HCA Healthcare | Central/West Texas Division

USP<800>: Safe Handling of Hazardous Drugs

Annual Education

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LAS PALMAS DEL SOL HEALTHCARE

Agenda

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- Characteristics of Hazardous Drugs
- Communication About Hazardous Drugs
- Potential Exposure Risks
- Preventing Exposure
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Introduction

The United States Pharmacopeia (USP) develops standards for HDs and the Food and Drug Administration (FDA) along with The Joint Commission (TJC) enforce them.

This training reviews the types of HDs, the risk of exposure, and the best practices during preparation, administration, and disposal of HDs to keep you and the environment safe.

Characteristics of Hazardous Drugs

What Makes a Drug Hazardous?

Carcinogenic

- Ability to cause cancer

Teratogenic

- Ability to produce fetal malformations

Reproductive Toxicity

- May have adverse effects to the male/female reproductive system

Organ Toxicity

- May have adverse effects to organs

Genotoxic

- Ability to mutate DNA

Even though a drug is characterized as **hazardous**, the dosage form may not have a **great risk** of exposure.

Communication About Hazardous Drugs

Not all healthcare facilities use the same hazardous drugs (HDs). It's important to know the ones used in your facility and work area.

The Hazard Communication Standard from the Occupational Safety and Health Administration (OSHA) requires that facilities list HDs used in the facility. **A risk status [low, medium, high] is assigned to each drug.** This risk status outlines the protective measures required for Administration, Disposal, and Transport. This list is updated at least annually.

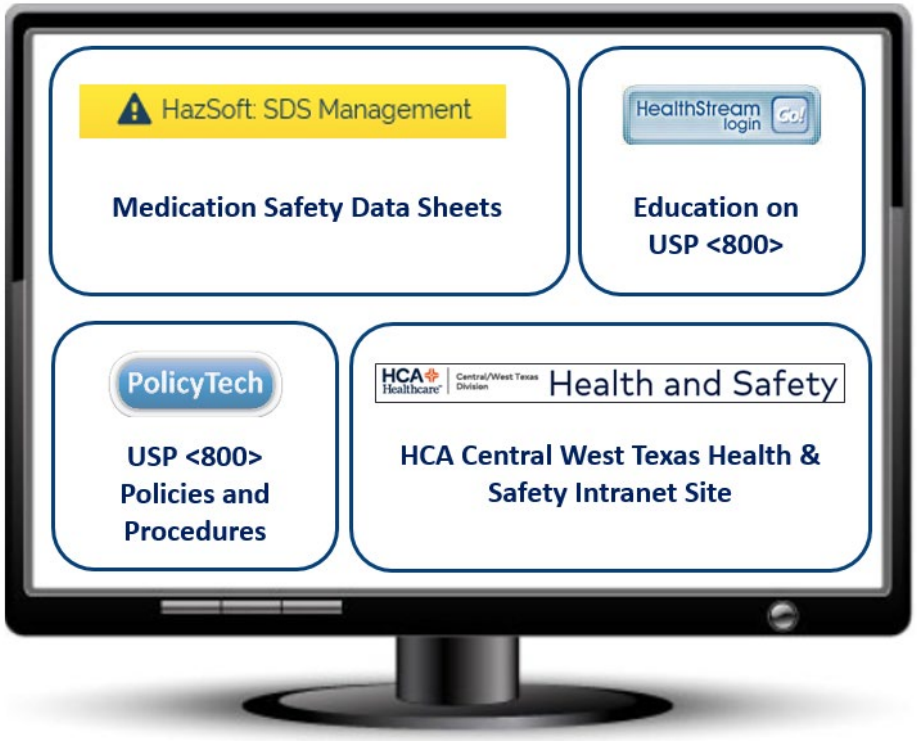
Look for these labels on drugs for handling guidelines

Low Risk Hazardous Drugs

Medium Risk Hazardous Drugs

High Risk Hazardous Drug

Where can I find additional information?

