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TITLE: **SAFE HANDLING OF HAZARDOUS DRUGS AND WASTE**

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PURPOSE

Hazardous drugs (HDs) used to treat patients can cause harm to unprotected healthcare workers (HCWs) through various routes of entry such as inhalation, absorption, injection or ingestion. Strategies to reduce these risks such as ventilation hoods and biological safety cabinets, administrative controls and supplying personal protective equipment (PPE) are in place at Health Sciences North (HSN) and are outlined in this policy. The purpose of this policy is to assist in the evaluation and identification of HDs, while promoting best practice and standardization across the organization.

POLICY STATEMENT

Exposures can occur during the course of receiving, storing, preparing, transporting, administering and disposing of HDs. Exposures for both acute and those occurring over a long period of time have the potential to cause adverse health effects. This policy is in place to outline HSNs HDs framework and commitment to ensuring a safe and healthy workplace.

ROLES AND RESPONSIBILITIES

Manager/Supervisor Responsibilities

Utilizing the Hazard Assessment and Control Policy, managers are expected to:

- Formally assess the level of risk and ensure implementation of appropriate controls are in place.
- Document the hazard, risk level, implemented and evaluated controls.
- Provide adequate education of the risks involved with handling HDs and ensure workers comply with training related to the safe handling, storage, administration, disposal and clean up associated with HDs.

Managers are also required to:

- Offer HCWs who are pregnant or breastfeeding, alternative duties that exclude preparing or administering Level 1 Cytotoxic drugs. (contact Disability Management for assistance with accommodation).
- Ensure easy access to supplies required by staff, including PPE and an adequate departmental HD spill kit.
- Follow up on all reported HD exposures, and document (in MyHSN - MyEmployee Services – Incidents/Accidents) the root cause(s) and identified corrective measures. Such events include:
    - *Patient, visitor or property exposure events* which may involve Quality and Patient Safety for events with a severity level of 3 or less. Events scoring a severity level of 4 or more will initiate the Critical Event process. Refer to Safety Event Management Process policy for more details.
    - *Worker exposure events* which are required to be completed post exposure first aid measures and/or referral to the Occupational Health Office for additional medical follow up. Refer to Employee Hazard/Incident/Accident Reporting policy.

Worker Responsibilities

All HCWs who are at risk of exposure to HDs (receiving, storing, transporting, preparing, administering or disposing) will:

- Follow proper, safe hazardous drug handling and administration procedures as outlined in this policy.
- Attend and apply training in the safe handling, storage, use, disposal and clean up associated with HDs.
- Wear all necessary PPE required to protect oneself from exposures related to HDs.
- Report all actual or potential incidents of hazardous drug exposures or spills to manager/supervisor and complete incident report in MyHSN.

Pharmacy Department

- Identify HDs on the electronic Medication Administration Record (eMAR) and label HD packaging leaving the pharmacy accordingly.
- Pharmacy will work with nursing to ensure all HDs are provided in a manner that minimizes exposure to all HCW.
- Provide recommendations for drug administration in an effort to reduce exposure risks to staff, patient or visitors
- Review HSN's List of Hazardous Drugs identifying changes or additions per updates of the SaPHE Collaborative's Guidance document, annually.
- Ensure communication of changes are shared with applicable managers/nurse clinician forum.

Cancer Centre Registration

Cancer Centre registration clerks shall:

- Flag outpatients who are on active chemotherapy in Meditech/Expanse on each visit.
- Share with others involved with patient care that the patient is receiving active treatment if signage or flagging is not obvious (ie. patient transport).

CATEGORIES OF RISK AND LABELLING

Assigning Risk Categories to Hazardous Drugs

The categories used at HSN are adapted from the National Institute for Occupational Safety and Health (NIOSH) and are meant to reflect the appropriate level of precautions required during handling and administration, based on the available evidence. Drugs requiring safe handling precautions will be clearly labeled at all times during their transport and use.

To find the HSN List of Hazardous Drugs, go to The Hub > Programs & Services – Pharmacy – Safe Handling of Hazardous Drugs.

Table 1 – Category of Risks Level 1 Cytotoxic Drug

Level 1 (Cytotoxic Drug) Precautions	
Criteria	Drugs in this category are **likely human carcinogens,** including: • Traditional cytotoxic drugs
Auxiliary Label (example of Cytotoxic labels)	Cytotoxic Label 
eMAR Label Comment	**LEVEL 1 CYTOTOXIC PRECAUTIONS**
Precautions	Refer to PPE Requirements According to Medication Activity Task Chart (Appendix A)

Table 2 – Category of Risks Level 2 Hazardous Drug

Level 2 (Hazardous Drug) Precautions	
Criteria	• Drugs in this category are **possible carcinogens** including drugs that have been shown to be genotoxic that may be a risk to humans
Auxiliary Label (example of Hazardous labels)	Hazardous Label 
eMAR Label Comment	**LEVEL 2 HAZARDOUS PRECAUTIONS**
Precautions	Refer to PPE Requirements According to Medication Activity Task Chart (Appendix A)

Table 3 – Category of Risks Level 3 Reproductive Risk

Level 3 (Reproductive Risk) Precautions	
Criteria	Drugs which present an occupational hazard to people in the reproductive years, are pregnant or may become pregnant including: • Reproductive hazards which may be damaging to a person's ability to conceive or carry to term an offspring • Developmental hazards which may be able to cause disruption in the development of unborn children, including teratogenic outcomes.
Auxiliary Label (example of Reproductive Risk labels)	Hazardous Reproductive Risk Label 
eMAR Label Comment	**LEVEL 3 REPRODUCTIVE PRECAUTIONS**
Precautions	Refer to PPE Requirements According to Medication Activity Task Chart (Appendix A)

Table 4 - Category of Risks Level 4 Biohazard Drug

Level 4 (Biohazard Drug) Precautions	
Criteria	Drugs with manufacturers' special handling guidelines for a biohazard drug or similar wording including: • Drugs containing a living organism with potential to cause infections in humans • Drugs considered gene therapies that incorporate viral-based therapies
Auxiliary Label (example of Biohazard labels)	Biohazard Label 
eMAR Label Comment	** BIOHAZARD PRECAUTIONS **
Precautions	Refer to PPE Requirements According to Medication Activity Task Chart (Appendix A)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

General Principles – PPE

PPE must be worn in accordance with the PPE Requirements According to Medication Activity Task Chart and all other applicable HSN PPE policies.

- Required PPE is based on:
  - The area involved (ie.., Pharmacy, Patient Care Area, Environmental Services)
  - The medication activity task
  - The medication category (Risk Level)
- Wear PPE when handling the blood and body fluids of patients who have received Level 1 Cytotoxic HDs for seven days post last HD administration. Refer to department-specific procedures for additional information.

Donning and Doffing PPE

Adherence to the sequence of donning and doffing ensures that the wearer is protected from exposure, and that the transfer of hazardous materials to the environment is limited. These steps detail the correct sequence for donning and doffing PPE.

