

For Job Health and Safety on Hazardous Drugs in Health Care

What to do today to protect worker health and prevent health hazards

What is the hazard?

- Health care workers may be exposed to hazardous drugs, including chemotherapeutic, cytotoxic, anti-cancer, antineoplastic, antiviral, hormonal, and other types of medications.
- Exposure most likely occurs by skin absorption after contact with surfaces, protective clothing, drug containers, and equipment contaminated with hazardous drugs. Exposure may also occur by inhalation of aerosolized drugs, injection (needle sticks), and accidental ingestion (due to contamination of the hands).
- All workers in areas where hazardous drugs are handled have the potential for exposure. This may include shipping/receiving staff, pharmacy staff, nurses, physicians, veterinary staff, maintenance workers, and environmental services personnel.

How do I know if there is a hazard?

- Consult product labeling, safety data sheets, your institution's internal hazardous drug list, and the NIOSH hazardous drug list (available online at www.cdc.gov/niosh/topics/hazdrug) to determine if drugs are considered hazardous.
- Many published studies show environmental contamination on work area surfaces. Some studies have also shown hazardous drugs and metabolites detected in the urine of workers, providing evidence of exposure and uptake.

Why should I care?

- Occupational exposure may cause health effects such as skin rashes, headaches, flu-like symptoms, infertility, miscarriage, birth defects, and leukemia and other cancers.
- For patients receiving therapy, the potential benefits of hazardous drugs may outweigh the risks. For workers exposed to low levels over time, there are only risks.

Recognition

What do I need to do?

- Observe the workplace to identify all job tasks and work areas along the entire chain of hazardous drug handling. Compose a comprehensive, site-specific, safe handling plan for hazardous drugs and a corresponding internal hazardous drug list as part of an injury and illness prevention program.
 - Encourage employee participation throughout the process of hazard identification and hazard control, as well as the continuous improvement of written programs.
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QuickTips

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Evaluation

- Periodically evaluate work practices, procedures, and personal protective equipment (PPE) for adherence to your safe handling program.
- Consider periodic wipe sampling to evaluate the effectiveness of programs and controls for preventing environmental contamination.
- Perform medical surveillance for workers who handle hazardous drugs.

Engineering Controls

- Prepare hazardous drugs in a ventilated cabinet designed to contain hazardous drugs during processing and to provide product sterility when performing sterile compounding. Biological safety cabinets (BSCs) or compounding aseptic containment isolators (CACIs) are commonly used for these procedures. Cabinet exhaust should be filtered and routed to the outdoors.
- Use of a closed-system drug transfer device (CSDTD) is recommended.

Training

- Provide training to all workers who have the potential for exposure to hazardous drugs upon hire, at least annually, and when changes in work process occur. Include individuals who do not work around hazardous drugs on a normal basis, such as those performing housekeeping duties, maintenance, or other related tasks in health care areas (or in areas with ventilated cabinets) that may be contaminated with hazardous drugs. Training should include:
 - The hazards of working with hazardous drugs and how to use safety data sheets to obtain hazard information (see Hazard Communication Standard 29 CFR 1910.1200).
 - Safe handling techniques, work practices, and procedures for workers who directly handle hazardous drugs.
 - Proper maintenance of equipment, such as BSCs and CACIs.
 - General clean-up and spill response, emphasizing chemical deactivation and removal in addition to sanitation.
 - The importance and proper use of engineering controls and PPE.

QuickTips

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Personal Protective Equipment (PPE)

- Use double gloves and change the outer glove often or when contaminated. Gloves should be selected based on intended use for specific drug types.
- Wear impermeable, splash-resistant, disposable gowns with closed fronts, long sleeves, and tight-fitting cuffs. Gowns should not have seams and should not be reused.
- Use eye and face protection such as goggles and face shields if there is a potential for splashing liquids.
- Use respiratory protection, such as a NIOSH-approved surgical N-95 respirator, when handling hazardous drugs creates an inhalation hazard (respiratory protection programs are required; see 29 CFR 1910.134).

Records

- Document training provided to employees who handle hazardous drugs or work in areas where hazardous drugs are handled.
- Document medical surveillance provided to employees who handle hazardous drugs.
- Track spill reports, injury reports, results of evaluations, and corrective actions.
- If you do not have the expertise available to:
 - Identify hazardous drugs used in the workplace.
 - Develop a site-specific, safe handling plan for hazardous drugs.
 - Develop and institute safety and training programs.
 - Select PPE specific to hazardous drugs.
 - Identify methods and select laboratories for wipe sampling and analysis.

When do I need more help?

Where can I get help?

- NIOSH: www.cdc.gov/niosh/topics/hazdrug
- OSHA: www.osha.gov/SLTC/hazardousdrugs
- AIHA's Health Care Working Group: www.aiha.org/get-involved/VolunteerGroups/Pages/Healthcare-Working-Group.aspx
- Oncology Nursing Society: www.ons.org/ClinicalResources/SafeHandling
- American Society of Health-System Pharmacists: www.ashp.org

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