

# Healthcare Safety



**MED CENTER HEALTH**



# Contents



- This computer-based learning (CBL) course examines healthcare safety issues including:
  - Work-related injuries
  - Incident and Accident reporting
  - Medical device accidents
  - Pedestrian safety
  - Emergency access to restrooms and dressing rooms
  - Gas cylinder safety
  - Safety sensitive areas
  - Radiation safety
  - MRI safety
  - Hazardous waste and materials
  - Pharmaceutical waste



# Introduction



- The healthcare setting presents many potential safety risks. In this module we will look at what these risks are, how to reduce risk, and what to do when workplace accidents occur.
- **Safety issues that will be examined include:**
  - Work-related illnesses and injuries, incident reporting, and medical care follow-up
  - Medical device accidents
  - Safety-sensitive positions related to reporting medications
  - Safety-sensitive areas and controlling access
  - Radiation safety principles to reduce risk and exposure
  - MRI Safety risks and prevention policies
- With proper attention to risk reduction principles, many accidents can be prevented and the health and safety of employees can be better protected.



# Security: Identification Badges



- All staff, volunteers and students are *required* to wear their Med Center Health ID badge at all times while they are working.
- It should be:
  - Worn above the waist
  - Visible with the name and picture facing forward.
- Badges are coded for each staff person so they can be used at time clocks.
- Badges should never be shared between employees.
- Vendors and sales representatives must check in at the “Reptrax” kiosks located in designated areas to receive a temporary badge.
- Contractors must check in at:
  - MCBG Campus: The Security Department for a temporary badge.
  - MCA, MCC, MCF & MCS Campuses: The Engineering Department for a temporary badge



# On the Job Related Illness or Injury



- Employees are sometimes injured or exposed to hazardous or infectious materials on the job.
- If you suspect an on-the-job injury or job-related illness, regardless of how minor, immediately report it to the supervisor.



# Employee Incident Reporting



- When an on-the-job illness, injury, or exposure occurs, complete an on-line **Incident Report** before the end of the shift.
- The injured employee should complete the report, whenever possible.
- If the employee is unable to complete an incident report, then a supervisor or a witness should complete the report. Include details of the incident, such as what work the employee was performing, how the incident happened, and what caused the incident.



# Incident Report



## **Incident Reporting Procedures:**

- Incident reports are located in Citrix using the R.L.System.
- It is the duty of the Department Manager to review the report for follow up within 3 days.



# Medical Treatment



## **Injured employees should seek prompt medical treatment.**

- For **Non-Emergencies** (excluding blood & body fluid exposures; refer to Infection Control policies for those procedures)
  - Employees should contact the designated Med Center Health Employee Health representative for their facility. If the representative is unavailable and medical care is needed, employees should seek care such as Medical Center Urgentcare, for prompt care without an appointment.
  - The Emergency Department is another option, but should be used as a last resort for non-emergencies.
- For **Emergencies**
  - Employees should report to the nearest healthcare provider, Emergency Department, or call 911. Employees seeking medical treatment are required by state law to complete a medical waiver form (available from the Employee Health representative).
  - If treatment is required beyond a one-time visit to a physician, then the employee is additionally required to complete a Notice of Designated Physician form (also available from the Employee Health Representative). The employee may select a physician of his/her choice, but must make that decision within 10 days of beginning treatment for the injury.





# Guidelines for Reporting for Work



**Injured employees shall report for work assignment, unless a valid doctor's statement indicates off-work status.**

- The employee must report to the Employee Health representative after each doctor's visit and submit any statements regarding ability to work (off-work, restricted-duty, or release to regular duty). The doctor's recommendations regarding ability to work will help determine specific job placement, if any.
- If the employee is unable to perform the essential duties of his/her regular job due to doctor-ordered restrictions, then the employee may be placed in a Temporary Alternative Duty (TAD) position as deemed appropriate. The TAD position may or may not be within the employee's normal department.
- Please note, employees in ***Safety Sensitive*** positions will need to disclose sedating medications to Employee Health representative prior to working.



# Accidents Related to Medical Devices



- Accidents related to medical devices are always a potential in healthcare settings.
- Report all such accidents if there is any chance the device caused or helped cause a death, serious injury, or illness.



# Medical Device-Related Incident



Employees who discover, witness, or are notified of a medical device-related incident should:

- Immediately remove the patient from danger and implement clinical interventions as necessary.
- Remove the device from patient use and secure the equipment and all associated line sets, cords, cables, etc.
- Report the incident to the immediate supervisor , notify Risk Management and Biomedical Engineering.
- Complete an incident report.
- **Do not** modify the equipment in any way.
- Tag defective equipment with a hazard tag and complete Medical Equipment Chain of Custody form.



