



## CLINICAL POLICY

### Safe Handling of Hazardous Drugs

**A. EFFECTIVE DATE :**

April 6, 2020

**B. PURPOSE :**

To promote safe work practices for all employees who prepare or administer hazardous drugs or clean up spills of these drugs. It is important to minimize occupational exposure to these drugs because of the risk of adverse health effects. This policy was originally based on the Occupational Safety and Health Administration's Technical Manual Section on Hazardous Drugs, which has now been replaced by OSHA's updated Controlling Occupational Exposure to Hazardous Drugs. Further information on specific drugs can be found on the UConn Health Library Medication reference sites (e.g. Micromedex, Lexicomp, etc.) or by searching for the material's Safety Data Sheet (SDS) on any internet browser.

**C. POLICY :**

Departments with employees who handle hazardous drugs on a regular basis must:

1. Ensure that employees know and follow the procedures outlined in this policy. (ex: hazardous drug identification, hazards of specific drugs, spill procedures, etc.)
2. Develop additional department/procedure specific written procedures as appropriate and ensure that employees follow these procedures.

**D. SCOPE :**

This policy applies to all departments with employees who handle hazardous drugs including Inpatient, ED, Perioperative, Outpatient and Ambulatory Locations as well as Employee Health/Occupational Medicine, The Environmental Health & Safety (EH & S) Department, Pharmacy Department and Respiratory Therapy.

**E. DEFINITIONS :**

1. Hazardous Drug: A hazardous drug is any drug identified as hazardous or potentially hazardous by the National Institute for Occupational Safety and Health (NIOSH) on the basis of at least one of the following six criteria: carcinogenicity, teratogenicity or developmental toxicity, reproductive toxicity in humans, organ toxicity at low doses in humans or animals, genotoxicity, and new drugs that mimic existing HDs in structure or toxicity.
2. NIOSH: National Institute for Occupational Safety and Health maintains a list of antineoplastic and other HDs used in healthcare settings. See Appendix A for latest update.
3. Investigational drugs will be assessed for hazard potential and handled as HDs when appropriate.

**F. MATERIAL(S) NEEDED :**

Personal Protective Equipment

## **G. PROCEDURE :**

1. Departments with employees who handle hazardous drugs on a regular basis must:
  - Comply with the OSHA's Hazard Communication Policy 29CFR 1910.1200 as it applies to hazardous drugs. This means ensuring that employees are informed of any potential hazard, hazardous drugs are clearly identified/labeled, proper personal protective equipment is readily available and that SDSs are readily available for all drugs in liquid, powdered, and gaseous form. These topics, but not limited to, will serve as the basis of a training program.
  - Develop a plan for cleaning up spills of hazardous drugs and provide spill kits to all areas where hazardous drugs are administered. (Replacement Hazardous drug spill kits are available through the Environmental Health & Safety Department). Routine sized spills of LIQUID hazardous drugs will be handled by employees in the area of the spill. See Appendix B, Clinical Procedure for "Hazardous Drug Spill and Acute Exposure Management".
  - Ensure that appropriate personal protective equipment (PPE) is available and worn by employees.
  - Ensure that tasks involving hazardous drugs in powdered form are performed in the appropriate area in the Pharmacy.
2. Employees who handle hazardous drugs will:
  - Comply with the procedures outlined below and with department- or site-specific procedures related to handling hazardous drugs.
  - Report any exposures (skin or eye contact or inhalation of an aerosol or dust) to their supervisors and to UConn Health Occupational Medicine/Employee Health Department.
  - Report spills to immediate supervisor and submit an event report via the UConn Health event reporting system (SI-Safety Intelligence) and the supervisor, in consultation with the employee, may file a "Employee Accident/Incident" report to Gallagher Bassett Services 1-800-828-2717.
3. Employee Health/Occupational Medicine will:
  - Provide medical care/consultation to employees who have been exposed to hazardous drugs
  - Provide consultation to employees who have questions about reproductive health as it relates to handling hazardous drugs.
4. The Environmental Health & Safety (EH & S) Department will:
  - Respond to spills of hazardous drugs in areas where appropriate PPE is not available.
  - Provide training on the proper method and use of the spill kit.
  - Respond to large spills that are beyond the capacity of employees in the vicinity of the spill. Large spills are defined as those beyond the absorption capability of the spill kits provided.
  - Respond to all releases of hazardous gases.
  - Provide telephone advice/assistance to any employee who will be cleaning up a spill of hazardous drugs.
  - Provide hazardous waste pick up and replacement services for spills involving the drugs regulated by the EPA.
  - SDSs for hazardous drugs are available through the AOR <<https://health.uconn.edu/pharmacy/staff-references/usp800aor/>>. These SDSs are available on UConn Health's Library Medication reference sites (Micromedex and Lexicomp), EH&S's website or by querying any internet search engine such as Google.
5. The Pharmacy will:
  - Indicate (via EMR or clinical advisory) when special handling precautions are necessary.
  - Ensure that hazardous drugs that will be used for patient treatment are handled in the pharmacy during all processes involving drugs in powdered or granular form. (Such processes would include reconstitution of powders and crushing of tablets.)
6. Respiratory Therapy will:
  - Ensure that gaseous or aerosolized hazardous drugs are safely contained during administration and will communicate necessary precautions to other healthcare providers.

