

# Waste: Pharmaceutical Waste Disposal

## Site Applicability

All PHC Acute, Subacute and Long Term Care Sites

## Practice Level:

**Basic:** All staff

## Requirements

All [controlled substance](#) waste must be disposed of into a pharmaceutical waste container which renders it unusable.

Pharmaceutical waste will be disposed of in a safe and secure manner that:

- a. Meets federal, provincial and regional legislation and standards
- b. Ensures privacy of confidential personal patient information
- c. Protects the public, health care providers and the environment

## Need to Know:

1. To protect the public and the environment, municipal sewer waste and waterways must not be used to dispose pharmaceutical waste.



**NOTE:** Normal saline, dextrose solutions (e.g. D5W), Total Parenteral Nutrition (including fat emulsion), electrolyte solutions (including potassium and sodium bicarbonate), or vitamins may be disposed of in the sewer system because they do not pose a threat to the public or the environment.





2. [Pharmaceutical waste](#) and pharmaceutical packaging will be segregated, according to the following categories ([see chart](#))
  - a. Pharmaceutical waste
  - b. Sharps waste
  - c. Non-anatomical waste
  - d. Hazardous drug waste
  - e. Garbage
3. The term Hazardous Drugs is used to identify drugs on the National Institute for Occupational Safety






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- & Health (NIOSH) list that may pose a risk to staff who handle them, or their waste. The term Cytotoxic is retained in waste management.
4. Hazardous Drugs may not be disposed of in pharmaceutical waste containers with the exception of controlled substances (e.g. clonazepam and testosterone).
  5. There are two groups of Hazardous Drugs – Group 1 and Group 2.
  6. Pharmaceutical preparation and pharmaceutical disposal will occur in designated medication preparation areas.  
Pharmaceutical waste will be rendered unusable where dosage form allows (e.g. liquid pharmaceuticals) see [Appendix A](#)
  7. Pharmaceuticals, (except for hazardous drugs) will be removed from their container/packaging/IV bag prior to disposal into the pharmaceutical waste container.
  8. Unused pharmaceuticals in intact packing that have not been removed from the clean medication area will be returned to pharmacy.
  9. Whenever possible, pharmaceutical and cytotoxic waste containers will be secured to prevent unauthorized removal.
  10. Contents of a pharmaceutical waste container will not be retrievable.
  11. Pharmaceutical and hazardous drug waste must be disposed into the designated pharmaceutical or cytotoxic waste container and must not be disposed of into non-anatomical waste containers, sharps containers or garbage containers.
  12. All pharmaceutical waste will be securely stored while awaiting pick up by the waste management company.
  13. Pharmaceutical waste will not be left unattended while being transported through facilities.

## Segregation of Waste






Waste Stream		Contents	Examples
<b>Cytotoxic Waste</b>  	Incinerated	<p>Sharps and equipment that contain or at one time contained Group 1 Hazardous drugs.</p> <p>Please refer to additional existing policies from your health authority or unit regarding disposal of hazardous drug waste.</p>	<p>Hazardous drugs and Hazardous Drug contaminated waste.</p> <p>Contaminated supplies, e.g. IV tubing, syringes, face masks, disposable gowns, gloves, etc.</p> <p>Waste contaminated with blood or body fluid of a patient during the precautionary period of a Group 1 Hazardous Drug.</p> 
Waste Stream		Contents	Examples

<p><b>Pharmaceutical Waste</b></p> 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Incinerated</p> <p>Parenteral, oral solid, powder and liquid pharmaceuticals that are expired or contaminated, including partial doses.</p> <p>Group 1 and Group 2 Hazardous Drugs may not be placed in the pharmaceutical waste container with <b>the exception of controlled substances.</b></p> <p>Remove pharmaceuticals from their packaging before placing into the Pharmaceutical Waste container.</p> <p>This includes removing:</p> <ul style="list-style-type: none"> <li>• solid oral pharmaceuticals from e.g. paper/ plastic/ foil packaging, and</li> <li>• liquid pharmaceuticals from syringes, IV bags/ minibags, vials, and ampoules</li> </ul>	<p>Solid oral or liquid waste pharmaceuticals, removed from its packaging</p>  <p>Ointments or creams</p>  <p>Patches</p> 
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Waste Stream		Contents	Examples
<b>Sharps Waste Containers</b>    	Autoclaved	Sharps: syringe with needle, needle, exposed IV spike, broken glassware, including supplies contaminated with Group 2 Hazardous Drugs.	Ampoules Insulin pens Metered dose inhalers    Safety engineered devices (Blunt needles and cannulas, needles, etc.)    Empty syringes with needles    IV tubing with exposed spike