# Medical Device-Related Incident



## Medical Equipment Chain of Custody Form

### Medical Equipment Chain of Custody



Med Center  
Health

DATE: \_\_\_\_\_

ORIGINATOR: \_\_\_\_\_

DEPARTMENT: \_\_\_\_\_

Incident report filled out Y / N

CEID/ BioMed Sticker #	Description	Serial Number

Chain Of Custody			
Date/Time	Released By	Received By	Comments/Location



# Patient/Resident/Visitor Incident Reporting



- If there is an unusual, dangerous, or unplanned incident that involves a patient/resident/visitor, an incident report must be completed.
- **Examples include:**
  - Falls (with or without injury), skin tears or cuts
  - Complications of care, near misses
  - Loss or damage to any patient or visitor belongings
  - Equipment malfunctions (also notify Biomedical Engineering)
  - Significant delays in patient care or treatment
  - Errors involving nursing, dietary, lab, radiology, etc.
  - A patient has complications post procedure or surgery that requires additional medical care or surgery
- Incidents are entered into the RL incident reporting program located on your desktop.



# Notifications/Documentation Related to Patient/Resident/Visitor Incidents



- The nursing department notifies the patient/resident's physician, family, and department managers as needed.
- **Anyone witnessing an incident** involving a patient/resident/visitor must make sure to report to the appropriate nursing unit, department manager, etc. (Please ensure "Witnesses" section of report is filled in)
- **If a serious injury or death occurs related to any type of incident (patient, resident, visitor or employee), Risk Management must be notified immediately.**
- **In addition to an incident report, the incident, treatment provided and follow up care related to the incident are documented in the medical record for patients/residents.**



# Pedestrian Safety

## **The safety of pedestrians on our campus is important!**

- Every day there are numerous employees, patients, and visitors crossing the streets and parking lots on our campuses.
- ***The posted speed limit on the hospital campus is 15 MPH. The campus includes Park Street and High Street between 4<sup>th</sup> Avenue and the 31W ByPass, First Avenue and Second Avenue.***
- In addition to this reduced speed, pedestrian crossings are clearly marked on the pavement and with special signage. Slowing down is especially important on High Street where people frequently cross between the main Hospital building and D Tower.
- Whether you are a driver or a pedestrian, it is critical to the safety of our employees and visitors, for you to pay attention to this signage.



# Your Responsibilities:

- Recognize proper pedestrian and vehicle flow.
- Stop at crosswalks and intersections.
- Don't ignore signs or barricades.
- **Pay Attention!**
- **Don't talk, text on your cellphone or wear ear buds while driving!**
- Obey the speed limit.
- Expect Pedestrians.





# Your Responsibilities

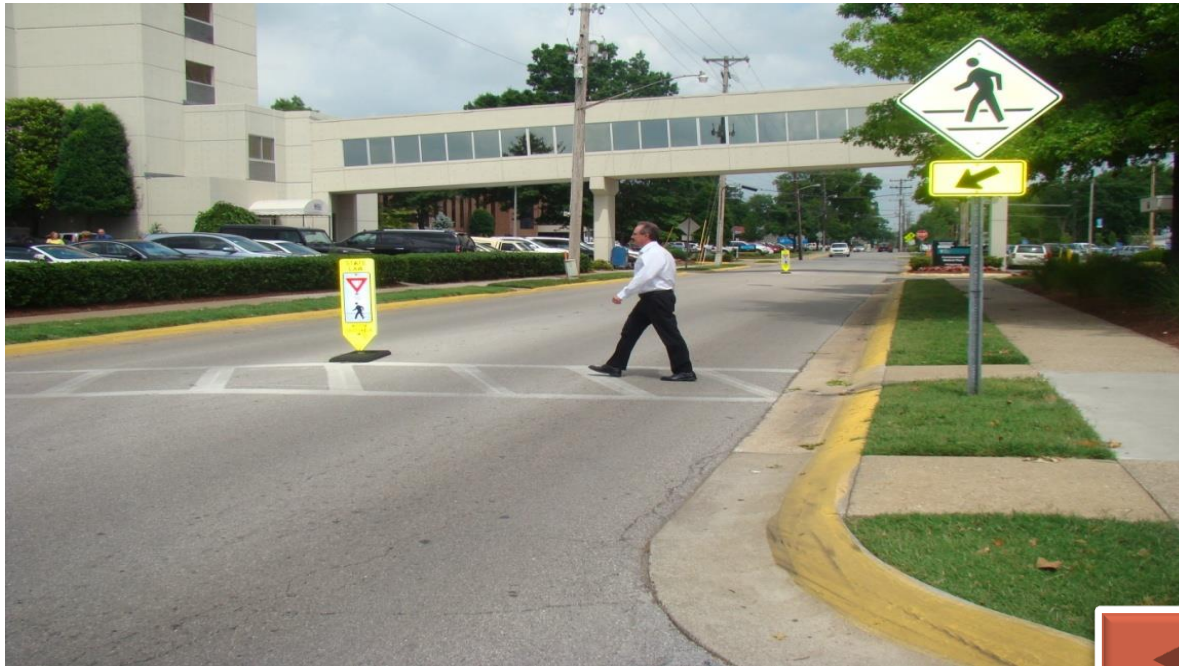
- Cross at corners within crosswalks. **Make eye contact with drivers so they see you!**
- Obey signs.
- Look left, look right, look left again!
- **Pay attention!**
- Don't talk, text on your cellphone, or wear ear buds while walking!
- Walk on sidewalks. If there are no sidewalks, look for a safe path that is not on the roadway.
- Watch for drivers backing out of parking spaces and exiting parking lots.



