

Waste Management for Health Care Workers in the Community



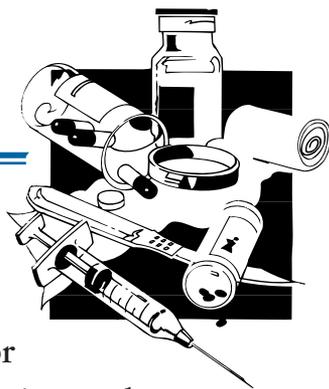
Capital
Health
Edmonton and area



ALBERTA
MEDICAL
ASSOCIATION

Adapted from *Waste Management for Health Care Workers in the Community*
with the permission of Capital Health, Regional Public Health.
Distributed by the Alberta Medical Association (March 2006).

Introduction



This brochure describes **health risks** and **disposal methods** associated with biomedical waste for health care providers in the community, such as medical and dental offices, laboratories and home care provision agencies.

Also included are points for **public education** and **occupational health issues** related to waste disposal. The procedures recommended are based on common sense, esthetic concerns and disease transmission principles.¹

Proper disposal of waste generated in the community will minimize the risk of contracting infections in community health care workers and other occupational groups, such as office cleaning personnel, city waste collectors, and the families of people receiving home care.

Health risk

There is no empirical evidence to suggest that waste generated in health care settings is more infectious than household waste.^{1,2,3}

It is prudent to take special precautions to avoid exposure to harmful pathogens. Waste generated by health care providers, with the exception of sharps, has not been associated with disease transmission in the community.³ However, the risk of acquiring infection following accidental exposure to blood or body fluids by needlesticks has been documented.⁴

Risk to health care providers from needlestick injury

The reported risk of becoming infected with human immunodeficiency virus (HIV) or hepatitis B virus (HBV) where the source of the needlestick was known to be infected is 0.36%⁵ and 19%,⁶ respectively.

The risk of contracting hepatitis C virus (HCV) infection following exposure from an HCV-infected source has been reported as being between 4%⁷ and 10%.⁸

Risk to public from needlestick injury

The risk of becoming infected with HIV or HBV, if injured with a needle found in the environment, is a matter of academic debate. The risk to the public has been estimated to be very small or non-existent.^{3,9}

Biomedical waste disposal

Exposure to biomedical waste generated in the community may result in acquiring diseases. Biomedical waste is categorized as soft, anatomical, microbiological, blood and body fluids, and sharps.

Soft waste

Dressings, sponges, gloves or other soft material dripping with blood or purulent discharge should be placed in a strong plastic bag or double-bagged, then disposed of into garbage containers, picked up by municipal garbage collectors and taken to the landfill.

Blood and/or body fluids contained in absorbent materials are not known to pose a risk for disease transmission and, therefore, do not require incineration.

Gloves, paper tissues or diapers may be disposed of as office or regular household waste.

Anatomical waste

Anatomical waste consists of human tissues, organs, body parts or products of conception (e.g., placentas). Human anatomical waste should be placed in leak-proof containers and incinerated.

Microbiological waste

Microbiological waste is non-anatomical waste that is contaminated with micro-organisms that may have the potential to transmit disease (e.g., waste from laboratories).

Scientifically, when this type of waste is contained and disposed of into a properly managed sanitary landfill, the risk of disease transmission is not different from that of household waste. However, in reality, staff at the health care setting generating the waste must bear in mind the type of collection method, efficiency of landfill operation, quantity of waste, esthetics, the “cradle-to-grave responsibility,” legislative requirements and, as importantly, public perception.

In Alberta, microbiological waste must be rendered non-pathogenic (e.g., autoclaved) before final disposal into sanitary landfills. Nevertheless, because of the difficulty of ensuring microbiological waste is rendered non-pathogenic, disposal by incineration is preferred.

Community medical facilities and laboratories transporting diagnostic or infectious specimens, by land or air, to external sites must adhere to packaging and labeling regulations as defined in the *Transportation of Dangerous Goods Act*.

For more information, please phone Alberta Infrastructure and Transportation, Dangerous Goods Control, toll-free 1.800.272.9600 (24 hours a day).

Blood and body fluids

Blood, suctioned fluids, excretions and secretions must be contained in impervious containers and disposed of by incineration or other methods acceptable to the environmental health division of your regional health authority and the municipality.

