

Safe Work Procedure for Preparing Inhaled (Nasal) Hazardous Drugs

Site Applicability

All Providence Health Care sites, including acute, long term care, and ambulatory care areas, where hazardous drugs are prepared outside of pharmacy.

Practice Level

Basic:

- All clinicians with medication preparation and administration within their scope.

Requirements

A risk assessment ([Appendix A](#)) must be in place for this Safe Work Procedure to be followed.

Need to Know

- The final dosage form of a drug is a unit-dose packaged drug, ready to be administered to the patient without any preparation by the clinician.
- Preparation is any action taken to alter a drug product by means other than compounding or repackaging.
- When a hazardous drug is provided in the final dosage form the clinician is to follow the precautions outlined in the Control Matrix of the Exposure Control Program ([Appendix B](#)) for administration.
- This document outlines the steps to follow when preparation of the hazardous drug is required outside of pharmacy.
- Pharmacy dispensary will prime nasal sprays before dispensing them to the unit. Some devices require priming before each dose. For these devices, clinicians will need to prime the device at the point of care.
- Where possible preparation and administration of inhaled hazardous drugs should be done in a negative pressure room, or a single client room.
- All staff entering the room must don PPE, including respiratory protection, for a minimum of 1 hour following administration of an inhaled hazardous drug.
- Following administration of an inhaled hazardous drug, PPE including respiratory protection must be worn for 1 hour following administration by any staff entering the room.
- All areas where hazardous drugs are stored, prepared or administered must have a Cytotoxic Spill Kit available.

Equipment and Supplies

- Accelerated hydrogen peroxide wipes (i.e. Accel Intervention)
- Plastic backed pad
- Plastic zipper sealed bag (e.g. biohazard bag)
- Absorbent material such as gauze, paper towel or tissue
- PPE:
 - Two pairs of chemo-approved gloves
 - Chemo-approved gown
 - Eye protection (i.e. a full face shield, or goggles)
 - Respiratory protection (i.e. a N95 mask for which the clinician has been fit-tested)

Procedure

Don PPE:

1. Two pairs of chemo-tested gloves
2. Chemo-approved gown
3. N95 respirator
4. Eye protection

Work Surface Preparation:

1. Place plastic backed pad on surface on which the hazardous drug will be prepared.

Priming a Hazardous Drug Nasal Spray

1. Place the absorbent material into the plastic zipper sealed bag.
2. **Prime the device according to manufacturer's directions** (e.g. number of pumps or to achieve the desired spray such as fine mist):
 - a. Place the nozzle of the device into the plastic bag in an upright position and spray until appropriately primed.
 - b. Carefully remove the nozzle and invert and seal the plastic bag, avoiding leaking or drips.
 - c. Dispose of the sealed bag into a cytotoxic waste container.

Cleaning

1. Clean and decontaminate the outside of the medication device, and then place in a clean zipper sealed bag.
2. After the procedure above the work surface must be cleaned and decontaminated using a two-step process using an accelerated hydrogen peroxide wipe (i.e. Accel Intervention).

Applying Signage:

1. Place sign ([Appendix C](#)) outside the room noting that PPE including respiratory protection period (a minimum of one hour following each administration of the drug) to allow for air clearance.

2. Remove the sign when the period is complete.

Related Documents

- [Low Level Cleaning and Disinfection \(Infection Control\)](#)

References

Adapted from provincial Safe Work Procedure *Hazardous Drugs Safe Work Procedure: Inhalation Therapy (Nasal Spray) Administration in Care Settings*

Appendices

- [Appendix A: Risk Assessment](#)
- [Appendix B: Providence Health Care Hazardous Drug Control Matrix](#)
- [Appendix C: Signage](#)

Appendix A: Risk Assessment

A. Detailed Risk Assessment

Site:	All PHC acute, long term, and ambulatory sites	Unit:	Generic template
Date of assessment:	02-FEB-2022	Next review date (1 year)	02-FEB-2023
Name of Drug:		Drug Group (1 or 2)	Group 2
Route of Administration:	Nasal inhalation	Formulation:	Nasal spray