# Your Responsibilities

## Remain alert!

- Don't assume that vehicles are going to stop. Make eye contact with the driver to make sure they see you.



# Emergency Access to Restrooms and Dressing Rooms

- If someone should get locked in a restroom or dressing room and is unable to disengage the inside lock, there are 2 ways to unlock the doors.
  - 1) Units have been issued pass keys (as seen below) that will unlock these doors during such an event.
  - 2) A coin can also be used to unlock the door.



Additional pass keys are available  
in the Security Department

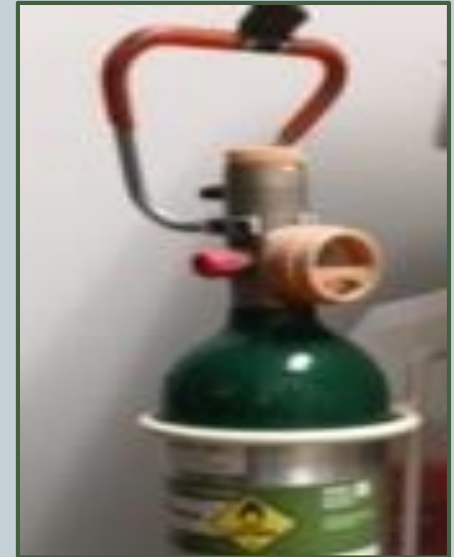


# GAS Cylinder Safety



## When handling oxygen gas cylinders:

- Assure proper labels are on the cylinder. Read the label to verify the type of gas in the tank, and read the gauge to ensure proper amount.
- ALWAYS Secure the tank – Keep the tank upright **and secured in a cradle** when in storage and during transport to prevent falling and possible injury.
- Use only MRI compatible cylinders in the MRI area (**orange handles**).



# GAS Cylinder Safety



- “In-Use” storage for oxygen cylinders are defined as greater than 500 psi on the gauge.
- 500 psi or less (**red on the gauge**) is considered empty and may not be used for transport.
- All oxygen cylinders with 500 psi or less (**red**) must be returned to the Respiratory Therapy Department for exchange.
- **NEVER** mix **empty cylinders** with a cart identified as “In Use”.



**< 500 psi = EMPTY  
Do Not Use**



# Safety Sensitive Areas



## **Certain areas in our facility are safety-sensitive due to the:**

- type of patient care being provided
- equipment used
- materials used or stored in the area
- level of security/confidentiality needed for patient care

## Safety-sensitive areas may include:

- medical waste storage areas
- nuclear medicine
- pharmacy
- health information management
- laboratory,
- emergency department
- women's services OB/L&D/NICU
- pediatric unit – 5C



# Safety Sensitive Job Positions



## **Certain job positions in our facility are safety-sensitive because:**

- It is a position determined by Med Center Health where job performance impacts patient safety or public safety.
- If it is a position determined by Med Center Health to be safety sensitive, there will be a 'safety sensitive' designation in the job descriptions.



# Safety Sensitive Job Positions



As designated by the ***Substance Abuse Policy***, employees in a “safety sensitive” position are required to report to Employee Health if they are taking any unauthorized drugs/substances.

Unauthorized drugs/substances include **prescribed or non-prescribed medications or any other substance used by individuals in safety sensitive positions that can cause impairment to physical and/or mental function including certain over-the-counter substances (such as Benadryl).**

Individuals in a safety sensitive position have an obligation to inquire and determine whether the medication that is being taken may or will effect the safe performance of job duties.





# Safety Sensitive Guidelines



- Public access is controlled in all safety-sensitive areas.
- Persons in sensitive areas must have a reason for being there.
- **Employees** working in sensitive areas are oriented to the area when they are first hired, followed by periodic reviews. Orientation includes education about the sensitive nature of the area and procedures necessary to control public access to the area.
- **Visitors** in sensitive areas must be with an authorized staff member at all times.



# Fire Safety Guidelines



**Fire Prevention is a matter of following some common sense guidelines.**

- Observe safety practices with electrical and extension cords.
- Keep flammable materials away from ignition sources.
- Do Not Use unauthorized appliances and equipment.
- Keep work area neat and free of clutter and trash.
- Report or correct any fire hazards.
- Enforce “The No Smoking Policy“ which does **NOT** permit smoking **(including E-cigarettes)** or the use of any tobacco products inside any Med Center Health facility or on Med Center Health property.



# Power Strips/Electrical Safety Practices



- Use only approved power strips with a grounded plug. Do Not use damaged electrical wires, receptacles, plugs or equipment.
- Never unplug an appliance by pulling on the cord; always use the plug.
- **Do not** use damaged power strips.
- Use the correct cord for the load and protect the cord from traffic.
- **Do not** overload electric sockets or power cords.