7. Handling of liquid hazardous drugs:

Equipment Needed:

Employees should wear gloves that are protective against the hazardous drug they are using.

- For chemotherapy and other hazardous drugs, employees must wear gloves tested for use with chemotherapy drugs in the appropriate size. Due to their potential mutagenic, carcinogenic and teratogenic effects occupational exposure to chemotherapy drugs should be kept to a minimum. Utilization of personnel protective devices, especially the use of protective medical gloves, is a mainstay to avoid skin contact. The choice of appropriate gloves is of outstanding importance. For optimal protection in the oncology setting it is essential to establish general guidelines evaluating appropriate materials and defining quality standards. Establishing these guidelines can facilitate better handling and avoid potential hazards and late sequelae. Gloves used to handle hazardous drugs have to meet requirements according to the ASTM International (American Society of Testing and Materials) standard D 6978-05. For extended exposure to hazardous drugs, double gloving, the use of thicker gloves and the frequent change of gloves (minimum every 30 minutes) increase their protective power.
- Gloves are required during handling of hazardous drugs (e.g., drug preparation, initial administration, changing of IV bags, and discontinuation of chemotherapy and other hazardous drugs). If there is a potential for leaking or splashing, such as during compounding and administration, double gloves are required.
- For specific handling PPE requirements please refer to AOR <<https://health.uconn.edu/pharmacy/staff-references/usp800aor/>>

8. Work Practices:

*General:*

Employees must wash their hands before donning and after removing gloves. Gloves or clothing that become contaminated must be changed as soon as possible. Contaminated bedding and/or clothing must be changed as soon as possible. Contaminated bedding and/or clothing must be handled per departmental procedures. Staff must wear PPE when handling soiled linen in the 48 hour period after a patient has received HD. Soiled linen should be placed in a leak-proof bag.

IV tubing connection sites must be taped unless they have Luer-lock fittings.

- IV sets for hazardous drugs will be prepared in pharmacy. The IV bag will be spiked and primed with a non-chemotherapy containing compatible solution in their C-PEC before hazardous drug is added to bag.
- Air will be expelled from syringes by the Pharmacy in their C-PEC. Air must not be expelled from a syringe containing a hazardous drug anywhere except in a C-PEC.

*Administration:*

- If a closed system transfer device (aka “chemo cap”) is not used, plastic-backed absorbent pad will be placed under the tubing during IV push administration to catch any leakage. Sterile gauze will be placed around any push sites for absorbing leakage.
- Infusion sets and pumps, which should have Luer-lock fittings, should be watched for signs of leakage during use.

*Disposal:* Refer to UConn Health policy on disposal of hazardous drugs by clicking: [Pharmacy Policy for Pharmaceutical Waste Management](#).

*Incidents of Spills Involving Hazardous Drugs:* Patient and Personnel incidents or spills involving hazardous drugs must be handled according to Appendix B.

*For Visitor Exposure:*

Overt contamination of gloves, clothing, skin or eyes will be treated as follows:

- Remove contaminated gloves or clothing (if applicable).
- Wash the affected skin area with soap (not germicidal cleaner) and lukewarm water. (Hot water will open pores and increase skin absorption.) For eye exposure, immediately flush the affected eye with water (eyewash facilities are available throughout campus) or isotonic eyewash designated for that purpose for at least 15 minutes.
- For direct skin or eye contact,
- Obtain medical attention as soon as possible.
- Fill out the appropriate incident report form and submit as appropriate.
  - If a family member or visitor is exposed, staff member must enter a UConn Health event report (Safety Intelligence).
- Notify the appropriate area manager or supervisor.

*Other Incidents during patient treatment:*

Whether there is an exposure or not, any incident involving a hazardous drug should be documented in a UConn Health event report (Safety Intelligence).