- Reason pharmacy unable to provide final dosage form. Check all that apply:
 - ☐ Biological safety cabinet (BSC)/ Containment – Primary Engineering Control (C-PEC) not available
 - ☐ Pharmacy staff are not available (e.g. qualifications, outside of operational hours)
 - ☐ Transportation limitations/restrictions
 - ☒ Stability of drug
 - ☐ Anticipated urgency (i.e. urgent need for drug administration)
 - ☒ Other (describe): medication device requires priming prior to each administration
- Proposed deviation from standard practice (e.g. drug will be crushed, mixed, combined etc.):
Priming nasal spray devices
- Based on the required type of preparation, what are the potential exposure routes (i.e. without control measures in place, how could staff be exposed?). Check all that apply:
 - ☒ Absorption (skin and eye contact)
 - ☒ Inhalation
 - ☒ Ingestion (eating/drinking)
 - ☐ Puncture (needle stick)
 - ☐ Other (describe):
- Based on the type of preparation and/or formulation, is there a risk of environmental contamination?
 - ☒ Yes
 - ☐ No

B. Alternate Control Measures for Development of Safe Work Procedures

Use the list below to identify control measures for the development of Safe Work Procedures (SWP) or reviewing an existing Safe Work Procedure for applicability. Note that when identifying control measures, **the hierarchy of controls must be considered**. In this process, engineering controls must be considered prior to or, in addition to, personal protective equipment (PPE).

The following lists can help to identify control options. Check all that applies and provide details in the SWP on how the control measures are utilized to prevent exposure. Refer to the Exposure Control Plan: Managing the Risks.

1. Proposed Engineering Control(s):

- ☐ Closed System Transfer Device
- ☐ Filtered Venting Device
- ☐ Pill crusher (enclosed system)
- ☐ Pill dissolver (enclosed system)
- ☐ Pill cutter (enclosed system)
- ☒ Other (describe): containment of the spray within a bag, and in a controlled environment.
- ☐ None

2. Proposed Administrative Control(s):

- ☒ Education on the safe preparation technique and equipment
- ☒ Identification of a location(s) for preparation which minimizes the number of individuals (staff, clients etc.) potentially exposed to hazardous drugs.
- ☒ Methods used for minimizing surface contamination identified (e.g. using dedicated equipment, put an absorbent pad down)
- ☒ Products and processes are in place for cleaning space post-preparation
- ☒ Drug transportation and storage practices identified
- ☒ Hazardous Drugs Spill kit is available and staff are trained on how to use it.

3. Required PPE (refer to ECP Control Matrix, Decision Support Tools, and consider all potential routes of exposure):

- ☒ Chemo-approved gloves (two pairs)
- ☒ Chemo-approved gown
- ☒ Eye/face protection
- ☒ Respiratory protection
- ☐ Other (describe):

C. Safe Work Procedure

A Safe Work Procedure must be written considering all of the factors identified in both the **A. Detailed Risk Assessment** and **B. Alternative Control Measures** sections above. The SWP must be approved as per this risk assessment process prior to the administration of the drug.





Recommendation for SWP:

- ☒ Utilize a standardized Safe Work Procedure, all components are achievable.
- ☐ Modify an existing standardized Safe Work Procedure.
- ☐ Develop a unit or area based Safe Work Procedure.
- ☐ No appropriate alternate practices or SWP can be identified, consult with your Health Authority Hazardous Drugs Working Group.

Risk Assessment and Safe Work Procedure Developed By:	
Occupational Health and Safety	Hygienist, Occupational Health and Safety
Pharmacy	Pharmacy Coordinator
Professional Practice and Nursing	Practice Consultant
Risk Assessment and Safe Work Procedure Endorsed By:	
Clinical Operations	Executive Director Acute Care Program Director Seniors Care
Occupational Health and Safety	Director, Occupational Health and Safety
Professional Practice and Nursing	Director, Professional Practice and Nursing
Pharmacy	Director, Pharmacy (Acute Care) Director, Pharmacy (Long Term Care)