# Lithium Battery Safety



**Lithium batteries are typically found in new computers, medical equipment, and in some household items like flashlights and cordless power tool. These batteries are generally safe and unlikely to malfunction, but only if there is no defects or damage to the batteries. A defect or damage can cause the battery to combust.**

## **Prevention guidelines for lithium battery defects or damage include:**

- Always follow manufacturer's instructions for storage, use, charging, and maintenance.
- Ensure all batteries are approved for the device they are used with.
- Remove lithium-powered devices and batteries from chargers once fully charged.
- Store lithium batteries and devices in a dry, cool location.
- Inspect batteries for signs of damage, such as bulging/cracking.
- Immediately remove a device or battery from service if damage is present.



# Flammable Materials

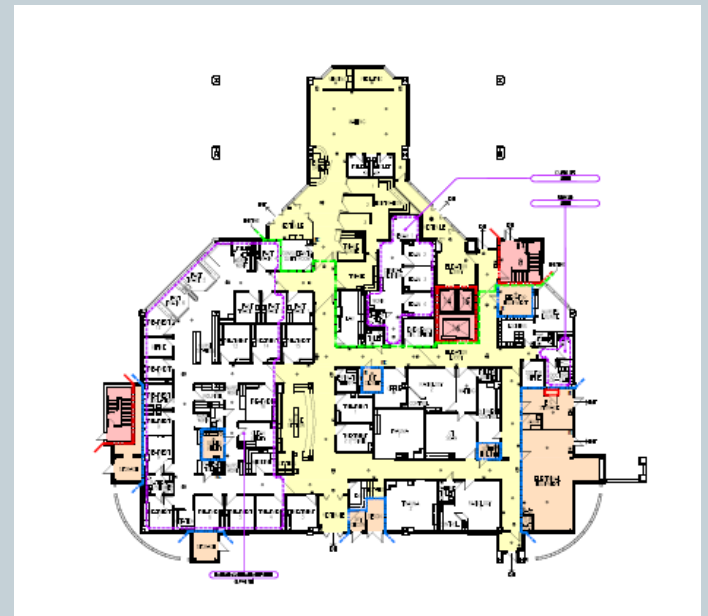


- Flammable materials are things that can ignite easily and burn rapidly. Strictly control chemical storage such as solvents and flammable materials.
- Keep flammable materials away from ignition sources, such as a spark, a smoldering cigarette, an energized heating element, static electricity, etc.
- Do not use candles. They are prohibited in Med Center Health Facilities.
- Portable heaters are not allowed in any patient care facilities.
- Dispose of all empty containers; gases may build up and cause a fire.



# Building Design

- Building design elements assist with fire safety. These include smoke compartments and the fire alarm system.
- Specially constructed walls separate buildings into **Fire/Smoke compartments**.
- Each stairwell is a separate **Fire compartment**.
- Patient rooms are within smoke compartments. The door to a patient room protects from smoke and fire for about 20 minutes.
- Area shutoff valves for oxygen lines are provided in patient areas.



# Fire Alarm System



## **The Fire Alarm System contains:**

- pull stations
  - smoke detectors
  - duct detectors
  - sprinklers
  - flow switches
- 
- ❖ The system is connected to an automatic warning system.
  - ❖ Do not use elevators during a fire alarm situation.



# Medical Gas Shutoff



- Medical Gas is defined as: Nitrogen, Oxygen, Nitrous Oxide, and Medical Air.
- Medical Gas and shut-off valves are located in patient care areas near nursing stations and procedure rooms. The shut-off valves are inside a cut-out in the wall, covered by a plastic door that can be opened by pulling on the metal ring attached to the center of the plastic door.
- Medical gas shut-off valves are generally separated into zones (controlling a group of rooms/suites) or are dedicated to a single room/suite. The zone valves will identify by label and/or placard which rooms/suites they control. Pay attention and identify the right location (zone).
- There are authorized personnel that are assigned to properly shut off the medical gas in case of an emergency. Medical gas shut-off authority is assigned to Respiratory Therapy, Engineering, Registered Nurses, and the Area Supervisor.





# Medical Gas Shutoff



## Steps to consider to properly shut-off valves for Authorized Personnel

**Step #1:** Identify if medical gases are actually an existing or continuing hazard to the incident/emergency and there is an imminent danger of a fire hazard

**Step #2:** Staff can verbalize their understanding of whether they can wait for the Fire Alarm Response Team to respond to shut-off the gases.

**Step #3:** Identify all rooms/suites and/or patients that are being supplied gases and provide alternative sources (i.e. prepare for shut-off with medical gas cylinders and have additional cylinders delivered)

**Step #4:** Staff can identify which medical gas line shut-off valve controls which group of rooms/suites.

**Step #5:** Is the staff competent to perform bag mask ventilation in the event that the medical gases are shut off?



# Medical Gas Shutoff



## Shutting Off Medical Gas

Pull the plastic cover off the panel. Grab the handle and pull handle toward you. The handle should then be visible (sticking out). Do not turn the handle back to the “ON” position once the valve is shut off. Med Gases valves should not be turned back on until a system check can be completed by Engineering and Respiratory to verify it is safe/functional.





