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PREFACE

The purpose of this is policy to protect healthcare workers from environmental exposure to potentially harmful medications. A list of drugs categorized as “hazardous” is maintained in The Johns Hopkins Hospital Drug Formulary. While the list of hazardous drugs includes medications used for chemotherapy, many other drugs are also included. Investigational drugs must be handled as hazardous drugs, unless there is adequate information available to exclude them

There are additional policies and procedures for chemotherapy agents whose purpose is to protect patients from medication errors involving their use. These policies can be found in the Interdisciplinary Clinical Practice Manual (ICPM) under, Chemotherapy: Prescribing, Dispensing, and Administering.

POLICY

It is the policy of Johns Hopkins to handle all hazardous drugs according to protocols outlined in this document. A hazardous drug is defined as a drug which poses a significant risk to a healthcare worker by virtue of its teratogenic, mutagenic, carcinogenic, or reproductive toxicity potential, as well as acute toxicity to an organ system.

All hazardous drugs dispensed by the Department of Pharmacy Services will bear a label reading “Handling/Disposal - Special Precautions Necessary”. Caution shall be exercised when handling or manipulating all hazardous drugs. Appropriate garbing (such as nitrile gloves rated for chemotherapy and other hazardous drugs) shall be worn for all procedures involving the handling and/or administration of hazardous drugs; or the handling of excreta from patients who have received a hazardous drug within the previous 48 hours. Hazardous drugs must not be manipulated in the immediate vicinity where food and drink are consumed. All spills of hazardous drugs must be cleaned up immediately by a properly trained person utilizing the appropriate procedure (e.g. hazardous spill kits). All exposures to hazardous materials must be reported and treated immediately utilizing the protocols outlined in this document.

REFERENCE

Handling of Hazardous Drugs, OSHA Technical Manual, 1999
 JHH Interdepartmental Clinical Practice Manual: Chemotherapy Prescribing, Dispensing and Administering.

RESPONSIBILITIES

Staff

Wash hands prior to handling drugs.

Wear nitrile gloves, rated for chemotherapy and other hazardous drugs, and other appropriate protective equipment while handling drugs.

Dispose of all hazardous drug waste according to established protocols.

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Supervisors/Staff	<p>Provide and enforce the use of proper personal protective equipment for staff handling hazardous drugs.</p> <p>Monitor safe work practices of staff handling and disposing hazardous drugs.</p>
Pharmacy Services	<p>Appropriately label all hazardous drugs.</p> <p>Maintain list of drugs categorized as hazardous.</p> <p>Provide consultation to staff regarding hazardous drugs.</p> <p>Train staff on procedures for preparation and handling of hazardous drugs and maintain corresponding documentation.</p>
Support Associates	<p>Clean all spills of hazardous drugs.</p> <p>Maintain competency in protocol for cleaning hazardous drug spill.</p>
Environmental Services	<p>Dispose of all sealed containers containing “trace” hazardous drug waste.</p> <p>Maintain competency of individuals trained to clean hazardous drug spills.</p>
Health, Safety and Environment	<p>Provide direction to staff regarding safe handling of hazardous drugs.</p> <p>Provide training to appropriate staff regarding procedures to clean spills of hazardous drugs.</p> <p>Provide and pick-up containers for the disposal of “bulk” amounts of hazardous drugs, and ensure that such materials are disposed of properly</p>

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PROCEDURES

A. PREPARATION AND ADMINISTRATION OF PARENTERAL HAZARDOUS DRUGS

1. Wash hands prior to handling drugs.
2. Exercise caution by using protective techniques outlined in The Johns Hopkins Bloodborne Pathogen Exposure Control Program.
 - a. Hazardous drugs must not be manipulated in the immediate vicinity where food and drink are consumed.
 - b. Wear nitrile gloves. Gloves must be changed every 60 minutes when working continuously with hazardous drugs or immediately if gloves are torn, punctured, or contaminated.
 - c. Wear a protective gown (lint-free, non-permeable with closed front, long sleeves and fitted cuffs) while working with parenteral hazardous drugs. Cuffs must be tucked under gloves.
 - d. Wear gown and gloves within immediate work area only.
3. Place hazardous drugs and associated supplies on a surface lined with a disposable absorbent pad with absorbent side facing up.
4. Administer drug.
5. After a hazardous drug has been administered, remove syringes, tubing and other equipment using an absorbent pad with impermeable backing to prevent droplet contamination. Follow disposal guidelines (see section E).
6. Remove protective clothing.
7. Wash hands.
8. Post signage in room alerting other personnel to special precautions.

B. PRIMING INTRAVENOUS SETS

1. In the Pharmacy, priming is done within a certified biological safety cabinet.
2. Some flow control devices have air elimination bags that allow priming through the pump. In these cases, priming may be done through the device, after which the air elimination bag must be discarded into the hazardous drug waste container.

