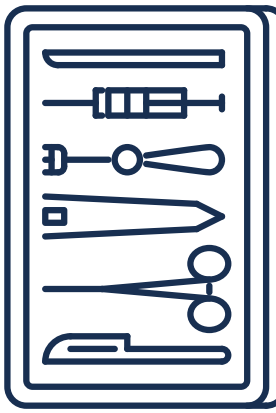
CASCADES

ENVIRONMENTALLY SUSTAINABLE OPPORTUNITIES FOR HEALTH SYSTEMS

Hazardous Medical Waste Management



There is a lack of clear guidelines and comprehensive regulations addressing hazardous medical waste management in Canada.

This infographic and corresponding primer are intended for healthcare policymakers and individual changemakers looking for opportunities for change in accordance with provincial, national and federal regulations. For any complementary information about this topic, please refer to the CASCADES Hazardous Medical Waste Management primer.

Note: Before implementing any waste-related program, it is important to review your provincial waste management regulations/guidelines and identify what the waste hauler serving your facility accepts. Waste haulers and vendors vary in their practices and the types of waste they accept (1-3).

HAZARDOUS WASTE: "a material or substance that, if handled improperly, has the potential to harm people, property, or the environment (CSA, 2021, pg. 18)[4]."

GENERAL WASTE: "material that does not pose a disease-related risk or threat to people or the environment when managed in accordance with appropriate practices and applicable regulations (CSA, 2021, pg. 17)[4]."

In Canada, healthcare facilities have on-site sterilizing equipment and/or contract third-party vendors to collect, handle and transport their hazardous waste to centralized, off-site facilities.[5,6] Waste is sterilized using methods such as autoclaving or incineration.[2,7]

Incineration and sterilization processes are over-utilized, contributing to environmental pollution and high waste disposal costs for healthcare institutions.[1,5,8,10,11]

There are several opportunities to decrease the volume of hazardous medical waste, thereby mitigating the environmental and financial implications for healthcare facilities.[12]

INCINERATION

Involves burning waste at high temperatures to produce residual ash, which can then be disposed of in a municipal solid waste landfill.[8]

AUTOCLAVING

Refers to the sterilization of hazardous medical waste using dry heat or steam to kill microbial contamination.[8,9]

1. UPDATED REGULATIONS AND GUIDANCE

Regulations and guidance for hazardous medical waste management are variable across Canadian jurisdictions, and many do not maximize opportunities for environmental sustainability. Look for opportunities to update regulations and guidance documents.

a) If not pathogenic, blood-stained items can be disposed of as general waste as opposed to hazardous waste

CASE EXAMPLES

Public Health Ontario's Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings (2018) and Alberta Health Services (AHS) Procedure on Biomedical Waste (2015) state that material that is not saturated, dripping or releasing blood when compressed can be sent to general waste stream as long as it's not pathogenic.

However, AHS does mention that "due to the sensitivities surrounding health care waste, consideration should be given to items which are especially soiled or unsightly as to whether they should be disposed of in general waste or another more appropriate waste stream" (pg. 17).

b) When not contaminated with blood or cytotoxic/hazardous pharmaceuticals, syringes can be separated from capped needles and disposed in general waste streams.

CASE EXAMPLES

AHS Procedure on Biomedical Waste (2015) and Newfoundland & Labrador Department of Environment and Climate Change – Guidance Document (2016) are pro-environmental and indicate that non-contaminated "syringes without needles" can be disposed of as general waste. In Alberta, drug vials and ampoules are also not considered contaminated sharps and can be disposed of as general waste.

c) Empty drug containers can be disposed of as general waste or recycled.

CASE EXAMPLES

AHS Procedure on Biomedical Waste (2015) and the Newfoundland & Labrador Department of Environment and Climate Change – Guidance Document (2016) are pro-environmental and indicate that empty medication containers or vials can be disposed of in the general waste stream.

2. PRACTICE CHANGE

Effective sorting is advantageous for both cost savings and emissions reduction associated with incineration.

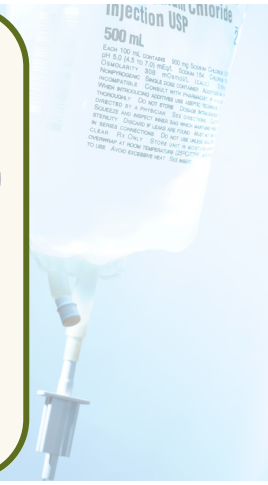
Staff education on sorting biomedical waste is critical to efficiently manage waste in healthcare settings, especially operating rooms.[8]

Staff involved at every stage of waste life-cycle, from procurement teams to waste haulers should know that certain items can be disposed of in the general waste streams.

CASE EXAMPLES

Pro-environmental policies include Public Health Ontario's Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings (2018), which indicates that the following items can be disposed of in the general waste streams:

- IV bags and tubing (empty or with residual blood)
- Dialysis tubing and filters
- Soiled dressings
- Diapers
- Sponges
- Personal protective equipment
- Disposable drapes
- Catheters
- Empty specimen containers



3. WASTE REDUCTION

All waste reduction starts with reducing unnecessary use; therefore, healthcare staff should prioritize choosing appropriate procedures and stewarding resources well.[6]

Staff education on sorting biomedical waste is critical to efficiently manage waste in healthcare settings, especially operating rooms.[8]

CASE EXAMPLES

Synergie Santé Environnement has compiled examples of waste reduction strategies on a micro-website dedicated to waste management in institutions. The information sheets for biomedical and pharmaceutical waste (2019) raise awareness on waste management practices in accordance with the 3RV-E principles (source reduction, reuse, recycling, valorization, and elimination).

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