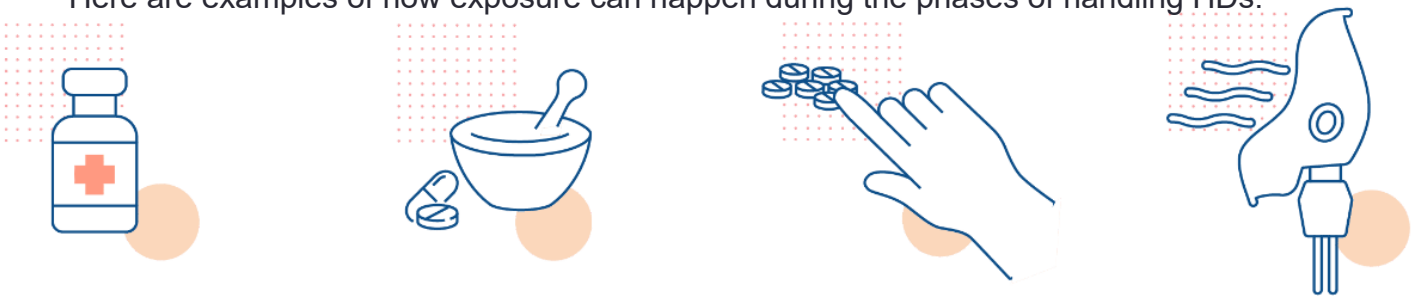


Potential Exposure Risks

Guidelines are recommended for all healthcare workers who handle HDs: pharmacists, nurses, physicians, operating room staff, environmental services, lab staff, and shipping and receiving.

Exposure can happen during the process of handling HDs. The risk level depends on how dangerous the HD is and how you are exposed. It can also occur during eating, drinking, putting on makeup, smoking, or touching your mouth with contaminated hands.

Here are examples of how exposure can happen during the phases of handling HDs:



Receiving
Contact with small amounts of HDs on the outside of vials, dosage units, and containers or on work surfaces and floors.

Compounding
Contact during crushing or splitting tablets, pouring liquids, weighing and mixing components, or cleaning up spills.

Dispensing
Touching or inhaling dust from tablets or capsules during counting or packing.

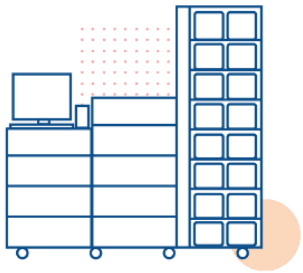
Administration
Inhaling aerosols; contact while setting up tubing, syringes, and giving HDs through the respiratory tract. Contact when giving medicines through injection, irrigation, orally, or by putting them on the skin.

Potential Exposure Risks

Additional examples of how exposure can happen during the phases of handling HDs:

Giving care
Touching body fluids contaminated with a HD or handling clothing that has body fluids on it.

Spills
Contact with HDs that are spilled or splashed and carried to other surfaces if cleanup is not done correctly and fast.



Transport
Contact with HDs that are being moved within a healthcare setting without proper handling to prevent exposure.

Waste removal
Contact during waste collection and disposal activities.

Train those who handle HDs to reduce contamination or reduce the risk of harm to themselves or others. Facilities are required to check healthcare workers' competency every 12 months.

Preventing Exposure - Preparation

Many HDs are prepared before giving them to an individual. During preparation, HDs can spill, splatter, or spray. If precautions are not used, the HD might be inhaled, be absorbed into the skin, or contaminate the clothing.

Exposure may happen when:

- Opening vials.
- Removing a drug-filled syringe from a vial.
- Removing air from a drug-filled syringe or tubing line.
- Using a syringe and needle to transfer a drug.
- Accessing a port of a bag or bottle.

HDs should always be prepared in a controlled area.

Do **NOT** compound any IV hazardous drugs outside of the Pharmacy.

Pharmacy will compound all IV hazardous drugs.

Preventing Exposure - Administration

Healthcare workers are also at risk when giving HD's. Examples include:

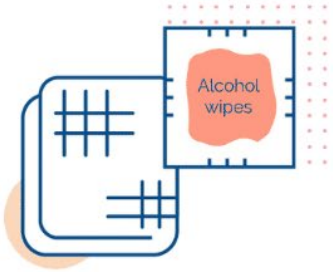
There is risk when injecting into intravenous (IV) lines that may have leaks in tubing, syringe, or connections

Splashes can occur while clearing the air from syringes or infusion lines or when connecting or disconnecting infusion lines and syringes.

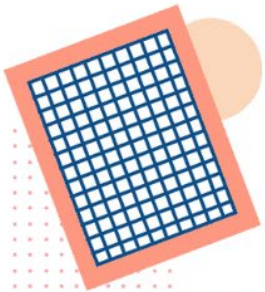
Another risk is an accidental needlestick or other sharps injury involving a device contaminated by a HD.

Preventing Exposure - Administration

Be prepared for splashes and sprays of HDs. Have these items available.