C. PREPARATION AND ADMINISTRATION OF ORAL HAZARDOUS DRUGS

1. Wash hands prior to handling drugs.
2. Wear a protective gown, nitrile gloves and eye protection while administering the medication if spillage or splashing is possible while the patient is taking oral medication.

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3. If medication is provided in tablet or capsule form and the patient is unable to swallow it, tablets/capsules must be taken to the pharmacy to be crushed. In the pharmacy, crushing hazardous oral dosage forms will take place in a certified biological safety cabinet. At no time must hazardous drugs be crushed outside the pharmacy.
4. Remove gown (if applicable) and place disposable gowns in hazardous drug waste container. If gown is reusable, place into laundry bag as described in section F.
5. Remove protective clothing and equipment.
6. Wash hands.
7. Post signage in room alerting other personnel to special precautions.

D. HANDLING OF EXCRETA FROM PATIENTS WHO HAVE RECEIVED A HAZARDOUS DRUG WITHIN THE PREVIOUS 48 HOURS.

1. Wear nitrile gloves, eye protection, and a protective gown when handling body secretions.
2. Gowns or gloves must be changed whenever contamination may have occurred.
3. Remove protective clothing and equipment after completion of task.
4. Wash hands.

E. DISPOSAL OF HAZARDOUS DRUG WASTE

Definition - Hazardous drug waste includes Hospital Pharmacy listed hazardous drugs, all chemotherapy agents, and EPA P-listed materials* (shown below), as well as the vials, ampules, IV bottles, tubing, syringes, gloves, masks, absorbent pads, and other contaminated items used in the preparation, administration and handling of these materials. For contaminated reusable gowns and linen see section F.

Chemotherapy agents, Hazardous Drugs (as listed by the Hospital Pharmacy) and the EPA listed materials that have been given to patients and contain only residues in the dispensing container must be disposed of in either the yellow trace chemo waste containers or in red-bag lined Biohazard boxes. They must never be put in red bags alone. However, unused hazardous drugs and those containers with larger than residual amounts (see 2. below for definition of "residual") must be disposed of as Chemical Waste.

1. Following the preparation or administration of hazardous drugs, sharps, needles, syringes, and other breakable items must be placed in an approved sharps container. Do not recap needles. Do not overfill sharps container. Full sharps containers can be disposed of in Medical Waste/Biohazard boxes.
2. Containers with a residual amount of drug ("residual" means less than 1" of free liquid or less than 3 % of material remaining in the container) must be disposed of in the yellow trace chemo waste containers or red-bag lined Biohazard boxes.

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3. Full containers or containers with free liquid in excess of residue amounts must be disposed of as chemical waste. HSE provides black, 8-gallon DOT shippable RCRA waste containers for this material.
4. To secure Hazardous Drug Waste containers for disposal.

For the Red-Bag lined biohazard boxes:

- a. Wearing nitrile gloves and protective gown, open top of filled container and twist and seal inner plastic bag with tape.
- b. Close lid, then seal box with tape.
- c. Remove gown and gloves and dispose of them as reusable linen and/or medical waste.
- d. Wash hands.

For the yellow trace chemo waste or black RCRA waste containers:

- a. Wearing nitrile gloves, follow instructions on the container for securing it.
- b. Dispose of gloves as medical waste after you have secured the container.

6. Environmental Services removes sealed biohazard boxes and yellow trace chemo waste containers. Employees must wear protective gloves when handling hazardous drug waste containers.

HSE will pick-up the black RCRA waste containers when full. Contact HSE at 5-5918 for pick up.

* The specific drugs that must be disposed of as discussed above are:

Arsenic trioxide
Nicotine
Physostigmine
Physostigmine salicylate
Warfarin

F. REUSABLE GOWNS OR LINEN CONTAMINATED WITH HAZARDOUS DRUGS (OR body fluids from a patient who has received a hazardous drug within the previous 48 hours):

1. Personnel handling this linen must wear nitrile gloves and protective gowns.
2. Place reusable items into a standard hospital laundry bag.
3. Remove protective clothing.
4. Wash hands.

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G. CLEAN-UP OF HAZARDOUS DRUG SPILLS