Waste Stream		Contents	Examples
<b>Non-anatomical Waste</b>  	Autoclaved then landfill	Supplies contaminated with blood and body fluids	  
		Supplies containing blood, e.g. IV tubing, IV bags, glass vials, etc.	
Waste Stream		Contents	Examples
<b>Industrial Wastewater</b>  	Sanitary Sewer	IV bag contents without pharmaceuticals or blood  Drain into designated sink/ hopper/ macerator	Non pharmaceutical solutions, including: <ul style="list-style-type: none"><li>• Normal saline</li><li>• Dextrose</li><li>• TPN (including fat emulsions)</li><li>• Electrolytes (including potassium and sodium bicarbonate)</li><li>• Vitamins</li></ul> 

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Waste Stream	Contents	Examples
<p><b>Garbage</b></p> 	<p>Landfill</p> <p>Empty, uncontaminated supplies, including those that have contained or been contaminated with Group 2 Hazardous Drugs.</p> <p>No pharmaceuticals, sharps, blood, items saturated with blood, or personal patient information.</p>	<p>Empty tubing, empty IV bags</p>  <p>Empty syringe without a needle</p>  <p>Soft plastic packaging e.g. Automated Unit Dose (AUD) strips that do not contain confidential information.</p>  

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Waste Stream		Contents	Examples
 <ul style="list-style-type: none"> <li>Mixed containers</li> <li>Mixed paper</li> </ul>	Recycling	Empty, uncontaminated recyclable supplies.	 <p>Empty normal saline container, empty Caviwipe container, empty plastic packaging.</p>  <p>Paper packaging (easily ripped).</p> 



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## Definitions

- a. **Controlled substances:** means a substance included in Schedule I, II, III, IV or V of the Controlled Drugs and Substances Act.
- b. **Pharmaceutical Waste:** includes all pharmaceuticals that are expired, contaminated, or are partial drug doses, except those designated as hazardous (exception controlled substances).
- c. **Sharps Waste:** is composed of sharps, which include any device or object that can puncture or lacerate the skin (e.g. needles, lancets, scalpels, broken ampoules, safety engineered devices (blunt cannulas/needles) etc.) except those designated as hazardous group 1 drugs.
- d. **Non-Anatomical Waste:** includes pharmaceutical supplies or equipment that has come into contact with human blood or body fluid, except those designated as cytotoxic.
- e. **Cytotoxic Waste:** includes any pharmaceuticals that possess one or more of the following properties:
  - I. Toxic
  - II. Carcinogenic
  - III. Teratogenic (toxic for reproduction)
  - IV. Mutagenic (toxic for cellular reproduction)

Cytotoxic waste includes all drug administration equipment (needles, syringes, IV tubing etc.) that contains or at one point contained Group 1 Hazardous drugs; gowns that have been used in the preparation or administration of a hazardous group 1 drug and/or have been worn in the care of a patient during the precautionary period; and body fluids/waste from patients during the precautionary period

See: Hazardous Drugs resources on the [Occupational Health and Safety Connect page](#).

- f. **Hazardous Waste:** Hazardous drugs are specific drugs with the potential to harm workers who are exposed to them. Frequent exposures to low levels of hazardous drugs, or a single exposure to a larger amount, can put workers at risk of negative health effects. These drugs require special handling precautions because of their potential to cause toxicity.
- g. **Garbage:** garbage does not pose a disease related risk or threat to people or the environment when managed in accordance with current regulations and guidelines. Garbage falls outside the categories of waste defined above and does not contain confidential patient information. Examples include empty IV bags and tubing, empty syringes (no needles), blister pack cards and other packaging waste which may or may not be recyclable.

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