Gauze and alcohol wipes



Disposable, plastic-backed, absorbent liner for preparation surfaces

Vials for any unused HD

Puncture-proof containers for used needles

Containers to dispose of non-sharp items with warning labels to alert others of the hazardous contents

Preventing Exposure – Personal Protective Equipment (PPE)

To protect yourself, wear the correct PPE. The minimum PPE requirements are outlined on the HD list. Additional PPE can always been worn if the user desires.

Wear two pairs of properly rated disposable gloves. Replace gloves every 30 minutes or if torn or integrity compromised. Gowns will be USP 800 compliant, close in the back, have long sleeves, closed cuffs, and no seams. Include face shields and goggles if there is risk of spill or splash.

If there is a risk of exposure to particulates or aerosols use a surgical N95 respirator. Wear a Powered Air-Purifying Respirator (PAPR) when there is known or suspected exposure to vapors (medication will be identified) or cleaning large spills. PAPRs are primarily used in the pharmacy.

Do not reuse disposable PPE. Dispose of after each use and do not wear between patients. All PPE worn when handling HDs is contaminated. Place it in a chemotherapy waste container. Do not put it in the regular trash.

Hazardous Drug Disposal and Spills

Follow federal, state, and local laws for HDs and contaminated waste disposal. This is done at a regulated medical waste incinerator to prevent spread into the air.

Dispose of all materials used for clean-up following the Environmental Protection Agency (EPA) regulations and the facility's policies and procedures.

Spills put all workers at risk for exposure. Having a spill kit available with the recommended cleaning materials from the American Society of Health-System Pharmacists (AHSP) can keep workers safe from exposure during clean-up. Kits should be labeled and kept near the areas where HDs are prepared and given.

Only trained workers should clean areas with spills.

Small spills (less than 5 mL)

- Wear proper PPE to clean the spill
- Wipe the area multiple times to confirm the removal of the HD.

Large spills (greater than 5 mL)

- Isolate the area until staff have cleaned the spill
- Use full PPE, including gloves and protective coverings for clothing, face, and eyes.
- Clean carefully to prevent creating drops or dust in the air.

Contamination of PPE, clothing, skin or eyes? Do this right away.

Remove gloves or gown.

Clean the area with soap and water.

Flood the eyes at an eyewash station.

Report and document the exposure.

Get medical care.

Caring for Individuals Receiving Hazardous Drugs

Healthcare staff and caregivers caring for individuals given HDs within the past 48 hours should wear PPE. The individual may have high concentrations of the HD in their blood, vomit, urine, or other excretions. Everyone is at risk of exposure to these excretions.

Risks can be reduced by:

- Placing diapers in a resealable bag.
- Flushing toilets twice with the lid down.
- Putting linens in marked laundry bags and then in a bag labeled for HD.
- Prewashing the laundry bag and contents, then rewashing with other laundry.
- Wearing gloves and gowns when handling prewashed items.

Always review and understand your facility's policies and procedures related to HDs.

Glossary

- **Aerosols** – Tiny particles or drops of liquid in the air
- **American Society of Health-System Pharmacists** (ASHP) – A group that represents pharmacists that works in a healthcare setting
- **Chemotherapy waste container** – A container used to dispose of hazardous waste
- **Competency** – The ability to do something well
- **Concentration** – The measure of the amount of something in a solution
- **Contamination** – The actin of making something unclean or unsafe
- **Environmental Protection Agency (EPA)** – A federal agency that protects human health and the environment
- **Excretions** – Waste products that leave the body, such as urine, sweat, or feces
- **Exposure** – Coming in contact with or not having protection from something
- **Food and Drug Administration (FDA)** – An agency that monitors the safety and quality of public health
- **Hazardous** – Something dangerous
- **Incinerator** – A large furnace used for burning waste
- **National Institute for Occupational Safety and Health (NIOSH)** – a federal agency responsible for the safety and health of workers
- **Occupational Safety and Health Administration (OSHA)** – an agency that creates rules and standards to protect the safety of workers
- **Personal protective equipment (PPE)** – Items that protect you from exposure in the healthcare setting
- **Precautions** – Measures used to prevent something unsafe from happening
- **Safety Data Sheets (SDS)** – A document that lists information about safety and health for the use of various substances and products
- **Surveillance** – The close monitoring of something or someone
- **United States Pharmacopeia (USP)** – A group that develops standards of medicines to protect the safety of people and improve health