

## Hazardous Drugs

### Potential Hazard

Exposure to hazardous drugs (HDs) through improper:

- Handling practices
- Needle or sharps handling and disposal
- Priming of IV lines, and Labeling
- Administration of aerosolized drugs
- Disposal

### Possible Solutions

Handling hazardous drugs good work practice includes:

- Hazardous Drugs should be prepared by pharmacists, not by nurses or physicians without proper PPE and engineering controls. The risk of exposure to hazardous drugs through inhalation or direct skin contact, is present in procedures such as:
- Transferring hazardous drugs from one container to another, reconstituting or manipulating them.
- Withdrawal of needles from drug vials.
- Expulsion of air from a drug-filled syringe.
- Expelling air from syringes should be done in the biological safety cabinet, not by the health care worker giving the injection. OSHA Technical Manual Part V, Section C, #1 and #2.

Sharps Handling:

- OSHA and the American Society of Hospital Pharmacists (ASHP) recommend that all syringes and needles used in the course of preparation be placed in "sharps" containers for disposal without being crushed, clipped or capped. OSHA Technical Manual Part V, Section C, #1, b.

Priming of tubing for hazardous drugs:

- The OSHA Technical Manual Part V, Section C, #1, c, recommends that drug administration sets be attached and primed within the BSC prior to addition of the drug. This eliminates the need to prime the set in a less well-controlled environment. It also states that the priming should be done with non-drug containing solution or that a back-flow closed system be used.

Labeling Practices:

- In addition to standard pharmacy labeling practices, all syringes and IV bags containing hazardous drugs should be labeled with a warning label such as: Special Handling/Disposal Precautions. OSHA Technical Manual Part V, Section C, #1, a.

### During Administration of aerosolized drugs

- Ribavirin an antiviral drug used to treat some infants and young children with lower respiratory syncytial virus (RSV) infections. This drug is aerosolized to a respirable size of approximately 1.3 microns and is usually administered to the patient in an oxygen tent or face mask. This is when exposure can occur.

### Good work practice recommends:

- Personnel administering Hazardous Drugs wear gowns, latex gloves, and chemical splash goggles or equivalent safety glasses. (OSHA Technical Manual Part V, Section C, #2) and the National Study Commission on Cytotoxic Exposure.
- When administering aerosolized drugs additional precautions may be necessary to protect the employee from exposure such as:
- Wearing NIOSH-approved respirators.
- The use of treatment booths with local exhaust ventilation systems, or isolation rooms with separate HEPA filtered ventilation systems.
- The American Society of Hospital Pharmacists (ASHP) recommends these guidelines when administering hazardous drugs:
- Only those trained to administer hazardous drugs should be allowed to perform this function.
- Disposable gloves and gowns should be worn. The glove and gown cuffs should be worn in a manner that produces a tight fit (e.g., loose glove tucked under gown cuff; tight glove fitted over gown cuff).
- Intravenous containers designed with venting tubes should not be used.
- The use of plastic backed absorbent liners under I.V. tubing during administration of hazardous drugs to absorb any leakage and prevent the solution from spilling onto patient skin.
- Work at waist level, if possible; avoid working above the head or reaching up for connections or ports.
- Until the reproductive risks associated with handling Hazardous Drugs have been substantiated, staff who are pregnant or breast-feeding should avoid contact with these drugs.

### Bagging and labeling:

#### OSHA requires:

- Bags containing materials contaminated with hazardous drugs covered under the Hazard Communication Standard, must be labeled in accordance with Section F.
- Other Recommended Good Practices:
  - Thick, leak-proof plastic bags, colored differently from other hospital trash bags, should be used for routine collection of discarded gloves, gowns and other disposable material, and labeled as Hazardous Drug-related wastes.
  - The Technical Chapter suggests the waste bag should be kept inside a covered waste container clearly labeled "Hazardous Drug WASTE ONLY."

At least one such receptacle should be located in every area where the drugs are prepared or administered. Waste should not be moved from one area to another. The bag should be sealed when filled and the covered waste container taped.

#### Hazardous Waste Disposal and Containers:

The OSHA Technical Manual Part IV, Section C recommends:

- Labeling needle containers and breakable items of hazardous waste as Hazardous Drug waste only.
- The use of properly labeled, sealed and covered disposal containers, handled by trained and protected personnel, as required under the Bloodborne Pathogens Standard if such items are contaminated with blood or other potentially infectious materials.
- Hazardous drug-related wastes should be disposed of according to EPA, state and local regulations for hazardous waste. This disposal can occur at either an incinerator or a licensed sanitary landfill for toxic wastes, as appropriate. Commercial waste disposal is performed by a licensed company. While awaiting removal, the waste should be held in a secure area in covered, labeled drums with plastic liners.