Table 5 - Sequence of Donning and Doffing PPE

DONNING PPE	DOFFING PPE
Scenarios requiring single gloves	
1. Perform hand hygiene 2. Don: • Gown, if worn • N95 respirator • Face protection, if worn • Single pair of gloves, worn over cuff of gown	1. Doff gloves 2. Doff gown, if worn 3. Perform hand hygiene 4. Doff: • Face protection, if present • N95 respirator, if present 5. Perform hand hygiene
Scenarios requiring double chemo gloves (Level 1 - Cytotoxic drugs)	
1. Perform hand hygiene 2. Don: • Inner/first pair of chemo gloves • Chemo Gown • N95 respirator • Face protection, if required • Outer pair of chemo gloves (extended cuff) pulled up over the cuff of gown	1. Doff outer pair of chemo gloves • touching only the outer surface of the outer glove • never the inner surface • turning the glove inside out 2. Doff face protection, without touching the front 3. Doff chemo gown • turning inside out, avoiding contamination to clothes 4. Doff inner pair of gloves 5. Perform hand hygiene 6. Doff N95 respirator 7. Perform hand hygiene

Table 6 – PPE Reference Chart for Hazardous Drugs

<table>
<tr><th colspan="3">Personal Protective Equipment Reference Chart for Hazardous Drugs</th></tr>
<tr><td>General Guidelines</td><td colspan="2">• Always follow proper donning/doffing procedures (See Table 5)
• Instructions – staff must always refer to department specific procedures, training and/or manufacturer's guidelines</td></tr>
<tr><td>PPE</td><td colspan="2">STANDARD</td></tr>
<tr><td rowspan="2">Gloves</td><td>Chemotherapy Gloves</td><td>Regular Gloves</td></tr>
<tr><td>• Meet the ASTM D-6978 standard and designated Chemotherapy gloves
• Made of nitrile, latex, polyurethane or neoprene; not vinyl
• Disposable and powder free
• Maximum wear time is 30 minutes</td><td>• DO NOT meet the ASTM-D6978 standard
• Made of nitrile, latex, polyurethane or neoprene; not vinyl
• Disposable</td></tr>
<tr><td colspan="2">• Inspect gloves for physical defects before use.
• Remove and discard gloves:
o Immediately after use
o If a tear, puncture, or drug contact occurs
o If visibly soiled
• DO NOT reuse gloves</td></tr>
<tr><td>Double Gloving</td><td colspan="2">Double gloves provide an additional barrier when drug permeation is a concern due to prolonged contact. When proper doffing technique is used and discarded at the place of handling, they reduce the risk of cross-contamination of HD particles to other surfaces, including surfaces outside of the area where the drugs were handled and administered. This is specific to HDs and not Infection Prevention and Control.</td></tr>
<tr><td rowspan="2">Gowns</td><td>Chemotherapy Gowns</td><td>Regular Gowns</td></tr>
<tr><td>• Standard ASTM-F739-99a or ASTM F739-12e1, Chemotherapy drug tested (Level 3 gown)
• Wear a disposable, lint-free gown made of a low-permeability fabric, such as polyethylene-coated materials specifically rated to resist chemotherapy
• The gown must have a solid front, long sleeves, tight cuffs, and back closure
• Dispose at end of shift</td><td>• Disposable or reusable, long sleeved (Level 1 isolation gown)
• Dispose after each use</td></tr>
<tr><td colspan="2">Discard the gown:
• If it is knowingly contaminated
• Before leaving HD handling areas
• When finished with HD handling
• If torn</td></tr>
<tr><td>Eye and Face Protection</td><td colspan="2">Required when:
• There is a risk of splashing
• Working with HDs above eye level, or
• Cleaning up a hazardous drug spill
Eye and face protection options include:
• Face shield with disposable N95 respirator
• Goggles with reusable cartridge respirator
Refer to the PPE Requirements According to Medication Activity Task Chart.</td></tr>
<tr><td rowspan="2">Respirators</td><td>Disposable N95</td><td>Reusable Chemical Cartridge</td></tr>
<tr><td>Use a disposable N95 respirator when:
• Cleaning a spill of either HD or contaminated body fluids
• Preparing HDs
• Administering HDs as per PPE Requirements According to Medication Activity Task Chart</td><td>Use a reusable (chemical cartridge) respirator when:
• Preparing an aerosolized HD (see department-specific policies)
• Cleaning a biological safety cabinet
• cleaning a large HD spill (greater than 1 litre of fluid)
• In contact with airborne gases and vapours
• Handling drugs that potentially powder vaporize at room temperature</td></tr>
<tr><td colspan="2">• A fit-tested NIOSH or Canadian Standards Association (CSA) approved respirator is required when there is a risk that airborne powder or aerosolized HD will be generated
• Respirators are used in accordance with HSN's Respiratory Protection Program policy
NOTE: Surgical masks do not provide respiratory protection against HD exposure.</td></tr>
</table>

GENERAL GUIDELINES

The most common source of hazardous drug exposure for healthcare workers is through skin absorption or inhalation. Engineering controls such as ventilation hoods and containment primary engineering control (C-PEC), along with training and PPE are the most effective method of protection when preparing and/or compounding hazardous drugs. PPE is essential when handling HDs outside dedicated pharmacy areas, such as when being transported, administered, disposed and/or during spill cleanup.

General Principles – Safe Handling

- All Level 1 Cytotoxic drugs (IV, oral, injectable) must be prepared in Pharmacy using a C-PEC and appropriate PPE.
- Level 2 Hazardous and Level 3 Reproductive Risk drugs may be prepared in patient care areas or pharmacy using appropriate control measures and/or precautions and PPE.
- Level 4 Biohazard drugs should be prepared in pharmacy. Exceptions may apply if prepared using a CSTD and a risk assessment is completed.
- Read the label of the medication to determine hazard risk.
- Visually inspect the HD container for signs of leakage. If any medication has leaked out of the syringe/IV bag, contact pharmacy .
- When administering or dispensing patients own medication, HCWs will verify if the medication is included on the HSN List of Hazardous Drugs prior to administration or dispensing.
    - Note that the drug name may or may not appear on the HSN List of Hazardous Drugs depending on list revision timeframe.
    - Drugs that are dispensed from HSN will be on the list as they are formulary items.
    - For any questions regarding hazardous risk levels of a drug, call pharmacy for assistance.
    - Precautions should not be ignored if the product does not appear on HSN's list and is labelled from the community pharmacy as hazardous or cytotoxic.
- Appropriate signage outlining required PPE must be posted at the doorway to the patient room and/or at the head of the bed for all patients receiving Level 1 Cytotoxic Drugs (Appendix B) for 7 days post last HD administration.
- Perform hand hygiene with soap and water after handling HDs (alcohol based sanitizer does not adequately remove chemical contaminates).
- Department-specific procedures, standards of care, or work standards dedicated to the safe handling of HDs and waste by department/area may also be applicable.

Transporting of Hazard Drugs

- All levels of injectable HDs will be transported from Pharmacy in a sealable transport bag.
- Level 1 Cytotoxic and Level 4 Biohazard drugs will be transported in a sealable bag and in a rigid container.
- A HD spill kit is required when transporting HDs between departments.
- Do not transport damaged or broken containers.
- The pneumatic tube will not be used to transport injectable or non-solid formulations of HDs.
- All syringes containing injectable and intravesical HDs will be capped with a red luer lock cap or a CSTD.
- Refer to the PPE Requirements According to Medication Activity Task Chart (Appendix A).

