SAFE HANDLING OF HAZARDOUS DRUGS

2014 JHS Annual Mandatory Clinical Education
Learning Objectives

At the end of this session all JHS employees who work in areas that handle hazardous drugs will understand the safety practices associated with handling hazardous drugs and will be able to:

• Define what are hazardous drugs and their classifications
• Demonstrate use of the equipment and supplies used when handling, transporting, administering, and disposing of hazardous drugs, and how to properly manage hazardous drug spills
Learning Objectives (continued)

- Identify and demonstrate appropriate application and removal of the Personal Protective Equipment (PPE) for each classification of hazardous drugs
- Identify routes of exposure to hazardous drugs
- List hazardous communication identifiers and define the “High Risk Exposure Alert Period”
- Ensure safe handling practice when handling hazardous drugs.
- Demonstrate how to manage an exposure to a hazardous drug, including reporting and Medical Surveillance
Safe Handling of Hazardous Drug Policy

- To ensure a safe working environment and practice when handling hazardous drugs, refer to and comply with the JHS Administrative Policy #400.034 on Safe Handling of Hazardous Drugs
- This policy includes principles for safe handling, preparation, transport, administration, disposal, and spill management of hazardous drugs
Definition of Hazardous Drugs

- Hazardous drugs are capable of causing harm to those individuals exposed. They have at least one of the following characteristics:
  - Genotoxic – can change DNA structure
  - Carcinogenic – can cause cancer in animals and/or humans.
  - Teratogenic - can cause reproductive toxicity in humans
  - Fertility Impairment – can cause birth defects or prevent reproduction for men and women with occupational exposure to hazardous drugs
  - Serious toxicity at low doses – danger has been shown in experimental animal models and treated patients
- These hazardous drugs can be classified as an anti-neoplastic, cytotoxic, biologic, antiviral, immunosuppressive, antibiotic, and/or hormone. They are hazardous regardless of whether they are administered intravenously, by mouth, or by topical administration
Classification Of Hazardous Drugs

- **High Hazard Drugs**
  - Drugs that are carcinogenic or mutagenic or cause organ toxicity at low doses

- **Low Hazard Drugs**
  - Drugs where there is limited evidence of toxicity, but the mechanism of action or drug class has the potential to cause toxicity

- **Reproductive Hazard Drugs**
  - Medications that have the potential to impair fertility
Personal Protective Equipment

- **High Hazard Drug Administration:**
  - Gloves (double gloving recommended)
  - Gown
  - Goggles approved for use with hazardous drug administration (if there is a risk of a splash)
- **Low Hazard Drug Administration:**
  - Gloves approved for use with hazardous drugs
- **Reproductive Drug Administration:**
  - Gloves (double gloving recommended)
  - Gown
  - NIOSH-approved respirator you have been fit-tested to use
  - Goggles approved for use with hazardous drugs administration (if there is risk of a splash)
- Refer to the JHS Hazardous Drug List in policy #400.034
Reproductive Definitions

- Reproductive Category Employees:
  - Women and men who are trying to conceive under the direction of a physician; women who are pregnant, and women who are breastfeeding

- Reproductive Hazard Drug:
  - A medication that has specific warnings for women and/or men who are trying to conceive under the direction of a physician, women who are pregnant, and women who are breastfeeding
Routes of exposure of hazardous drugs

- Inhalation of aerosols and drug particles
- Absorption through direct contact with skin, eyes or mucous membranes (examples: nostrils, mouth, lips, eyelids)
- Injection through needle sticks
- Ingestion by swallowing
Safe Handling Practices

- Wash hands for at least 15 seconds with soap and water prior to and after handling, preparing, administering, transporting, disposing of, or managing spills of hazardous drugs or waste.
- Wash hands before and after working in any area where hazardous drugs are handled, prepared, administered, or disposed.
- Do not eat, drink, chew gum, apply cosmetics or store food items in areas where hazardous drugs are stored, handled, prepared, administered, or disposed.