*Spills of liquid hazardous drugs:*

- For information about the hazards of the spilled drug, contact the area pharmacy or use the [UConn Health Library online medication resources](#) (e.g. Micromedex, Lexicomp, etc).
- Whenever possible, spills of LIQUID hazardous drugs will be handled by employees in the area of the spill.
- Employees may contact Environmental Health & Safety for telephone advice or assistance cleaning up the spill. Environmental Health & Safety will respond to large spills that are beyond the capacity of the spill kit or the employee(s) in the vicinity of the spill.

*Handling and Spills of Powered or Aerosolized Hazardous Drugs:* Reconstitution and/or manipulation of powdered/aerosol hazardous drugs will occur only in the pharmacy. These areas must follow safety procedures and any special spill clean-up procedures.

9. Training

Supervisors of employees who handle hazardous drugs must make their employees aware of the potential health effects of these drugs, as required by OSHA's Hazard Communication Standard. The supervisor should refer to the SDS for information about the hazards. The supervisor must also communicate and enforce proper handling procedures, and must advise employees on how they are to handle emergencies, including personnel exposure and spills. Environmental Health & Safety can assist with this training effort.

**H. ATTACHMENTS :**

[Appendix A: UConn Health Hazardous Drug List](#)

[Appendix B: Clinical Procedure for Hazardous Drug Spill and Acute Exposure Management](#)

[Table 1: NIOSH list of possible scenarios where hazardous drugs are handled and the suggested personal protective equipment and engineering controls](#)

**I. REFERENCES :**

1. NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2014 [Internet] U.S. Department of Health and Human Services. Last Updated September 2014. Available from <http://www.cdc.gov/niosh/docs/2014-138/pdfs/2014-138.pdf>

2. NIOSH Alert: Preventing Occupational Exposures to Antineoplastic and other Hazardous Drugs in Healthcare Settings, DHHS (NIOSH) Publication No. 2004-165 (2004)
3. NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016, DHHS (NIOSH) Publication. Department of Health and Human Services. September 2016.
4. USP [2016]. USP General Chapter <800> Hazardous Drugs—Handling in Healthcare Settings.
5. American Society of Hospital Pharmacists. ASHP technical assistance bulletin on handling cytotoxic and hazardous drugs. Am J Hosp Pharm. 1990; 47:1033-49.
6. Occupational Safety and Health Administration Technical Manual, Section VI: Chapter 2, "Controlling Occupational Exposure to Hazardous Drugs"
7. Occupational Safety and Health Administration guidelines "Controlling Occupational Exposure to Hazardous Drugs"

**J. SEARCH WORDS :**

Hazardous Drugs, NIOSH, Spills, Acute Exposure Management

**K. ENFORCEMENT:**

Violations of this policy or associated procedures may result in appropriate disciplinary measures in accordance with University By-Laws, General Rules of Conduct for All University Employees, applicable collective bargaining agreements, the University of Connecticut Student Code, other applicable University Policies, or as outlined in any procedures document related to this policy.

**L. STAKEHOLDER APPROVALS:**

On file

**M. COMMITTEE APPROVALS:**

None.

**N. FINAL APPROVAL:**

- |                                                                                                                                                        |                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| <p>1. <u>Andrew Agwunobi, MD, MBA (Signed)</u><br/>         Andrew Agwunobi, MD, MBA<br/>         UConn Health Chief Executive Officer</p>             | <p><u>05/1/2020</u><br/>         Date</p>  |
| <p>2. <u>Anne D. Horbtauck, RN, BSN, MBA (Signed)</u><br/>         Anne D. Horbatuck, RN, BSN, MBA<br/>         Clinical Policy Committee Co-Chair</p> | <p><u>4/26/2020</u><br/>         Date</p>  |
| <p>3. <u>Scott Allen, MD (Signed)</u><br/>         Scott Allen, MD<br/>         Clinical Policy Committee Co-Chair</p>                                 | <p><u>04/26/2020</u><br/>         Date</p> |
| <p>4. <u>Caryl Ryan, MS, RN (Signed)</u><br/>         Caryl Ryan, MS, RN<br/>         VP Quality and Patient Service &amp; Chief Nursing Officer</p>   | <p><u>4/27/2020</u><br/>         Date</p>  |

**O. REVISION HISTORY:**

Date Issued: 1/89

Date Revised: 12/91, 8/97, 11/03, 9/05, 9/09, 7/18, 12/19, 4/20

Date Reviewed: 12/94, 2/00, 12/19