STORAGE OF HAZARDOUS DRUGS

The goal of HD storage is to limit the potential for cross-contamination of surfaces and the general work environment, and to store in a way to enable minimal risk of breakage.

Pharmacy

- Pharmacy must store *all* Level 1 Cytotoxic and Level 4 Biohazard HDs and Level 2 Hazardous and Level 3 Reproductive Risk *injectable and liquid* drugs in a segregated externally exhausted negative pressure room with a minimum of 12 air pressure changes per hour.
- Oral solid Level 2 Hazardous and 3 Reproductive Risk drugs can be stored with non-HDs.

Patient Care Areas

- Packaged intact oral solids and non-liquid HDs are stored with the patient's other medications or stored as ward stock as applicable, labelled accordingly.
- Pharmacy prepared parenteral or liquid HDs (e.g. syringes, IVs, oral liquids) are stored in a sealable plastic bag then placed in a rigid container, labelled accordingly and stored in the medication room or designated space.
- Ward stock unopened packaged injectable and liquid products are placed in a sealable plastic bag labelled accordingly and stored in Pyxis.
- Refrigerated HDs are stored in the regular medication fridges as provided by pharmacy. For patient's own medication, contact pharmacy for storage instructions.
- All refrigerated HDs are to be stored on the lowest shelf to minimize contamination risk if a spill occurs.

SPECIAL HANDLING PROCEDURES

Manipulating Hazardous Drugs in Patient Care Areas

Patients require manipulation of oral drugs to account for swallowing difficulties and feeding tubes. The safety of the HCW must be taken into account when manipulating a drug deemed hazardous. Routes of exposure to HDs should be taken into account, including exposure by absorption, ingestion and inhalation.

- Level 1 Cytotoxic drugs are always prepared by Pharmacy into unit doses of drugs in liquid form where stability allows, otherwise the drug must be held or changed to an alternative as appropriate.
- Level 2 Hazardous or Level 3 Reproductive Risk drugs can be manipulated in patient care areas if using appropriate containment strategies and/or work practices and the product is amenable to crushing.
- Devices used for containment should be intended and specifically designed for crushing/dissolving oral drugs (RxCrush).
- An 'assessment of risk' for each drug alternative containment and risk mitigation strategies should be documented.
- Appropriate PPE must be worn during the preparation and administration procedures as listed in the PPE Requirements According to Medication Activity Task Chart (Appendix A).

Disposal of Hazardous Drugs

Disposal of HDs into appropriate waste streams prevents groundwater and landfill contamination, reducing potential effects on the environment. The table below details the containers to be used for disposing each classification of HDs.

Table 7 – Disposable of Hazardous Drugs by Category

Level 1 Cytotoxic	Level 1 Cytotoxic Cardboard Box w/ Red Plastic Bag	Level 2 Hazardous Drugs	Level 3 Reproductive Risk Drugs	Level 4 Biohazard Drugs
				
Sharp/Wet Waste Red Rigid Puncture resistant container identified with Cytotoxic label	**Soft/Dry Waste** Cardboard box identified with Cytotoxic label lined with 1 RED cytotoxic bag	**Pharmaceutical Waste** Rigid, puncture resistant container	**Pharmaceutical Waste** Rigid, puncture resistant container	**Biohazard Waste** Yellow rigid, puncture resistant container, identified with Biohazard label
• Dispose ALL sharp or wet waste that has come into contact with a Level 1 Cytotoxic drug • Dispose items such as contaminated syringes/needles, IV bags and tubing, foley catheters, CVCs, etc. • Contaminated incontinent pads/briefs • Linen soaked or dripping with blood or other body fluids • Bins with foot pedals are preferred to reduce risk of exposure • Lids of waste containers to be closed at all times (except when disposing items)	• Dispose ALL_soft and dry waste that has come into contact with a Level 1 Cytotoxic drug • Dispose contaminated items such as dry gloves, disposable gowns, face shields, oral cytotoxic drug packaging, dry medication cups, etc.	• Dispose ALL waste that has come into contact with a Level 2 HD • Dispose items such as syringes/ needles, IV bags/tubing, ampoules/vials, dry medication cups, etc.	• Dispose ALL waste that has come into contact with a Level 3 Reproductive Risk drug • Dispose items such as syringes/ needles, IV bags/tubing, ampoules/vials, dry medication cups, etc.	• Dispose ALL waste that has come into contact with a Level 4 Biohazard drug • Dispose items such as blood tubing/bags, hemovacs/pleuravacs, suction canisters or liners with bloody fluid • All disposable items soaked or dripping with blood or other body fluids

DEACTIVATION, DECONTAMINATION, CLEANING AND DISINFECTION

Guiding Principles

Agents used for deactivation, decontamination, cleaning and disinfection should be applied through the use of disposable wipes wetted with appropriate solution and not delivered as a spray to avoid aerosolizing and/or spreading HD residue. The four key steps to ensure safe, clean working surfaces include:

Cleaning - which is the removal of dirt, dust and other substances that may host microorganisms using water, detergents, surfactants, solvents and other chemicals.

Decontamination - occurs by inactivating, neutralizing, or physically removing HD residue from non-disposable surfaces and transferring it to absorbent, disposable materials (e.g., wipes, pads, or towels) appropriate to the area being cleaned.

Deactivation - which is the treatment of a HD contaminant on surfaces to transform the HD into a less hazardous agent and renders the compound inert or inactive.

Disinfection - which is the process of inhibiting or destroying microorganisms.

NOTE: Avoid delaying the cleaning of a spill as this can affect the decontamination process

Wipe Testing

The employer has a responsibility to know the hazards in the workplace in order to protect its workers. Wipe testing is a method of surface sampling that is performed to determine the presence of HD residue or contamination, the need and efficiency for engineering controls and safe work practices. Wipe testing must be carried out by trained individuals to conduct periodic environmental sampling for HD surface residue.

- Scheduled wipe testing must be completed every 6 months in both drug preparation, and administration areas. Additional locations where HDs are stored, transported or handled will be performed periodically on an ad-hoc basis. Wipe tests may also be performed after a HD spill has occurred.
- All wipe testing should take place ***post*** surface clean to validate that the cleaning process is adequate.

If a measurable contamination is found:

- Department manager/delegate, with assistance from Occupational Health and Safety (OHS) if needed, will investigate the causes and ensure suitable corrective actions are implemented to avoid a recurrence. See *Employee Incident/Accident Investigation* procedure on the HUB.
- Wipe testing should be repeated to ensure corrective measures are effective.

ACCIDENTAL EXPOSURE

Workers can be exposed to HDs through various routes of entry, including:

- Inhalation of vapours, dust or aerosols
- Absorption through skin contact
- Ingestion
- Injection

In the event of accidental or unwanted exposure, immediate attention is required for the following scenarios:

- Patient – Seek immediate review by a medical team for assessment.
- Visitor – Seek immediate review by the Emergency Department (ED) and notify the family physician where applicable.
- Health Care Worker - Seek immediate review by the Occupational Health Nurse (OHN) (Monday to Friday 0800 – 1600) and/or ED (evenings/weekends).