NO FOOD OR DRINK PERMITTED IN THIS AREA
Symptoms Associated with Acute Exposure to Hazardous Drugs

- Lightheaded
- Dizzy
- Abdominal pain
- Headache
- Burning / watery eyes

- Nausea and vomiting
- Local skin or mucous membrane reaction
- Metallic taste in mouth
Common Areas that Handle Large Volumes of High Hazardous Drugs

- Hazardous drug administration is not limited to these areas:
  - Jackson Memorial Hospital:
  - Central 7 Chemotherapy Pharmacy
  - WW12 Adult Hematology/Oncology
  - ET 6B Pediatric Hematology/Oncology
  - ET 7A GYN/GYO
  - ET 7 Pediatric Blood and Marrow Transplant Unit
  - ACC East Infusion Center
  - West Wing 11
  - Jackson North Medical Center
  - Jackson South Community Hospital
Hazard Communication: Identifiers

- Hazardous drugs are clearly identified and an orange label is noted on all drugs indicating that special handling is required
- Specific supplies and PPE are utilized when handling and disposing of these drugs
- All IV hazardous drugs will be placed in a green bag by pharmacy prior to delivery
- IV drugs will then be placed in a secondary zip-top bag for transport

CAUTION!
HAZARDOUS DRUGS
SPECIAL HANDLING IS REQUIRED FOR TRANSPORTATION, PREPARATION, ADMINISTRATION, DISPOSAL, AND SPILLS MANAGEMENT
FOLLOW ESTABLISHED PROCEDURES WEAR ALL APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT

For Additional Information Consult: Administrative Policy & Procedure # 434
Hazard Communication: Identifiers

• REGULATED HAZARDOUS DRUGS
  – Require special waste disposal per Hazardous Waste Regulations, due to their toxicity:
    • Cyclophosphamide (Cytoxan)
    • Daunorubicin
    • Mechlorethamine
    • Melphalan
    • Mitomycin
    • Chlorambucil
  – These agents are listed as hazardous waste per the Environmental Protection Agency (EPA), the Resource Conservation and Recovery Act (RCRA) and hazardous materials per Department of Transportation (DOT)
  – A black dot placed on the green bag will indicate the need to dispose of these drugs into the black hazardous waste container
Hazard Communication: Door Signage “High Risk Exposure Alert”

• Signage in three languages (English, Spanish & Creole) shall be placed on the patient’s door when administration of a hazardous drug is to begin and shall remain on the door until 48 hours after administration has completed.

• In the event the patient is discharged before the 48 hour time period has expired, the signage will be left on the door until after the room is cleaned by Environmental Services.
Hazard Communication Door Signage

STOP
ALL VISITORS

PLEASE SEE NURSING STAFF BEFORE ENTERING ROOM.

Safe handling practices enforced
All staff are to follow the established procedures and wear all appropriate personal protective equipment.

ATENCIÓN
VISITANTES

POR FAVOR, VEAN AL PERSONAL DE ENFERMERÍA ANTES DE ENTRAR AL CUARTO.

TOMAMOS PRECAUCIONES PARA LA SEGURIDAD DEL PACIENTE
Todo el personal debe seguir los procedimientos establecidos y usar todo el equipo de protección apropiado.

ATANSYON
TOUT VIZITÈ YO

TANPRI WE AVEK ESTAF ENFIMYE YO AVAN KE-W ANTRE NAN

NOU RANFOSE PRATIK SOU KI JAN NOU TRAVAY AN SÈKIRITÉ
Tout estal yo Simpson swiv tout jwosedi ke nou etalhe mete tout ekplan pansel nou dvotik yo.
Hazard Communication: Orange Arm Band
High Risk Exposure Alert Period

• Nursing staff will place an Orange Arm Band on all patients who are receiving hazardous drugs, including intravenous, oral and topical doses, beginning with the initial dose
• Nursing staff will date and time the arm band as soon as the last dose of hazardous drugs is completed, to reflect 48 hours post hazardous drug completion
• This 48 hour time frame is considered the High Risk Exposure Alert Period. Staff need to take special precautions when handling the patients’ body fluids, or any items that have come into contact with them, such as soiled linens
Hazard Communication
High Risk Exposure Alert Period

- If the patient is receiving hazardous drugs on a daily basis, and the drug(s) will not be discontinued, do not put a date on the orange arm band
- The orange arm band will remain on the patient until the time of discharge
- Staff need to take special precautions when handling the patients body fluids, or any items that have come into contact with them, such as soiled linens, throughout the hospitalization period
Care of the Patient with an ORANGE ARM BAND

• During the time frame the patient is wearing an orange arm band:
  – Wear gloves approved for use with hazardous drugs if there is a risk of exposure to a patient’s body fluids
  – Wear a gown approved for use with hazardous drugs and/or goggles if there is a risk of contamination by direct contact or by splashing of a patient’s body fluids
Gloves