Sharps

All sharps such as needles, blades, lancets or clinical glass (e.g., blood collection tubes) must be disposed of in labeled sharps containers specifically designed for that purpose.

Recommended features of sharps containers include: spill-proof, lockable lid, puncture-resistant and construction of materials that can be incinerated. Needles should not be bent, broken or recapped prior to disposal. Preferably, sharps containers should be incinerated. Sharps generated by health care providers in the community (e.g., Home Care) should be securely contained and returned to their offices for proper disposal.

Public education for sharps disposal

Individuals using sharps at home, such as needles or lancets, should be provided with information regarding sharps disposal at home.

Residents in the Capital Health region may request a fact sheet called *Handling Needles Safely in the Home and in the Community*. Phone the Capital Health Public Health Division at 780.413.7928.

Other Alberta residents may phone their local regional health authority environmental health service for advice on recommended practices. Contact your municipality to find out if bylaws allow placing sharps, that were used at home, in household garbage in a secure container.

Occupational health

Alberta's *Occupational Health and Safety Code* applies to the health care sector generally and holds employers responsible for ensuring workplace safety.

Under the legislation, employers are defined to include a self-employed professional or a person who employs one or more employees. The code applies in general to any hazard affecting worker health or safety and, in the case of sharps, contains very specific requirements.

Staff at community health care settings that generate biomedical waste must train workers appropriately. Education regarding waste disposal should include the health care worker as well as supervisory, housekeeping and maintenance personnel.

A post-exposure protocol for accidental exposure to blood and/or body fluids must be available and understood by all employees. Hepatitis B vaccine is recommended for all workers with the potential to be exposed to blood and/or body fluids.¹⁰

To view the code and its companion explanation guide, visit the Alberta Human Resources and Employment website at <http://www3.gov.ab.ca/hre/whs/law/ohs.asp>. A *Health and Safety Tool Kit for Small Business* is also available in the publications section of the ministry's website.

REFERENCES

1. Health Canada (1998). *Infection Control Guidelines: Hand Washing, Cleaning, Disinfection and Sterilization in Health Care*. CCDR, 2488.
2. Burke, E.L. (1994). "A Survey of Recent Literature on Medical Waste." *Journal of Environmental Health*: 56(9); 11-14.
3. Rutala, W.A. & Weber, D.J. (1991). "Infectious Waste - Mismatch Between Science and Policy." *New England Journal of Medicine*: 325(8); 578-582.
4. Turnberg, W.L., Lowen, L.D. (1994). "Home Syringe Disposal: Practice and Policy in Washington State." *Diabetes Education*: 20; 489-492.
5. Tokars, J.I., Ruthanne, M., Culver, D.H., Schable, C.A., McKibben, P.S., Bandea, C.I., Bell, D.M. (1993). "Surveillance of HIV Infection and Zidovudine Use Among Health Care Workers and Occupational Exposure to HIV-infected Blood." *Annals of Internal Medicine*: 118(12); 913-919.
6. Werner, B.G., Grady, G.F. (1982). "Accidental Hepatitis-B-Surface-Antigen-Positive Inoculations - Use of e Antigen to Estimate Infectivity." *Annals of Internal Medicine*: 97(3); 367-369.
7. Kiyosawa, K., Sodeyama, T., Tanaka, E., Yoshiyuki, N., Furuta, S., Nishioka, K., Purcell, R.H., Alter, H.H. (1991). "Hepatitis C in Hospital Employees with Needlestick Injuries." *Annals of Internal Medicine*: 115(5); 367-369.
8. Mitsui, T., Iwano, K., Masuko, K., Yamazaki, C., Okamoto, H., Tsuda, F., Tanaka, T., Mishiro, S. (1992). "Hepatitis C Virus Infection in Medical Personnel After Needlestick Accident." *Hepatology*: 16(5); 1109-1114.
9. Canadian Pediatric Society (1990). "Accidental Injury to Children from Discarded Needles." *News on Immunization and Infectious Diseases*: Vol 11.
10. Health Canada. National Advisory Committee on Immunization (2002). *Canadian Immunization Guide* (sixth edition). Ottawa: Canadian Medical Association.