Appendix B: Providence Health Care Hazardous Drug Control Matrix




PROVIDENCE HEALTH CARE – HAZARDOUS DRUGS CONTROL MATRIX

BC Hazardous Drug Control Matrix Nursing Section		Group 1 					
		Parenteral (IV, IVE, IM, SUBCUT, IT, IP)	Oral Solid (Tablet, Capsule)	Oral Liquid	Topical, Rectal & Vaginal	Implants and Ophthalmic	Inhalation Therapy
LABELLING MEDICATION		  					
TRANSPORT IN FACILITY		Do not use tube system		Do not use tube system		Do not use tube system if liquid	
		<ul style="list-style-type: none">If transporting drugs in a reusable outer container - two pairs of chemo-approved gloves are requiredIf transporting drugs in a disposable outer container (e.g. plastic bag), PPE is not requiredEnsure a Hazardous Drugs spill kit accompanies drug transport or is readily available					
PREPARATION OF DRUGS BY NURSING	PERSONAL PROTECTIVE EQUIPMENT (PPE)	See Safe Work Procedures					
PRIMING IV LINES		<ul style="list-style-type: none">Do not prime IV lines with hazardous drugs					
MEDICATION ADMINISTRATION Drugs in final dosage form (including when using CSTDs)	PPE	Gloves	two pairs of chemo- approved gloves	one pair of chemo-approved gloves	two pairs of chemo-approved gloves		
		Gown	chemo-approved gown	None	chemo-approved gown if risk of splash		
		Eye/Face	eye/face protection	None	eye/face protection if risk of splash		
		N95	None	None	None		
WORK SURFACE CLEANING		<ul style="list-style-type: none">Wear two pairs of chemo-approved gloves, chemo-gown, eye/face protection if risk of splashUse Accelerated Hydrogen Peroxide 0.5% (e.g. Accel Intervention wipes™)					
PRECAUTIONARY PERIOD Place precautionary signage at the bedside or entrance to client room		The precautionary period is 48 hours following each administration of a Group 1 HD <ul style="list-style-type: none">During precautionary period<ul style="list-style-type: none">Required PPE: two pairs of chemo-approved gloves, chemo-approved gown, eye/face protection if risk of splash for any activities for which there is a risk of contact with BBFOutside precautionary period<ul style="list-style-type: none">Follow routine precautions when handling blood and body fluids					
LABORATORY		<ul style="list-style-type: none">During an individual's precautionary period all blood, urine and stool samples; other body fluids visibly contaminated with blood (except swabs and sputum) and tissues or organs not in fixatives must be labelled with a laboratory HD1 labelAll laboratory specimens from a patient in the precautionary period are to be placed in an outer sealed plastic bag. Blood specimens may be tubed, and must be labelled and placed in two sealed bags, with the outer bag labelled					
LAUNDRY		<ul style="list-style-type: none">During precautionary period: All linen to be placed in Group 1 HD labelled laundry bag<ul style="list-style-type: none">Required PPE: two pairs of chemo-approved gloves, chemo-approved gown, eye/face protection if risk of splashOutside precautionary period: All linen to be placed in regular laundry bag<ul style="list-style-type: none">Required PPE: Follow routine practices					
		Drug Waste		Sharps		BBF Waste	
SPILL MANAGEMENT Hazardous drug spill kits in all areas where hazardous drugs are handled		Intact solid dosage form Required PPE: one pair of chemo-approved gloves All other dosage forms: Manage spills according to Hazardous Drug Spill Procedures for size of spill. See Appendix L in ECP		<ul style="list-style-type: none">Manage spills according to Hazardous Drug Spill Cleanup Procedures for size of spill. See Appendix L in ECP			
WASTE MANAGEMENT Acute/Long Term Care (i.e., in facility)		Controlled Substances: Pharmaceutical Waste Bin Non-Controlled Substances: Cytotoxic Waste Bin Required PPE: <ul style="list-style-type: none">two pairs of chemo-approved gloveschemo-approved gown if risk of splasheye/face protection if risk of splash		Cytotoxic Sharps Container		Where possible, disposed of through the sewer. Where not disposed of through sewer, use a leak-proof cytotoxic container.	
						Cytotoxic container	

Acronyms: CSTD = Closed System Transfer Device IV = Intravenous IVE = Intravesicular IM = Intramuscular SUBCUT = Subcutaneous IT = Intrathecal IP = Intraperitoneal BBF = Blood and Body Fluid HD = Hazardous Drug