• Use gloves approved by the hospital for use with hazardous drugs
• Double gloving is recommended when handling hazardous drugs
• Change gloves immediately after each patient use
• Do not wear gloves for more than 30 minutes before changing
• Inspect gloves for visible defects and if there is a tear replace them immediately

• Refer to policy #400.034 for appropriate order number of products
Gowns

• Impervious (Poly-Coated) Gowns provide the best protection when administering hazardous drugs
• The impervious gowns should be:
  – Disposable
  – Knitted or elastic cuffs
  – Lint free
  – Low-Permeable fabric
  – Solid front with back closure
  – Poly-Coated
• Gown is for single use only. Do not remove/re-use
• Remove the gown when the task is completed
Eye, Facial, and Respiratory Protection

- A plastic face shield or goggles are worn in situations where eyes, mouth, or nasal splashing may occur.
- A NIOSH-approved respirator (N-95) is required if contact with aerosols or splashing is suspected.
  - Note: Ensure that all impacted employees are fit-tested for the appropriate NIOSH-approved respirator.
- During IV administration, if a Closed System Transfer Device is present (i.e.: PhaSeal) the respirator and goggles are not required.
Exposure to Hazardous Drugs

- In the event of exposure to skin, remove contaminated clothes and immediately wash skin with soap and water for at least 15 seconds. (Do not use products containing alcohol such as Purrell)
- In the event of eye exposure, immediately flush the eyes with water for at least 15 minutes, using a Plumbed Eyewash Station
- If a Plumbed Eyewash Station is not immediately available, use the personal eyewash bottle station, and then go immediately to the nearest Plumbed Eyewash Station. Flush eyes for at least 15 minutes
Exposure to Hazardous Drugs

- Seek emergency treatment as indicated
- Report ALL exposures to the Occupational Health Services (OHS) immediately
  - Phone Number: 786-466-8381
    Mon-Fri from 7:30 a.m.-4:00 p.m. Excluding holidays and weekends
    Report to the E.R. after hours, on weekends and holidays
- Inform OHS by the next working day
- Document ALL actual and near miss exposures in Quantros
Oral/Topical Hazardous Drug Exposure

- When administering oral or topical hazardous drugs, wear gloves approved for use with hazardous drugs. Discard all used PPE and medicine cups in the yellow bins.
- Do not crush meds or open capsules.
- If a hazardous drug is required to be altered or crushed, it must be performed by a Pharmacist or Pharmacy Tech inside the Containment Isolator Hood, to avoid aerosol exposure.
Hazardous Drug Disposal Bins

- Hazardous waste must be stored in containers that comply with the RCRA (Resource Conservation and Recovery Act) rules
- JHS provides two (2) types of hazardous drug disposal bins. Specific drug disposal is regulated by the EPA
- All used PPE and contaminated waste (dedicated IV bags and tubing, needles, sharps, medicine cups, etc.) must be disposed of in the appropriate hazardous drug disposal bin
Hazardous Drug Disposal Bins

- Always place sharps such as spinal needles that have been used to administer hazardous drugs in the yellow disposal bin, not in the red sharps disposal bin.
- Disposal bins must be available in all areas where hazardous drugs are administered. Keep the lid closed until ready to permanently seal for transport.
- Store all disposal bins away from patient care areas, preferably in the Soiled Utility Room.
Hazardous Waste Disposal Bins
BLACK DISPOSAL BINS

- The EPA has identified several drugs as hazardous waste, due to their toxicity. They require disposal in a separate bin (black)
- An EPA Compliance Documentation log (weekly container inspection) is required for each bin
- A label must be placed on the bin listing the date of initial usage. Maximum accumulation is 180 days at Jackson Health System

- Hazardous drugs that require disposal in the black bins:
  - Chlorambucil
  - Cyclophosphamide (Cytoxan)
  - Daunomycin
  - Mechlorethamine
  - Melphalan
  - Mitomycin
Safe Removal of the PPE

- Sequence for removal of PPE: remove the outer pair of gloves, goggles, gown, respirator, and then remove the second set of gloves. Dispose of items in the appropriate disposal bin.
- Gloves – (first pair) grasp outside edge near wrist, peel away from hand, turning glove inside-out and hold in opposite gloved hand.
- Goggles - grasp with inner gloves or ungloved hands, lift away from face.
- Gown - unfasten ties, peel gown away from neck and shoulder, turn contaminated outside toward the inside, fold into a bundle, and discard.
- Respirator - lift the bottom elastic over your head first, then lift off the top elastic.
- Gloves (second pair, remove as in step one).
- Place PPE into zip-top or leak-proof plastic bag and dispose of in the appropriate hazardous waste bin.
- Wash hands with soap and water, for 15 seconds; do not use alcohol.
Hazardous Drug Information
Contamination of Linen