Table 8 – Accidental Exposure to Hazardous Drugs

Accidental Exposure	
1. Seek medical attention if required. Advise the medical team what HD you were exposed to, if known. 2. Immediately notify the manager/supervisor 3. Complete an Incident/Accident Report in MyHSN	
Route of Entry	**Post-Exposure First Aid**
Inhalation	• Move away from the area of HD exposure as quickly as possible
Absorption (Skin)	• Immediately remove contaminated clothing • Wash affected area with soap and water • Rinse the area with water for 15 minutes. It is strongly recommended to take a shower if possible (use closest location to avoid further contamination) • For personal contaminated clothing, double bag to launder at home. Wash separately twice, with hot water and detergent. Hospital acquired scrubs can be obtained if necessary. Follow department-specific process
Absorption (Eye)	• Remove contact lenses, flush eyes immediately at an eyewash station for at least 15 minutes or flush with copious amounts of water/saline
Ingestion	• Do not induce vomiting • Food or drink is not to be stored or consumed where HDs are handled
Injection	• Allow the wound to bleed freely • Wash the affected area with soap under running water

Level 1 Cytotoxic Body Fluid Precautions

- Drugs can be eliminated through a variety of routes (e.g., urine, feces, vomit). Traces of a HD are present in body fluids from hours to days after it has been administered.
- Wear PPE when handling the blood and body fluids of patients who have received Level 1 Cytotoxic HDs for 7 days post last cytotoxic drug administration.
- Post signage (Appendix G) in bathrooms for patients on Level 1 Cytotoxic drugs to cover toilet and flush twice.
- Encourage male patients to sit while voiding.
- Refer to the PPE Requirements According to Medication Activity Task Chart (Appendix A).

Level 1 Cytotoxic Drugs - Handling Contaminated Equipment/ Linens/ Personal Items

Table 9 – Handling Contaminated Equipment/Linens/Personal Items

Equipment	Linens	Personal Items
• Disposable equipment is preferred • If reusable equipment such as bedpans, urinals, emesis basins, etc. are used for contaminated body fluids disposable liners are recommended • If reusable equipment is used without a liner, it is be rinsed before sending to Reprocessing, no special labeling is required • When rinsing, don proper PPE to prevent potential splash exposure	• Place all linens visibly soiled or contaminated with body fluids (e.g., urine, emesis, feces, drainage) into a regular linen bag • Handle linens with care to minimize generating hazardous airborne particles • Linen soaked or dripping with contaminated body fluids will be disposed of in Sharp/Wet Waste per Table 7	• Patient's personal items (ie., clothing, linens) should be placed in a patient belonging bag and given to the patient with instructions to launder separately twice at home in hot soapy water

Equipment	Linens	Personal Items
• When disposing of emesis, feces or urine, flush toilets twice covered by a closed lid or disposable plastic backed pad • Disposable plastic backed pad, foley catheters, colostomy bags, ileoconduit bags, drains, dressings and other soiled disposable appliances are placed in a Sharp/Wet Waste as per Table 7		

Hazardous Drug Spill Kit

Spill kits must be available where HDs are received, stored, transported, prepared, administered or disposed. Department managers are responsible for ensuring that spill kits are available and replenished as needed.

- Refer to Appendix C for HD Spill Kit Standard Content List.
- A generic spill kit is required for all HD levels.
- HD spill kit to be checked monthly during departmental inspection to ensure spill kit is intact and sealed.

Hazardous Drug Spill Cleanup

This policy applies to all levels of HD spills. Code Brown plan does *not* apply if HD spill is 1 litre or less. Only staff who are trained in HD spill management and the use of PPE are permitted to manage HD spills following steps outlined below. Refer to Appendix E – Hazardous Drug Spill Cleanup Poster.

Potential Roles Required:

- 1-2 staff to clean up the spill (depending on spill size).
- 1 staff to guide spill clean up and hand products to decrease contamination to wipe containers.
- 1 staff for traffic control, if required.

1. Assess the spill
   a) Assess the size and scope of the spill.
   b) If the spill cannot be contained with a spill kit, initiate a 'Code Brown'.

   Note: 2 absorbent pads should be enough to absorb 1000 mL of liquid.
2. Quarantine the area
   a) Identify a person to isolate the area and divert traffic from the spill of all people not directly involved in managing the spill. People not needed to manage the spill, ie. patients undergoing treatment, should be moved as far away from the spill as possible.
   b) Obtain HD spill kit (see Appendix C) and other necessary supplies (e.g. fit-tested N95 or reusable chemical cartridge respirator, sodium hypochlorite (ie. Clorox Bleach) wipes, water and hydrogen peroxide (ie. Accel Rescue) wipes).
   c) Post Caution Sign.
3. Don PPE according to PPE Requirements According to Medication Activity Task Chart (Appendix A)
4. Clean up the spill
   a) Cover spill with chemosorb pads to absorb all liquid, ensuring blue writing on pad is facing up.
   b) If powder spill, carefully place absorbent pads over powder then wet pads with water.
   c) Obtain two red cytotoxic bags, place one bag into the other bag, open and fold over edges of both bags so items can be placed in without touching the outside of the bags.
   d) Use disposable scoop and dustpan to pick up and discard soiled chemosorb pads in red cytotoxic bags. Do not press contents down.

e) Use disposable scoop and dustpan, (not fingers), to clean up any glass or sharp fragments. Place glass fragments into appropriate sharps container.
f) When wiping, always wipe from the area of least to most contamination (outer edge inward).
g) Decontaminate by wiping area several times with sodium hypochlorite (ie. Clorox Bleach) wipes. Staff guiding spill clean up will pass the wipes to the staff who is cleaning the spill to prevent contamination of wipe container. Allow a 3 minute dwell time before rinsing.
h) Discard wipes in red cytotoxic bags.
i) Rinse area with water and towels/cloths. Towels/cloths may be placed on a dedicated Swiffer mop for wiping, if available. Repeat this step 3 times using a new cloth each time.
j) Dispose of towels/clothes in red cytotoxic bag after each use.
k) Dry area with towels/clothes and dispose in red cytotoxic bag.
l) Deactivate by wiping area **TWICE** using hydrogen peroxide wipes (ie. Accel Rescue). Staff guiding spill clean up will pass the wipes to the staff who is cleaning the spill to prevent contamination of wipe container.
m) Discard wipes in red cytotoxic bags.

5. Disposal of waste
   a) Dispose of the caution sign and all other contaminated material into the red cytotoxic bags.
   b) If Swiffer mop used, clean with sodium hypochlorite (ie. Clorox Bleach) wipes and discard wipes in red cytotoxic waste.
   c) Remove outer gloves and seal inner red cytotoxic bag using inner gloves.
   d) Remove remaining PPE according to Table 5 - Sequence of Donning and Doffing PPE and discard in outer red cytotoxic bag. If a chemical cartridge respirator was used, the cartridges are disposed of in the red cytotoxic bags and the respirator placed in a separate bag for later cleaning.
   e) Don a clean pair of gloves, seal outer bag securely and label with “Cytotoxic” sticker.
   f) Dispose of sealed bag in a taped cardboard box identified with a Cytotoxic sticker or in a rigid leak proof cytotoxic container.
   g) Perform hand hygiene with soap and water.
6. Terminal Clean
   a) Notify Environmental Services (EVS) to complete post HD spill terminal clean.
7. Reporting
   a) Report spill to manager.
   b) Submit an electronic incident report.

Refer to Incident Reporting Algorithm in Appendix F.

