling or sticking out during handling, storage, transport or shipping. Some lids may need to be securely taped in place.

The employer is responsible for providing sharps containers, making sure they are easily accessible, located as close as reasonably practicable to where sharps are used, and making sure that workers use the containers. Locating sharps containers close to the point of use encourages their immediate use and reduces or eliminates the need for workers to carry contaminated sharps.

Point of use placement also helps to reduce the likelihood of the contaminated sharp being placed into a pocket for later disposal, or left in bedding materials, only to be unexpectedly found later. It may be appropriate to place sharps containers in locations such as health care facility laundry areas where sharps can be reasonably expected to be found.

While the employer must provide sharps containers, workers must use them. Workers should plan ahead how they will safely handle their sharps , including disposal into a sharps container.

For more information:



CSA Standard Z316.6-07, *Evaluation of Single-Use and Reusable Medical Sharps Containers for Biohazardous and Cytotoxic Waste*



CSA Standard Z317.10-09, *Handling of Waste Materials in Health Care Facilities and Veterinary Health Care Facilities*

Section 527 Recapping needles

Many injuries, known as needlesticks, occur when used or waste needles are recapped. Needlestick injuries can expose workers to a number of bloodborne pathogens that can cause serious or fatal infections. The pathogens posing the most serious health risks are

- (a) Hepatitis B virus (HBV),
- (b) Hepatitis C virus (HCV), and
- (c) Human immunodeficiency virus (HIV) – the virus that causes AIDS.

Any person who comes in contact with needles is at risk, including nursing staff, lab workers, emergency and public safety workers, doctors and housekeepers. The needles that usually cause needlestick injuries are hypodermic needles, blood collection needles, suture needles and needles used in the delivery of intravenous (IV) fluids.

Waste needles must not be recapped and should be discarded immediately in an appropriate sharps container. It is not safe to carry an uncapped needle.

Employers can reduce needlestick injuries by prohibiting the recapping, bending, or cutting of needles. The employer is responsible for ensuring that waste needles are not recapped. Workers must not recap waste needles.

Section 528 Policies and procedures

The employer must establish policies and procedures dealing with the storage, handling, use and disposal of biohazardous materials. As required by section 8 of the *OHS Regulation*, these policies and procedures must be in writing and available to workers. The procedures in particular should take into account the educational level, literacy and language of the workers to whom the procedures apply.

Section 529 Limited exposure

The employer is required to keep worker exposure to biohazardous materials as low as reasonably practicable. The results of the employer's hazard assessment should provide direction as to where and how worker exposure can be minimized or eliminated.

Section 7 of the OHS Code requires an employer to assess a work site to identify existing or potential hazards before work begins. Where workers may be occupationally exposed to biohazardous materials, the assessment must include exposure to biohazardous materials as one of the assessed hazards. The resulting hazard assessment report must be in writing as required by section 8 of the *OHS Regulation*.

The purpose of the hazard assessment is to determine the jobs, tasks and procedures for which exposure to a biohazardous material is possible and to evaluate the likelihood that such exposure will occur. The factors to be considered vary with the work site and the type of biohazardous material to which workers are potentially exposed. It is only necessary to assess work where there is potential for exposure.

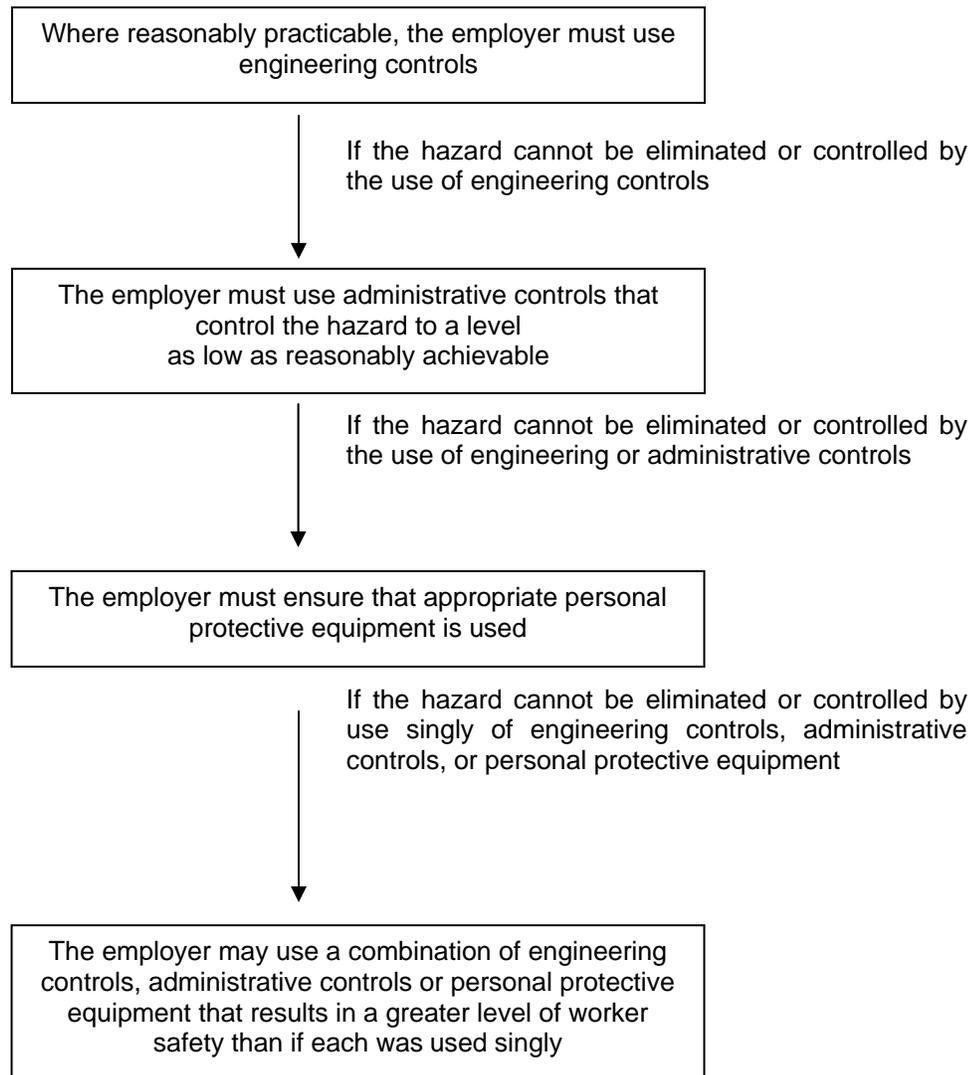
When evaluating the potential for exposure, the following sources of information should be considered:

- (a) the employer's first aid records and incident or accident investigation reports – these may help to determine what type of injuries are occurring, where they are occurring, and perhaps the causes of those injuries;
- (b) WCB claims – these may help to determine what type of injuries are occurring, where they are occurring, and perhaps the causes of those injuries;
- (c) injury performance data for similar industries, injury performance of other employers in the same area, and industries dealing with the same client group;
- (d) information available from agencies such as Alberta Health and Wellness, Health Canada, the Canadian Centre for Occupational Health and Safety (CCOHS), the U.S. Occupational Safety and Health Administration (OSHA), the U.S. National Institute for Occupational Safety and Health (NIOSH).

Where reasonably practicable, the employer must involve affected workers in the performance of the hazard assessment and in the control or elimination of those hazards identified by the hazard assessment. The results of the hazard assessment must be communicated to those workers affected by its findings.

Section 9 of the OHS Code requires employers to take measures to eliminate the hazard or, where elimination is not reasonably practicable, control the hazard. Figure 35.1 summarizes the hierarchy of control that must be followed:

Figure 35.1 Hazard elimination or control flowchart



Engineering Controls

Engineering controls reduce worker exposure to biohazardous materials by either removing or isolating the hazard, or isolating workers from exposure. Examples of engineering controls include:

- (a) sharps containers;
- (b) safety-engineered medical sharps;
- (c) splatter guards;
- (d) mechanical waste compacting systems;
- (e) biological safety cabinets;
- (f) mechanical pipetting systems in laboratories.

Administrative controls

Administrative controls reduce the likelihood of worker exposure to biohazardous materials by altering the way a task is performed. Examples of administrative controls include:

- (a) hand washing immediately after removal of gloves and as soon as possible after skin contact with biohazardous materials;
- (b) disposing of contaminated sharps immediately after use in a readily available sharps container;
- (c) immediately cleaning up spills of biohazardous materials with equipment and supplies appropriate to the type and quantity of material spilled;
- (d) prohibiting the recapping of waste needles;
- (e) preventing the storage of food and beverages in refrigerators or freezers where biohazardous materials are present.

Personal protective equipment

Personal protective equipment (PPE) should only be used once engineering and administrative controls, alone or in combination, have been unable to eliminate or control a particular hazard. PPE should always be thought of as the last line of defense, the “last resort”.

PPE should not be used as a substitute for engineering and/or administrative controls. PPE is designed to create a barrier against workplace hazards. Readers are referred to Part 18 of the OHS Code for information describing employer and worker duties involving PPE.

The OHS Code does not specify the type of PPE required for all work site circumstances. The choice of what type of PPE is required must be based on the specific exposure circumstances found at the work site. Examples of appropriate PPE

may include gloves, gowns, puncture-proof footwear, laboratory coat, coveralls and booties, faceshield, splash goggles, resuscitation barrier, eye protection and respirator. For airborne or aerosolized exposure to biohazardous material, an approved particulate respirator may be required.

A worker must not fail to use PPE simply because

- (a) the patient is perceived to be “low risk”,
- (b) a respirator will frighten the patient,
- (c) exposure time will be “short”, or
- (d) the gloves provided are either too large, decrease the sensation of touch and/or hinder the ability to work. Under these circumstances, gloves appropriate to the worker and task have not been provided.

Section 530 Post-exposure management

Employers are required to have policies and procedures describing employer and worker responsibilities in the event that a worker is exposed to biohazardous material. As required by section 8 of the *OHS Regulation*, these policies and procedures must be in writing and available to workers.

In case of an exposure, including needlesticks and other sharps-related injuries, the employer needs to ensure that first aid and medical attention are available to the worker. Details of the exposure need to be recorded, the significance of the exposure assessed, and follow-up advice provided.

For harmful exposures, follow-up actions may include making arrangements for confidential post-exposure counseling, medical evaluation, or medical intervention by a qualified person.

Workers need to be aware of the procedures they must follow to obtain immediate first aid. Incidents of exposure to biohazardous materials must be reported as soon as possible to a supervisor and first aid attendant, and recorded in the First Aid Record Book.

Several Workplace Health and Safety publications provide more detailed information.

For more information



http://employment.alberta.ca/documents/WHS/WHS-PUB_mg024.pdf

Immunizations for Worker Exposure