- Linen that is directly contaminated with a hazardous drug will need to be placed in a leak-proof plastic bag, which can be located in the Chemotherapy Drug Spill Kit.
- The leak-proof plastic bag is tied off and disposed of in the appropriate yellow or black hazardous waste bin.
- Linen that is contaminated with body fluids of a patient who is wearing an orange arm band is placed in a regular soiled linen bag, tied off and disposed of with regular soiled linen.
- Surfaces contaminated with body fluids need to be cleaned using a hospital-approved disinfectant, while wearing the appropriate PPE.
SPILLS

- Hazardous drug spills are a priority
- Personnel properly trained to manage spills can manage hazardous drug spills which are of a controllable nature
- A large spill is identified as a spill that the unit/department lacks the resources to respond to or to manage. (example: an industrial spill of bleach)
- For uncontrollable spills call a “CODE ORANGE”
- Jackson Memorial Hospital call 85-6123
- Jackson North Medical Center call 5555
- Jackson South Community Hospital call 7777
- The page operator will ask you the nature and amount of the spill
- Every attempt should be made to contain the spill and to keep it from spreading
- Refer to JHS Administrative Policy #400.034 Safe Handling of Hazardous Drugs
Spills Management

• Units administering hazardous drugs need to stock an appropriate number of Chemotherapy Drug Spill Kits to manage the maximum amount of a spill that could be encountered.

• In the event of a spill of a hazardous drug you should:
  – Notify the specific department personnel or supervisor in the area of the spill.
  – Alert everyone in the immediate area to avoid direct contact with the spill, including patients, visitors, and staff.
  – Use the Chemotherapy Drug Spill Kit(s) and the PPE included for containment of any hazardous drug. Double gloving is required to clean a spill.
  – Document any and all spills and near-misses of Hazardous Drugs in Quantros.
Safe Handling Practices: PPE

Transportation Services:
- A Chemotherapy Drug Spill Kit is required to accompany all patients who are transported off the unit who are receiving a hazardous drug, or who have received one in the last 48 hours.
- These patients will be identified by an orange arm band that will be placed on them at the time of drug initiation.
- A Physician’s order is required for all patient transports off the unit while actively receiving a hazardous IV drug.
- The transporter will check for the presence of the orange arm band, the chemotherapy drug spill kit, and a respirator that they have been fit tested to use.
- The chemotherapy drug spill kit will be used by escort services to treat any hazardous drug spills, or to protect them from contact with bodily fluid and soiled linens of a patient who is wearing an orange arm band.
Hazardous Drug Medical Surveillance

- Program Through Occupational Health Services
- Two Components:
  - Medical Surveillance Questionnaire- MANDATORY
  - Laboratory Testing and Focused Physical Exam-VOLUNTARY
- Surveillance is performed annually. Collection of, responses to questionnaire, results of testing, and exam findings are confidential
- Refer to JHS Administrative Policy #400.034 Safe Handling of Hazardous Drugs
Summary

- Hazardous drugs can cause serious health effects in health care workers.
- Employees can be exposed to these drugs through direct contact, ingestion, breaks in the skin, or through inhalation.
- Hazardous drugs are used in many areas of the hospital.
- All employees of the JHS have a right to know the nature and effect of the hazardous drugs they are exposed to, how to protect themselves, and the appropriate personnel protective equipment that is required.
Summary continued

- The appropriate PPE required for the safe handling of hazardous drugs are available through JHS Materials Management
- Hazardous spills are managed by employees trained in the procedure by using a Chemotherapy Drug Spill Kit
- Information on safe handling of hazardous drugs can be found in the JHS Administrative Policy #400.034
- You can protect yourself by wearing the appropriate PPE, and by following established rules, guidelines, and procedures
Questions?

• Contact:
  Environmental Health and Safety Department
  – 305-585-2903 (85-2903)

“Safe Handling of Hazardous Drugs”
Employee Training Module 2013-2014
Approved by Nurses Cancer Committee and Safe Handling of Hazardous Drugs Committee