8. Order/replace spill kit
   a) To order a HD spill kit go to the Hub > Programs and Services > Material Management > Supply and Distribution site and click on “Forms” and select WSR Chemo Spill kits.

Reporting Obligations - Incidents Involving a Patient, Visitor or Property

Refer to the Safety Event Management Process policy. All actual or potential (near miss) unplanned accidental exposures to HD incidents must be reported by HCWs and followed up by the manager/supervisor through the incident reporting system. See Appendix F for Incident Reporting algorithm.

Health Care Worker Responsibilities

- When reporting, include the following information:
  - Name of the drug
  - Approximate volume of the spill
  - How the spill occurred
  - Spill management procedures followed
  - Names of HCWs, patients, and others exposed to the spill
  - A list of persons notified of the spill (ie. manager, MRP, charge nurse)

Manager/Supervisor Responsibilities

- Depending on severity level manager will follow event reporting processes.

Reporting Obligations - Incidents Involving a Worker

Health Care Worker Responsibilities

- Immediately notify the manager/supervisor.
  - If the manager/supervisor is not available, workers must fill out an Incident/Accident Report in MyEmployee Services in MyHSN.
- Assist in the investigation and resolution of any hazards and incidents.

Manager/Supervisor Responsibilities

- Ensure that the HCW has completed the post exposure first aid measures and/or referred the HCW for additional medical follow-up with the OHN in Occupational Health, Safety and Wellness (OHSW) office (weekdays 0800-1600) or ED (after hours).
- Investigate the incident with the HCW, complete the required Employee Incident And Investigation Reporting documentation in MyEmployee Services in MyHSN. See Employee Hazard/Incident/Accident Reporting policy and Employee Incident/Accident Investigation procedure.

OHSW and Disability Management Responsibilities

- The OHN will provide the HCW with post-incident consultation and referral service weekdays between 8:00 a.m. and 4:00 p.m. HCW incidents occurring after hours, weekends and on statutory holidays are to be referred to the ED for post-incident assessment and consultation.
- The Disability Claims Advisor will report the incidents to the multi-location Joint Health and Safety Committee and the Workplace Safety and Insurance Board.
- The Corporate Safety Specialist or delegate will report the incident, if required, to the Ministry of Labour, Immigration, Training and Skills Development.

Guidelines for Medical Surveillance

Upon notification of HD exposure, the OHN will guide the medical surveillance process by conducting the following tasks:

- Gathering data and encouraging early detection if a health problem develops
- Monitoring staff health through assessment and documentation of symptom complaints. Some situations may require the need for additional physical findings and laboratory values for baseline measurements and comparison data. Employee health information is maintained in their confidential health profile in MyHSN
- Monitor the data in collaboration with the OHSW team and the Joint Health and Safety Committee
- A follow up plan for HCW's who show health changes suggesting toxicity or experiencing an acute exposure, may be developed.
- An exit examination when the HCW's employment ends, may be needed to document information of the employee's medical, reproductive and exposure histories. Management or the HCW shall initiate this request.

EDUCATION AND TRAINING

- All existing and newly hired HCWs involved in receiving, storing, transporting, administering, handling and/or disposing of HD materials must receive general orientation and department specific HD related training. This training, along with a review of current policies and procedures related to the safe handling of HDs must be provided *prior* to working with and around these substances, and **annually** thereafter.
- HCWs with risk of potential exposure to HDs must complete the Safe Handling of Hazardous Drugs module available in MyLearning within 3 months of hire and every 3 years thereafter.
- Specific training is provided within departmental orientation that is relevant to the department.
- Training shall cover the potential health risks of HDs, safe practices, containment systems, appropriate PPE, where to find related resources and procedures to handle spills.
- Compliance documentation and monitoring will be the responsibility of the department manager.

Definitions

1. Aerosolized: A suspension of fine solid particles or liquid droplets, in air or another gas.
2. Closed System Transfer Device (CSTD): A drug-transfer device that mechanically prohibits the transfer of environmental contaminants into the system and the escape of HD or vapor concentrations outside the system.
3. Containment Primary Engineering Control (C-PEC): A ventilated device designed and operated to minimize worker and environmental contaminants.
4. Exposure: Exposure by inhalation, ingestion, absorption, injection.
5. Hazardous Drugs: Exhibit one or more of the following six characteristics in humans or animals:
   - *Carcinogenicity* - Capable of causing or promoting the development of cancer or a lesion which could be the starting point of a cancer.
   - *Teratogenicity* (developmental toxicity) - Capable of causing congenital malformations due to an action on the embryo.
   - *Reproductive toxicity* - Capable of affecting fertility (ie.. miscarriages, late fetal death, infertility).
   - *Organ toxicity* - Capable of causing serious organ or other toxic effects at a low dose (ie.. liver damage, local necrosis of exposed tissue).
   - *Genotoxicity* – Capable of damaging genetic material (DNA) to cause mutations.
   - *Similar drugs* - Structure and toxicity profiles of new drugs that mimic existing drugs determined to be hazardous by the above criteria.
6. Health Care Worker: Any person, paid or unpaid, who provides services, works, volunteers or trains in the hospital. This includes HSN employees (paid), medical staff, medical learners, students, volunteers and contract workers and applies to all HSN owned or occupied property.
7. Primary Engineering Control: Provide safety for admixtures. These include biological safety cabinets or compounding aseptic containment isolators.
8. Respirator: A device that is used to protect the user from hazardous airborne particulates/gases.
9. Spill: Any leak of HD or uncontained body fluid. An example of a **contained** body fluid spill is urine isolated on an absorbent pad. An example of an **uncontained** body fluid spill is urine spilled on the floor.

Related Documents

Refer to department specific procedures, standards of care, or work standards dedicated to the safe handling of HD and waste.

Resources are available on The Hub

- Administration of HDs
- Administration of HDs in Non-Oncology Departments
- Independent Double Check of Medications
- Eyewash Station/Emergency Drench Shower procedure and resources
- HSN List of Hazardous Drugs
- Environmental Services Waste Management Policy
- Employee Hazard/Incident/Accident Reporting Policy
- Employee Incident/Accident/Investigation Procedure

References

- American Society of Health-System Pharmacists. (2018). ASHP Guidelines on Handling Hazardous Drugs.
- ASSTSAS 2023– Association paritaire pour la santé et la sécurité du travail du secteur affaires sociales
- Working Committee – Prevention Guide – Safe Handling of Hazardous Drugs.
- Cancer Care Ontario (CCO). (2012). Safe Administration of Chemotherapy: Safety during Chemotherapy Ordering, Transcribing, Dispensing, and Patient Identification, Series No.:12-12-1.
- Cancer Care Ontario. (2018). Safe Administration of Systemic Cancer Therapy. Part 2: Administration of Systemic Treatment and Management of Preventable Adverse Events ID: 12-12-2.
- Cancer Care Ontario. (2012). Safe Administration of Systemic Cancer Therapy: Methods and Development, ID: 12-12 Methods.
- Cancer Care Ontario. (2022). Safe Handling of Hazardous Drugs, ID: 16-3.