# Hazardous Materials and Waste

- All new employees receive a training on hazardous materials and proper handling of them and the location of Safety Data Sheets (SDS) in MSDS Online on each PC desktop.
- Clinical Managers and /or Directors are responsible for informing their staff about the location of hazardous materials in their department and new hazards when they are introduced into the work area.
- The Hazardous Materials Management Plan is found in the computer under the Policies & Manuals folder then under the CHC Policies & Procedures folder. By clicking on Environment of Care folder you can locate the plan. Additional information on the management of hazardous materials and waste can be obtained through the Environmental Services Department at ext. 2532.
- Supervisors who work with contractors ensure that the contractor's employees receive information about possible chemical hazards, measures to reduce the risk of exposure, and how to access MSDS Online.



# Med Center Health's Hazard Communication Program

- Med Center Health is committed to preventing accidents and ensuring the safety & health of our employees. As part of the overall safety program we educate employees on the OSHA Hazard communication program which ensures are employees safety.

- The Med Center Health's hazard communications program includes:

- Definitions/education on health & physical hazards related to chemicals
- How to identify hazardous chemicals
- Information about the inventory of hazardous chemicals at the facility
- How to identify containers containing hazardous chemicals (labeling)
- Location of Safety Data Sheets (SDS) to provide information about each hazardous chemical
- Details on training of employees on hazards and hazardous chemicals
- Training on Personal Protective Equipment (PPE) and how to use it.
- Emergency procedures to follow if a leak or spill of a hazardous chemical occurs
- Where to get additional information or to ask questions

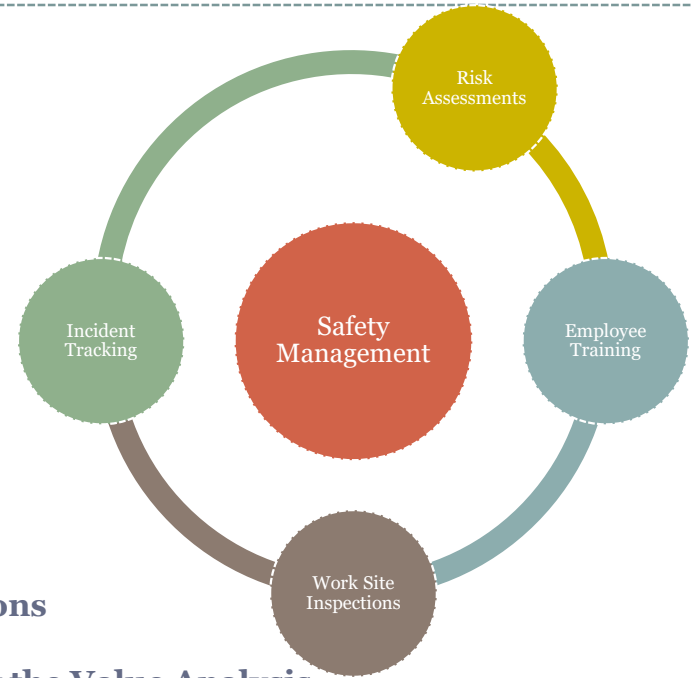
- Employees can contact their supervisor or Med Center Health's corporate safety officer (Gary Sullivan, Ext. 1654) if they have questions about this program or chemicals they encounter

- All employees will receive additional hazardous chemical training from their department supervisor





Med Center Health monitors and implements processes to protect our employees from hazardous chemicals including the following:



**Hazard Surveillance Inspections**

**Product Safety Evaluations by the Value Analysis Team**

**Annual Hazardous Chemical Inventory**

**MSDSOnline Safety Data Sheets (SDS)**

**Providing Eyewash and Emergency Showers as Required**

**Safety Committee Meetings**

**Annual Safety Computer Based Learning Modules (CBLs)**



# Hazardous Materials

Health Hazards are materials that cause acute or chronic health effects.

Physical Hazards are chemicals that may pose a scientifically validated threat to the safety of persons or property when subjected to specific physical conditions.

## The Basic Parts of A GHS-Compliant Label

**1** → **n-Propyl Alcohol**

UN No. 1274  
CAS No. 71-23-8

**2** → **DANGER**

**3** → Highly flammable liquid and vapor. Causes serious eye damage. May cause drowsiness and dizziness.

**4** → Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

**5** → Fill Weight: 18.65 lbs. Lot Number: B56754434  
Gross Weight: 20 lbs. Fill Date: 6/21/2013  
Expiration Date: 6/21/2020

See SDS for further information.

**6** → Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567

1. **Product Identifier** - Should match the product identifier on the Safety Data Sheet.
2. **Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
3. **Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
4. **Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. **Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
6. **Pictograms** - Graphical symbols intended to convey specific hazard information visually.