1. Immediately, but calmly, notify others in the room that a spill has taken place.
2. Spills must be cleaned by a properly trained employee. Support Associates have been trained to clean up spilled hazardous drugs. If there are no Support Associates available, contact Environmental Services (5-5714) and request personnel specifically trained to clean hazardous drug spills.
3. If the spill is less than 5 ml and contained:
 - a. Wear nitrile gloves and protective gown.
 - b. Clean with an absorbent pad with impermeable backing.
 - c. After initial cleanup, refer to Post-Spillage Clean-Up (section H).
4. If the spill is larger than 5 ml, but less than 500 ml:
 - a. Remove patients and visitors from the area until the cleanup procedure is completed. This will avoid contamination by tracking and will help to prevent slips and falls.
 - b. A "hazardous drug spill kit" (JHH ESI # 21554) should be utilized when cleaning large spills. At least one kit should be maintained on each unit or clinic. The contents of the kit include the following items:
 - Absorbent pads with impermeable backing
 - Disposable dust pan and scoop
 - Eye protection
 - Gloves (1 pair nitrile exam, 1 pair industrial-grade synthetic gloves)
 - Hazardous drug disposal bags (2)
 - Mask
 - Protective Gown with cuffs and back closure
 - Shoe covers
 - c. Don eye protection, mask, gown, shoe covers and nitrile gloves, (industrial-grade synthetic gloves must also be used when handling glass).
 - d. Collect broken glassware using dust pan and scoop, and place in a hazardous drug disposal bag.
 - e. Dispose of this bag in the black RCRA waste container.
 - f. Remove spilled materials from area as follows:
 - (1) Solid material - Use absorbent pads with impermeable backing to carefully place material in a hazardous drug disposal bag.
 - (2) Powdered material - Place water dampened absorbent pads with impermeable backing side up over the powder. Carefully wipe area and place contaminated material in a hazardous drug disposal bag.
 - (3) Liquid material - Cover spill with absorbent pad with impermeable backing side

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up. Carefully wipe up the spill and place contaminated pads in a hazardous drug disposal bag.

g. Place all hazardous drug disposal bags in the black, 8-gallon RCRA waste container.

h. After initial cleanup, refer to Post-Spillage Clean-Up procedure (see section H).

5. If the spill is larger than 500 ml:

a. Remove patients and visitors from the area until the cleanup procedure is completed. This will avoid contamination by tracking and will help to prevent slips and falls.

b. On the East Baltimore Campus, call the emergency number, 5-4444. Health, Safety and Environment will advise or provide assistance.

6. For spills on carpet and fabric upholstery, cover area with impermeable backed absorbent pad, secure area and contact Health, Safety and Environment for direction.

H. POST-SPILLAGE CLEAN-UP

1. Once initial clean-up is completed, as described in section G, clean the spill area with an impermeably backed pad dampened with detergent solution from spill kit. Repeat this procedure three times to clean the area.

2. Place all contaminated pads into a hazardous drug waste bag.

3. Dispose of bag in the black, 8-gallon RCRA waste container.

4. Remove shoe covers, and dispose of as medical waste. Place gown in linen container, unless disposable.

5. Remove eye protection (reusable) and clean with alcohol wipes.

6. Remove gloves and dispose of as medical waste.

7. Wash hands, arms and face.

8. Clean the area of the spill once the decontamination procedure is complete.

9. Contact Health, Safety and Environment (5-5918, days; and 5-4444, nights and weekends) if there are any questions.

I. ACCIDENTAL CONTACT WITH HAZARDOUS DRUGS

1. Immediately, but calmly, notify others in the room that an exposure has taken place.

2. Promptly initiate on-site decontamination of exposure. Use the following methods based on exposure type. If necessary, seek assistance from a co-worker.

a. Eye Exposure

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- (1) Immediately flush the eye with water for 15 minutes using eye, face and body spray unit. This should be done BEFORE proceeding to Wilmer Emergency Room.
- (2) While eye is being flushed with tap water, a co-worker should call the Wilmer Emergency Room (5-5347). Advise Wilmer ED of the incident and make special note of the exact drug that was splashed into the eye.
- (3) After the eye has been flushed for 15 minutes, proceed to the Wilmer Emergency Room.

b. Skin Exposure

- (1) Immediately wash the area thoroughly with soap and water for 15 minutes.
- (2) Proceed to the Occupational Injury Clinic, Blalock 139 or Adult Emergency Department, Park B1, for examination.

c. Exposure by Injection

- (1) If the drug has been injected into the tissue, do not remove the needle. Draw back on the plunger of the syringe and remove the drug. If the needle has been removed, insert a 1cc needle into the site and aspirate the drug into the barrel of the syringe.
- (2) Proceed to the Occupational Injury Clinic or Emergency Department.

d. Exposure by Glass Cut

- (1) Rinse the area with large amounts of water for 15 minutes.
 - (2) Wash the area with soap, and rinse again with water.
 - (3) Proceed to the Occupational Injury Clinic or Emergency Department.
3. During immediate care, notify supervisor to complete an Employee Report of Incident form.

REVIEW CYCLE

Annually.

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SPECIAL HANDLING/DISPOSAL

PRIVATE ROOM:

not required

GLOVES:

Nitrile gloves for contact with specific medications

Nitrile gloves for contact with secretions until ___ am/pm on ___ / ___

GOWN:

When spillage or splashing of secretions and/or specific medications is possible

EYE PROTECTION:

When spillage or splashing of secretions and/or specific medications is possible

Wash hands after: glove removal, contact with contaminated articles