- National Association of Pharmacy Regulatory Authorities (NAPRA), (2016). Model Standards for Pharmacy Compounding of Hazardous Sterile Preparations.
- National Institute for Occupational Safety and Health. *Personal protective equipment for HCWs who work with hazardous drugs* (Publication No. 2014-106).
- National Institute for Occupational Safety and Health Alert. (2018). *Preventing Occupational Exposure to Antineoplastic and other Hazardous Drugs in Healthcare settings.*
- Olsen, M., & LeFebvre, K. B., Brassil, K. (Eds.). (2023). Chemotherapy and Immunotherapy guidelines and recommendations for practice. Pittsburgh, PA: Oncology Nursing Society, 2nd Edition.
- USP Chapter <800> Hazardous Drugs – Handling in Healthcare 2020.
- *Occupational Health and Safety Act R.S.O. 1990 c.01*
- *Reg. 67/93 Health Care and Residential Facilities*
- *Reg. 833 Control of Exposure to Biological or Chemical Agents*
- Safe Pharmaceutical Handling Evaluation Collaborative (SaPHE) - Guidance on Categorizing and Handling Precautions for Hazardous Drugs (April 2023)

APPENDICES

- Appendix A – PPE Requirements According to Medication Activity Task
- Appendix B - Level 1 Cytotoxic Drug Caution Sign
- Appendix C – Hazardous Drug Spill Kit Standard Contents
- Appendix D – Hazardous Drug Caution Sign
- Appendix E – Hazardous Drug Spill Cleanup Poster
- Appendix F – Incident Reporting Algorithm
- Appendix G – Washroom Signage for Chemotherapy Patients

APPENDIX A PPE REQUIREMENTS ACCORDING TO MEDICATION ACTIVITY TASK CHART

These steps detail the correct sequence for donning and doffing PPE.

DONNING PPE	DOFFING PPE
Scenarios requiring single gloves	
1. Perform hand hygiene 2. Don: • Gown, if worn • N95 respirator • Face protection, if worn • Single pair of gloves, worn over cuff of gown	1. Doff gloves 2. Doff gown, if worn 3. Perform hand hygiene 4. Doff: • Face protection, if present • N95 respirator, if present 5. Perform hand hygiene
Scenarios requiring double chemo gloves (Level 1 - Cytotoxic drugs)	
1. Perform hand hygiene 2. Don: • Inner/first pair of chemo gloves • Chemo Gown • N95 respirator • Face protection, if required • Outer pair of chemo gloves (extended cuff) pulled up over the cuff of gown	1. Doff outer pair of chemo gloves • touching only the outer surface of the outer glove • never the inner surface • turning the glove inside out 2. Doff face protection, without touching the front 3. Doff chemo gown • turning inside out, avoiding contamination to clothes 4. Doff inner pair of gloves 5. Perform hand hygiene 6. Doff N95 respirator 7. Perform hand hygiene

PPE Reference Table 1 – Shipping/Receiving

SHIPPING/RECEIVING: Receipt of Hazardous Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge specified)	Face Protection Face shield and/or Goggles
Unopened shipped containers, outside or inside pharmacy		All levels	No	No	No	No
Unpacking, labelled cytotoxic or hazardous	Decontaminate outer surface of products	Labelled Cytotoxic or Hazardous	2 pairs Chemo gloves	Chemo gown	Yes	No
Damaged products labelled cytotoxic or hazardous	Do not unpack, implement spill precautions. Seal package without opening into an impervious container, contact supplier to determine return procedure.	Labelled Cytotoxic or Hazardous	2 pairs Chemo gloves	Chemo gown	Yes, Chemical cartridge respirator	Yes

***NOTE:** Examples provided in this document are not all encompassing and provide reference only*

PPE Reference Table 2 – Pharmacy

PHARMACY: Drug Transport, within Facility

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Transport from receiving to pharmacy	Transported on a trolley that limits risk of falls and breakage, and is easy to clean. Spill kit is required on transport trolley	All levels	No	No	No	No
Transport of intact oral solid formulations to patient care areas	Can be sent via pneumatic tube system	All levels	No	No	No	No
Transport of non-solid dosage form (e.g., liquids, injectable, powder, ointment) to patient care areas	Transport bag AND rigid container for Level 1 Cytotoxic and Level 4 Biohazard drugs. Spill kit is required on transport trolley	Level 1 Cytotoxic	1 pair Chemo gloves	No	No	No
		Level 2 Hazardous	No	No	No	No
		Level 3 Reproductive Risk	No	No	No	No
		Level 4 Biohazard	1 pair Chemo gloves	No	No	No

PHARMACY: Compounding Sterile Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Note: Staff must follow PPE recommendations for compounding of sterile products and maintenance of the clean room.						
Sterile parenteral preparation (injectable, irrigation, inhalation, intravesical)	Containment Primary Engineering Control (C-PEC)	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	No	No
	Separate level 2 C-PEC (or C-PEC with decontamination between compounding different levels)	Level 2 Hazardous	2 pairs Chemo gloves	Chemo gown	No	No
	Separate level 3 C-PEC (or C-PEC with decontamination between compounding different levels)	Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No	No
	Ventilated engineering control - fume hood, BSC Class II or III, CVE or CACI	Level 4 Biohazard	2 pairs Chemo gloves	Chemo gown	No	No

PHARMACY: Compounding Sterile Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Activity with container contact (e.g., verification of sterile product)	Follow protocol for local room if you are entering room	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 2 Hazardous	2 pairs Chemo gloves	Chemo gown	No	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No	No (Yes, if risk of splashing)
		Level 4 Biohazard	2 pairs Chemo gloves	Chemo gown	No	No (Yes, if risk of splashing)

PHARMACY: Compounding NON-Sterile Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Crushing to make oral liquid, topical product preparation	Ventilated engineering control - fume hood, BSC Class II or III, CVE or CACI Use RxCrush if suitable	All levels	2 pairs Chemo gloves	Chemo gown	No	No
Simple Manipulations (e.g. repackaging non-powdery tablets /capsules/commercially available unit dose, verification involving contact with the containers)	Dedicated equipment in a separate area in the pharmacy	Level 1 Cytotoxic	2 pair Chemo gloves	No	No	No
		Level 2 Hazardous	1 pair Regular gloves	No	No	No
		Level 3 Reproductive Risk	1 pair Regular gloves	No	No	No
		Level 4 Biohazard	1 pair Regular gloves	No	No	No
Complex manipulations (e.g. repacking powdery tablets, cutting tablets, repackaging oral liquids)	Ventilated engineering control - fume hood, BSC Class II or III, CVE or CACI	All levels	2 pairs Chemo gloves	Chemo gown	No	No

PPE Reference Table 3 – Patient Care Units

PATIENT CARE UNITS: Sterile Drug Preparation

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
NOTE: Must complete a risk assessment to determine respirator and face protection requirement ie.. commercially prepared medication syringe						
Injections, irrigations, inhalation	Minimize contact with other equipment and surfaces. Use plastic backed pad in a separate area in the medication room	Level 1 Cytotoxic	Pharmacy only	Pharmacy only	Pharmacy only	Pharmacy only
		Level 2 Hazardous	2 pairs Regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 4 Biohazard	2 pairs Regular gloves	Regular gown	Yes	Yes