Sample label courtesy of Weber Packaging Solutions • www.weberpackaging.com

- **Physical hazards are identified by chemical labels and hazard stamps**

See the next slide for examples of OSHA hazard stamps



# Chemical Labels



**All chemical containers within a department must have a label identifying (naming) the chemical it contains and they must have the appropriate hazard-warning information.**

**The container must have the following information on the label, regardless of the chemical:**

- The product identifier(name)
- A signal word (**warning or danger**)
- hazard statement (tells the physical and health hazards of the chemical precautions to be taken when working with the chemical)
- Pictograms (GHS Stamps)
- Precautionary statements
- name, address, and phone number of manufacturer



# GHS Stamps

## GHS PICTOGRAMS



**CORROSION**



**ENVIRONMENT**



**EXCLAMATION**



**EXPLODING  
BOMB**



**FLAME**



**FLAME  
OVER CIRCLE**



**GAS  
CYLINDER**



**HEALTH  
HAZARD**



**SKULL AND  
CROSSBONES**

Reorder: GHS-19735 [www.ComplianceSigns.com](http://www.ComplianceSigns.com)





# Safety Data Sheets (SDS)

Safety Data Sheets (SDS) are issued for every potential hazardous chemical in the workplace. The SDS contain details about:

1. Identification of the chemical
2. Hazard(s) Identification
3. Composition/Information on Ingredients
4. First Aid Measures
5. Fire-Fighting Measures
6. Accidental Release Measures
7. Handling & Storage
8. Exposure Controls/Personal Protection
9. Physical & Chemical Properties
10. Stability & Reactivity
11. Toxicology Information
12. Ecological Information
13. Disposal Considerations.
14. Transport Information
15. Regulatory Information
16. Other Information Including Date of Preparation or Last Revision

Any new chemicals or cleaners purchased **must** have the SDS sent to Purchasing to enter the information into MSDS Online. MSDSOnline is located on each PC desktop.

Look for this icon 



# Hazardous Substance Spills



Sometimes hazardous materials leak and a spill occurs even when necessary precautions are taken.

OSHA defines an incidental release or spill as "**a release of a hazardous substance** which does not pose a significant safety or health hazard to employees in the immediate vicinity or to the worker cleaning it up, nor does it have the potential to become an emergency." These incidental spills do not require employees to have additional training to clean –up the spill.

However, if the spill is **not** an incidental spill; employees cannot perform clean up without additional training and a qualified outside company would be called to perform the clean-up.

- All employees handling hazardous materials should be trained in containment and cleanup procedures used in the case of a spill or leak. This training is to be arranged by their supervisor.
- Every employee should familiarize themselves with the Hazardous Spill Flow Chart, which lists step-by-step actions in case of a hazardous spill.
- This flow chart can also be found in “Citrix” in the Med Center Health Policies & Procedures/CHC Policies & Procedures/Environment of Care/Code Orange Chemical Spill Flow Chart or a copy can be provided by the Facilities Management department if necessary (Ext. 1653).



# CODE ORANGE CHEMICAL SPILL FLOW CHART

**Spill Occurs –**  
Contact Supervisor  
*Supervisor* checks Safety  
Data Sheets (SDS) to  
determine if spill is hazardous

**If determined to be  
not hazardous**

**If determined to be  
hazardous**

Notify Security (x1350 or x3000 MCBG),  
Engineering (MCS x2845 MCF x 4862)  
MCA & MCC dial "0")  
to let them know it is Non-Hazardous  
for Reporting Documentation.

Evacuate spill area; close all  
doors to the area to prevent the  
odor/fumes spreading & prevent  
others from entering area

## CODE ORANGE PROCEDURES

Contact Environmental Service  
(ESD) Supervisor to Clean-up  
Spill

Notify Security  
( x1350 or x3000 - MCBG),  
Engineering  
(MCS x2845/MCF x4862) ("0"  
MCA & MCC)  
( Security/Engineering will notify  
local Fire Department &  
Corporate Safety Officer for  
Assistance)

Resume Normal Duties

Supervisor/Designee completes  
corporate incident report and  
forwards to the Corporate  
Safety Officer for Safety  
Committee Review

Qualified  
Contractor  
collects and  
contains  
cleanup  
materials

Corporate  
Safety Officer  
or their designee  
notifies a  
Qualified  
Contractor to  
handle clean-up  
and disposal

Fire Department will  
stabilize the area



# Infectious Waste



- Infectious wastes are an important category of health hazard in the healthcare setting. This is any item contaminated with a significant amount of blood or other infectious materials.
- Infectious wastes are separated from other wastes at the point of waste generation and disposed of in a red bag. Respiratory tubing, diapers, gloves, etc. are not treated as hazardous wastes unless they are contaminated with a significant amount of blood.
- **Note: Employees who dispose of infectious waste must have bloodborne pathogen training; this training is acquired annually through the required Computer Based Learning Modules (CBLs).**
- **Packaging must completely contain the infectious waste from the point of origin to the point of proper disposal.**



# Infectious Waste



- Infectious wastes must be disposed of in proper containers. To dispose of properly, follow these guidelines:
  - All sharps must be placed in appropriate sharps disposal containers.
  - Use red bags to visibly identify all containers of infectious waste.
  - If packages contain infectious waste that poses an additional hazard, clearly identify the additional hazards. e.g., cytotoxic waste (harmful to cells).



# Pharmaceutical Waste

- ❑ Some (but not all) pharmaceutical waste meets the definition of an “**acutely hazardous waste**” under the Federal Resource Conservation and Recovery Act (RCRA) and comparable state law and regulations.
- ❑ In compliance with RCRA, hazardous waste must be properly identified, segregated, labeled, stored, transported, and disposed.
- ❑ Staff who dispose of this type of waste must have training.