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PROVIDENCE HEALTH CARE – HAZARDOUS DRUGS CONTROL MATRIX

BC Hazardous Drug Control Matrix Nursing Section		Group 2 					
		Parenteral (IV, IVe, IM, SUBCUT, IT, IP)	Oral Solid (Tablet, Capsule)	Oral Liquid	Topical, Rectal & Vaginal	Implants and Ophthalmic	Inhalation Therapy
LABELLING MEDICATION		<div><div>Precautions Required</div><div>Hazardous Drug GROUP 2</div><div></div><div></div></div>					
TRANSPORT IN FACILITY		Do not use tube system		Do not use tube system	Do not use tube system if liquid		
		<ul style="list-style-type: none">If transporting drugs in a reusable outer container - two pairs of chemo-approved gloves are requiredIf transporting drugs in a disposable outer container (e.g. plastic bag), PPE is not requiredEnsure a Hazardous Drugs spill kit accompanies drug transport or is readily available					
PREPARATION OF DRUGS BY NURSING	PERSONAL PROTECTIVE EQUIPMENT (PPE)	See Safe Work Procedures					
PRIMING IV LINES		<ul style="list-style-type: none">Do not prime IV lines with hazardous drugs					
MEDICATION ADMINISTRATION Drugs in final dosage form (including when using CSTDs)	PPE	Gloves	two pairs of chemo- approved gloves	one pair of chemo- approved gloves	two pairs of chemo-approved gloves		
		Gown	chemo-approved gown	None	chemo-approved gown if risk of splash	None	Chemo approved gown
		Eye/Face	eye/face protection if risk of splash	None	eye protection if risk of splash	None	eye protection
		N95	None				N95 required
WORK SURFACE CLEANING		<ul style="list-style-type: none">Wear two pairs of chemo-approved gloves, chemo-gown, eye/face protection if risk of splashUse Accelerated Hydrogen Peroxide 0.5% (e.g. Accel Intervention wipes™)					
PRECAUTIONARY PERIOD		<ul style="list-style-type: none">Not applicable to Group 2 HD					
LABORATORY		<ul style="list-style-type: none">Use routine practices for collection, labelling and transport					
LAUNDRY		<ul style="list-style-type: none">All linen to be placed in regular laundry bags					
		Drug Waste		Sharps		BBF Waste	Other Waste (e.g. PPE and packaging)
SPILL MANAGEMENT Hazardous drug spill kits in all areas where hazardous drugs are handled		Intact solid dosage form Required PPE: one pair of chemo-approved gloves All other dosage forms: Manage spills according to Hazardous Drug Spill Procedures for size of spill. See Appendix L in ECP		<ul style="list-style-type: none">Follow routine precautions			
WASTE MANAGEMENT Acute/Long Term Care (i.e., in facility)		Controlled Substances: Pharmaceutical Waste Bin Non-Controlled Substances: Cytotoxic Waste Bin		Regular Sharps Container		Where possible, disposed of through the sewer. Where not disposed of through sewer use regular garbage or anatomical or biohazardous waste per usual practices.	Regular garbage
		Required PPE: <ul style="list-style-type: none">one pair of chemo-approved gloveschemo-approved gowneyeface protection if risk of splash		<ul style="list-style-type: none">Follow routine practices and standard procedures			

Acronyms: CSTD = Closed System Transfer Device IV = Intravenous IVe = Intravesicular IM = Intramuscular SUBCUT = Subcutaneous IT = Intrathecal IP = Intraperitoneal BBF = Blood and Body Fluid HD = Hazardous Drug

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Appendix C: Signage

HAZARDOUS DRUGS RESPIRATORY PRECAUTIONS



Family and visitors
Please report to nursing station

Precautions
Required

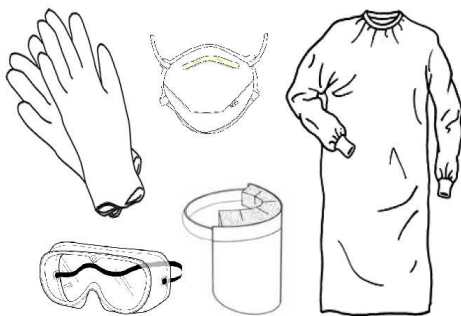
Hazardous Drug
GROUP 1

Precautions
Required

Hazardous Drug
GROUP 2

Ends on: Date: _____ **Time:** _____
1 hour following the completion of hazardous drug administration

Precautions required for drug administration and entering patient room.



Wear personal protective equipment

- Two pairs of chemotherapy approved gloves
- A chemotherapy approved gown
- Respiratory protection (N95 respirator)
- Eye protection

Procedures

- Turn on negative pressure to room when available.
- Close door to room.
- Wear personal protective equipment including N95 respirator equipment during hazardous drug administration; and for a minimum of one hour following administration as noted above.
- For Group 1 Hazardous Drugs, apply Hazardous Drug Precautions signage and follow required precautions.

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Owners:	PHC Occupational Health and Safety