PATIENT CARE UNITS: Drug Preparation

Crushing tablets using an appropriate containment method/device (ie. RxCrush) *Contact pharmacy if medication requires dissolving	Minimize contact with other equipment and surfaces	Level 1 Cytotoxic	Pharmacy only	Pharmacy only	Pharmacy only	Pharmacy only
		Level 2 Hazardous	2 pairs Regular gloves	Regular gown	Yes	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	2 pairs Regular gloves	Regular gown	Yes	No (Yes, if risk of splashing)

PATIENT CARE UNITS: Administering Hazardous Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Administration of parenteral drugs	IV, IM, SC, Intraocular, intrapleural, intrathecal, intraperitoneal	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 2 Hazardous	2 pairs regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 4 Biohazard	2 pairs regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
	Intravesical (bladder instillation)	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	Yes	Yes
		Level 2 Hazardous	2 pairs Regular gloves	Regular gown	Yes	Yes
		Level 3 Reproductive Risk	2 pairs Regular gloves	Regular gown	Yes	Yes
		Level 4 Biohazard	2 pairs Regular gloves	Regular gown	Yes	Yes

PATIENT CARE UNITS: Administering Hazardous Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Administration of Inhaled drugs	Inhalation by nebulization	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	Yes	Yes
		Level 2 Hazardous	2 pairs Regular gloves	Regular gown	Yes	Yes
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	Yes	Yes
Administration of oral drug	Solid single dose format (ie. pill/tablet)	Level 1 Cytotoxic Drugs	2 pairs Chemo gloves	No	No	No
		Level 2 Hazardous Drugs	1 pair Regular gloves	No	No	No
		Level 3 Reproductive Risk	1 pair Regular gloves	No	No	No
Administration of a liquid or dissolved drug via enteral route	Enteral liquid	Level 1 Cytotoxic Drugs	2 pairs Chemo gloves	Chemo gown	No	No (Yes, if risk of splashing)
		Level 2 Hazardous Drugs	2 pairs regular gloves	Regular gown	No	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No	No (Yes, if risk of splashing)

PATIENT CARE UNITS: Administering Hazardous Drugs

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or Chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/Respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Topical Administration	Topical: creams/ ointment/ gel, otic, ophthalmic, intranasal, rectally, intravaginal, patch	Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 2 Hazardous	2 pairs Regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	2 pairs Regular gloves	Regular gown	No (Yes, if risk of drug aerosolization)	No (Yes, if risk of splashing)
Patient care where there is potential for contact with body fluids E.g. hygiene, collecting samples (ie.. urine/sputum), mother's milk, emptying body fluids from containers (e.g. bedpans, urinals, hemovacs, drain care, catheter/drainage/ colostomy bags, wound care), soiled equipment, changing /cleaning incontinent patient	Follow Body Fluid Precautions for 7 days post last HD administration	Level 1 Cytotoxic Drugs	2 pair Chemo gloves	Chemo gown	No (Yes if post intravesical HD administration)	No (Yes, if risk of splashing)
		Level 2 Hazardous Drugs	1 pair Regular gloves (per Routine Practice)	No (Yes, regular gown if risk of exposure)	No	No (Yes, if risk of splashing)
		Level 3 Reproductive Risk	1 pair Regular gloves (per Routine Practice)	No (Yes, regular gown if risk of exposure)	No	No (Yes, if risk of splashing)
		Level 4 Biohazard	2 pair Regular gloves	Regular gown	No (Yes if post intravesical HD administration)	No (Yes, if risk of splashing)

PATIENT CARE UNITS: Patient Care Activities

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Blood collection	Use blood collection transfer device	For all levels	1 pair Regular gloves	No	No	No (Yes, if risk of splashing)
Indirect care (health professional talking with the patient) and light contact with the patient (auscultation, walking assistance)		All levels	No	No	No	No
Handling bedding (including clothing) NOT soiled with body fluids or drug		All levels	1 pair Regular gloves (per Routine Practice)	No	No	No

PPE Reference Table 4 – Hazardous Drug Spill

ALL AREAS: Hazardous Drug Spill

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Spill Cleanup includes handling bedding and clothing visibly soiled with HD, spills on the floor or patient incontinence	• Refer to Appendix E for HD Spill Cleanup Poster • Avoid cleaning up spills if pregnant • Ensure HD spill kit available	All Levels	2 pairs Chemo gloves	Chemo gown Knee-high boot covers	Yes	Yes

PPE Reference Table 5 – Waste Management (Collection)

ALL AREAS: Waste Management (Collection)

Level 1 CYTOTOXIC 

Level 2 HAZARDOUS 

Level 3 REPRODUCTIVE RISK 

Level 4 BIOHAZARD 

Activity	Controls	Level of Precaution	Gloves Regular or chemo, 1 or 2 pairs	Protective Gown Regular or Chemo	Mask/respirator N95 (unless Chemical Cartridge Specified)	Face Protection Face shield and/or Goggles
Waste Management (Collection)		Level 1 Cytotoxic	2 pairs Chemo gloves	Chemo gown	No	No
		Level 2 Hazardous	1 pair Regular gloves	Regular gown	No	No
		Level 3 Reproductive Risk	1 pair Regular gloves	Regular gown	No	No
		Level 4 Biohazard	1 pair Chemo gloves	Regular gown	No	No

APPENDIX B - LEVEL 1 CYTOTOXIC DRUG CAUTION SIGN

APPENDIX C – HAZARDOUS DRUG SPILL KIT STANDARD CONTENTS

HAZARDOUS DRUG SPILL KIT STANDARD CONTENTS

Items are ordered using the **WSR Chemo Spill Kits** form found on *Hub > Programs and Services > Material Management > Supply and Distribution site*

# of Units	Description	Special Instructions
1	Hazardous Drug Spill Cleanup poster	Each Unit to print signage
1	"CAUTION" sign (Appendix D)	Each Unit to print signage
2 pairs of each size	Chemotherapy gloves (extended cuff)	Suggestion: Put 2 pairs of the same size gloves in bags and note the size and an expiry date (that is 3 years past the manufacturer date) on the bag
1	Disposable Chemotherapy gown	
1 of each	Goggles/Face shield	Goggles if using cartridge respirator, face shield if using N95 respirator
1 pair	Knee-high boot covers	
2	ChemoSorb (chemotherapy absorbent) pads	
2	2 mil red Cytotoxic bags	
1	Dust pan	
12	Towels/cloths	
2	"CYTOTOXIC" labels/stickers	

IN ADDITION YOU WILL NEED:

1. Appropriate fit-tested **respirator** - Note and follow the expiration date
2. 500mL **sterile water** - May be used beyond expiry date
3. 0.5%-2.4% Sodium Hypochlorite wipes (Clorox Bleach) - Note and follow the expiration date
4. 4.5% Hydrogen Peroxide wipes (Accel Rescue) - Note and follow the expiration date

APPENDIX D – HAZARDOUS DRUG CAUTION SIGN (FOLD IN HALF TO DISPLAY)

APPENDIX E – HAZARDOUS DRUG SPILL CLEANUP POSTER

HAZARDOUS DRUG SPILL CLEANUP

1

Assess the spill. Quarantine area. Obtain HD Spill Kit and other necessary supplies (fit-tested N95 or reusable chemical cartridge respirator, sodium hypochlorite (ie. Clorox Bleach) wipes, water and hydrogen peroxide (ie. Accel Rescue) wipes)

2

Post "CAUTION" sign

3

Don PPE: N95 respirator, 1st pair of chemo gloves, chemo gown, face protection, knee high boot covers, 2nd pair of chemo gloves over the cuff of the gown

4

Cover spill with chemosorb pads to absorb all liquid (blue writing facing up). If powder spill, carefully place absorbent pad over powder then wet pads with water. Obtain 2 red cytotoxic bags, place one bag into the other, open and fold over edges of both bags so items can be placed in without touching the outside of the bags

Use disposable scoop and dustpan to pick up and discard soiled chemosorb pads in red cytotoxic bags. Do not press contents down

Use disposable scoop & dust pan (not fingers), clean up any glass or sharp fragments and place in appropriate sharps container.