The next slide shows some pharmaceutical wastes that have been identified for our facilities and the proper disposal method for that wastes.

***Note:*** Do ***NOT*** place sharps or inhalers in the black Pharmaceutical waste containers.



# Pharmaceutical Waste

<p align="center"><b>GOES IN BLACK BOX CONTAINERS</b>  <b>P-WASTE MEDICINES</b>  <b>(PRODUCT &amp; CONTAINER)</b></p> <p><i>*Meds listed with an asterisk are forms of Chemo waste that are used in different areas of the facility for different purposes (tablets, injectables).</i></p>	<p align="center"><b>GOES IN</b>  <b>SHARPS CONTAINERS</b></p>	<p align="center"><b>HOW TO DISPOSE OF</b>  <b>INHALERS</b></p>	<p align="center"><b>HOW TO DISPOSE OF</b>  <b>AEROSOLS</b></p>
<p><b>P-WASTES –</b>  <b>WARFARIN (COUMADIN)</b>  <b>PHENTERMINE (ALPHA, ALPHA DIMETHYLPHENETHYLAMINE)</b>  <b>PHYSOSTIMINE</b></p> <p><b>CHEMO WASTES -</b>  <b>*ANASTROZOLE</b>                      <b>*MEGESTROL</b>  <b>*AZACITIDINE</b>                      <b>*MERCAPTOPYRINE</b>  <b>*FLUOROURACIL</b>                      <b>*METHOTREXATE</b>  <b>*HYDROXYUREA</b>                      <b>*TAMOXIFEN</b>  <b>*LETROZOLE</b>                          <b>*XELODA</b>  <b>*LUPRON</b>                              <b>*MITOMYCIN</b>  <b>*CYCLOPHOSPHAMIDE</b></p> <p><b>U-WASTES –</b>  <b>ALL INSULINS</b>  <b>CHLORAMBUCIL (LEUKERAN)</b>  <b>RESERPINE (SERAPSIL)</b>  <b>SELENIUM (SELSUN BLUE, HEAD &amp; SHOULDERS)</b>  <b>ALL LICE &amp; SCABIES TREATMENTS/MEDS</b>  <b>PHENOL</b>  <b>CHLORASEPTIC</b>  <b>ACETIC ACID</b>  <b>SILVADENE (SILVER SULFATE)</b></p> <p><b>CHARACTERISTIC WASTES –</b>  <b>SILVER SULFADIAZINE</b>  <b>NITHIODOTE KIT</b>  <b>SILVER NITRATE</b>  <b>SALICYLIC ACID LIQUID</b></p>	<ul style="list-style-type: none"> <li>&gt; <b>EMPTY SYRINGES</b></li> <li>&gt; <b>NEEDLES</b></li> <li>&gt; <b>AMPULES (EXCEPT CHEMO)</b></li> </ul>	<p align="center"><b>MCBG CAMPUS:</b></p> <p align="center"><b>ALL INHALER ARE RETURNED TO THE PHARMACY FOR PROPER DISPOSAL</b></p> <p align="center"><b>ALL OTHER CAMPUSES:</b></p> <p align="center"><b>PLACE INHALERS IN CONTAINERS DESIGNATED FOR INHALERS ONLY</b></p>	<ul style="list-style-type: none"> <li>&gt; <b>IGNITABLE AEROSOLS</b></li> <li>&gt; <b>PRESSURIZED AEROSOLS</b></li> </ul> <p align="center"><b>RETURN TO THE ENGINEERING DEPT. FOR PROPER RECLAIMING &amp; DISPOSAL</b></p>



# Radioactive Materials



- Radioactive materials are a special category of health hazard to which healthcare workers may be exposed.
- Radiation can be dangerous to living beings. It should not be handled unless necessary for diagnosis or treatment and the person is appropriately trained to administer radiation.
- Exposure to radiation at Med Center Health is very small, even to those persons who work directly with radiation and radioactive materials, usually less than 500 mrem per year (1/10th of the recommended annual exposure limit), although in certain areas, radiology special procedures and the cardiac cath lab, exposures may be higher.





# ALARA



- Med Center Health is committed to the principle of ALARA (As Low As Reasonably Achievable) in the performance of radiological diagnostic and therapeutic examinations, as well as the work environment, for those persons managing patients of radiological examinations or working in areas where radioactive materials are administered.
- ALARA represents certain universally accepted principles of radiation safety that are proven to reduce the amount of radiation exposure a person will receive.



# Principles of ALARA



**These principles are simple to implement and should be adhered to by all persons who are in a radiation environment. They are:**

- **Shielding** - keep the greatest amount of shielding material between you and the radiation source.
- **Common Sense** - only do those things which you have been specifically trained to do when in a restricted area.
- **Time** - work as efficiently as possible so as to spend as little time as possible in the radiation environment.
- **Distance** - keep as much distance as possible between you and the source of radiation.