When wiping, always wipe from the area of least to most contamination (outer edge inward). Wipe area several times with sodium hypochlorite (ie.Clorox Bleach) wipes. Staff guiding spill clean up will pass wipes to staff cleaning the spill to prevent contamination of wipe container. Allow a 3 minute dwell time before rinsing. Discard wipes in same red cytotoxic bag.

Rinse area with water and towels/cloths. Towels/cloths may be placed on dedicated Swiffer mop for wiping, if available. Repeat this process 3 times using a new cloth each time. Dispose of towels/cloths in red cytotoxic bags after each use. Dry area.

5

Deactivate area by wiping **TWICE** using hydrogen peroxide (ie. Accel Rescue) wipes. Staff guiding spill clean up will pass wipes to staff cleaning the spill to prevent contamination of wipe container.

Discard wipes in red cytotoxic bags. Dispose caution sign and all other contaminated material into the red cytotoxic bags.

If Swiffer mop used, clean with sodium hypochlorite (ie. Clorox Bleach) wipes and discard wipes in red cytotoxic waste. Remove outer gloves and seal inner cytotoxic bag using inner gloves

Remove remaining PPE and discard in outer cytotoxic bag. If a chemical cartridge respirator was used, the cartridges are disposed of in the red cytotoxic bags and the respirator placed in a separate bag for later cleaning

Don a clean pair of gloves and seal outer bag securely and label with 'Cytotoxic' sticker. Dispose of sealed bag in a taped cardboard box identified with a Cytotoxic label or in a rigid leak proof cytotoxic container

6

Perform hand hygiene with soap and water. Notify environmental services to complete post HD spill terminal clean

7

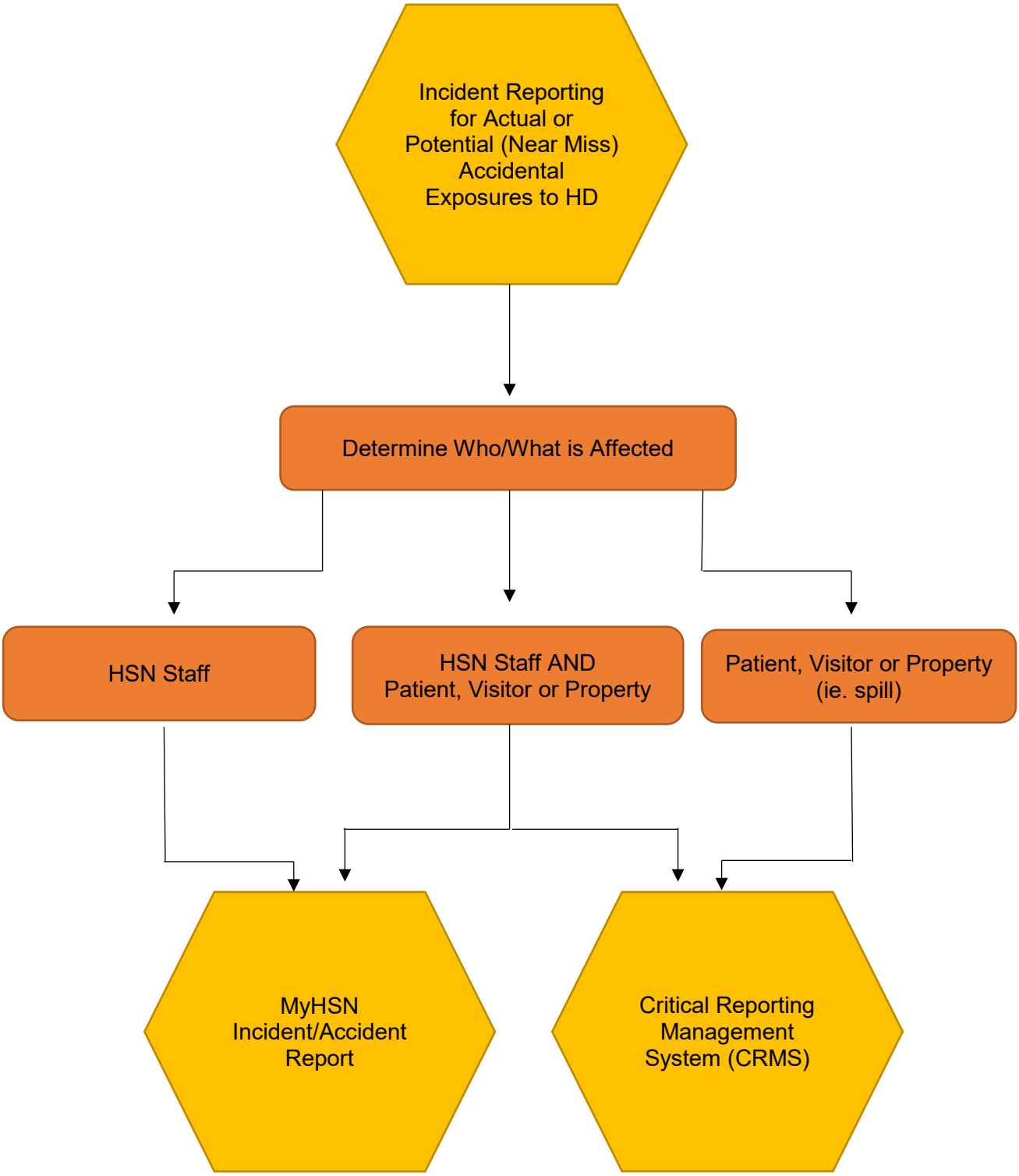
Report spill to manager and submit an incident report

8

Replace spill kit

use.
2018

APPENDIX F – INCIDENT REPORTING ALGORITHM



APPENDIX G – Washroom Signage for Chemotherapy Patients

ATTENTION CHEMOTHERAPY PATIENTS

When using the bathroom, please follow these instructions:

- *Close the toilet lid before flushing the toilet.*
- *If there is no toilet lid, cover the toilet with an absorbent pad provided by the nurse.*
- *DO NOT flush the pad down the toilet.*
- *Flush the toilet twice after use.*
- *Men are encouraged to sit while peeing.*

Si vous recevez des traitements de CHIMIOTHÉRAPIE

Veuillez suivre les directives ci-dessous quand vous utilisez la toilette:

- *Baissez le couvercle de toilette avant de tirer la chasse d'eau.*
- *S'il n'y a pas de couvercle, couvrez la toilette d'une feuille absorbante fournie.*
- *NE JETEZ PAS la feuille dans la toilette.*
- *Tirez la chasse d'eau deux fois.*
- *Les hommes sont encouragés à s'asseoir pour uriner.*