# Radiation Exposure



- The amount of radiation exposure is directly attributable to the amount of radiation in the area and the amount of time spent in that environment. You can reduce exposure by planning the task to be performed before proceeding into the radiation area so that you accomplish the task in a minimum amount of time.



# Principles



The amount of radiation exposure is reduced according to something called the inverse-square law. This means that if the exposure at 1 ft equals 100 mrem then the exposure at 2 ft will equal  $\frac{1}{4}$  this amount, or 25 mrem. You can greatly reduce exposure by merely doubling your distance from the source of radiation during a procedure when you are not performing a task.

**The last principle is shielding. Shielding merely means having something between you and the source of exposure.**

- ✦ If you are participating in a fluoroscopic examination, wear a lead apron, thyroid shield, and leaded glasses.
- ✦ If you are providing care for a patient that has received radiation implants, stand behind the shield that is provided by radiation therapy.



# Guidelines



- Know and recognize the symbols for radiation and radioactive materials.
- Follow established departmental protocols whenever in a radiation area.
- Check with personnel assigned to the area prior to entering any room where a radiation producing machine or radioactive materials might be stored.
- In these areas, only perform those tasks which you have been specifically trained to perform.
- Never, without prior direction, take anything from a countertop or from a wastebasket without specific direction from a worker assigned to the area.
- Healthcare givers who administer and work in the environment of radioactive materials need additional education in safe handling of these materials.



# You Should Contact the Radiation Safety Officer:



- If you have questions about work conditions or practices that pertain to the use or handling of radioactive materials
- If you experience a spill of radioactive materials
- If you become pregnant and wish to declare your pregnancy
- If you should lose or damage your radiation monitor



# Radiation Safety Officer



## **The Radiation Safety Officer for activities conducted at Med Center Health Facilities:**

- **Nikki Bennett, AAS, RT(R), CNMT, RSO**
  - ✦ Cell phone: (270) 784-7371
  - ✦ Office: (270) 796-2122
  - ✦ Pager: 1782



# Magnetic Resonance Imaging



- Magnetic Resonance Imaging (MRI) safety is a critical issue for anyone who enters the MRI suite. MRI is an advanced diagnostic tool which is non-invasive and generally safe, but it presents certain potential hazards due to its strong magnetic fields.





# Magnetic Field



- The magnetic field cannot be seen, but is always on and must be respected. It can cause ferro-magnetic materials to become airborne rapidly, unpredictably and with an overwhelming force.
- The magnetic force of an 1.5 Tesla MRI magnet is 30,000 times the strength of the Earth's magnetic field.
- Ferromagnetic or easily magnetized objects may become airborne projectiles.
- Small objects may be pulled into the magnet at 40 mph. Even a spoon can become a lethal weapon!
- The strength of the magnetic field of an MRI increases dramatically as one moves close to the magnet.



# MRI Safety



**All persons entering the MRI Suite must be screened and follow the following safety guidelines:**

- Signs must be clearly posted to inform people of the potential dangers in the area.
- Common items such as keys, clipboard, pocket knife, tools, stethoscope, oxygen tank, and vacuum cleaner should never be taken into the suite.
- Auxiliary equipment, such as wheelchairs, and tools which are used in the area must be made of non-ferrous materials and tested before use.
- Patients and staff must remove all earrings, hair clips, watch, etc.
- Patients with implanted devices such as pacemakers, plates and aneurysm clips may only be allowed in the MRI suite after a careful and thorough screening process..
- In the event of fire, all patients and personnel will be evacuated and the situation accessed. If immediate danger is present, the emergency stop button will release all the helium thus ramping the magnet down, allowing for metallic objects to enter the room to contain the fire.



# Corporate Safety & Security



**The Corporate Safety Officer for Med  
Center Health:**

## **Gary Sullivan**

- ☀ Cell phone: (270) 535 - 8090
- ☀ Office: (270) 745 -1654

If you have questions relating to safety or security conditions or practices pertaining to any of our facilities, please contact Gary Sullivan at 270-745-1654 or the Security Department at 270-745-1350.



# Security & Safety



- **The Security Manager for all Med Center Health Facilities is:**

## ❖ **James Monroe**

- ☀ Cell phone: (270) 535 - 6953
- ☀ Office: (270) 745 -1349



- If you have questions relating to security conditions or practices pertaining to any of our facilities, please contact the Manager of Security.



# Important Things to Remember



- Know and respect potential safety risks in the healthcare setting.
- **Remember the goal of the radiation protection program:**  
**ALARA: As Low As Reasonably Achievable.**
- Be aware of radiation sources.
- Be aware of Safety-sensitive areas and restrictions, Radiation safety and MRI safety.
- The MRI Safety Officer at TMC is Robin Moyers ext. 5590.

## Immediately report to your supervisor all accidents related to:

- a medical device
- on-the-job-injuries
- job-related illnesses
- complete an incident report in Citrix.
- For additional information about Healthcare Safety, call Risk Management at ext. 1429.
- **Remain ALERT at all times when driving on Med Center Health campuses.**



# Completion



- We hope this Computer Based Learning course has been both informative and helpful.
- Feel free to review this course until you are confident about your knowledge of the material presented.

