

Safety Orientation for

*Temporary Employees,
Students, Vendors, & Volunteers*

Employee Safety Matters
Be Aware ~ Take Care

Safety Management Services
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www.med.umich.edu/i/sms (internal)
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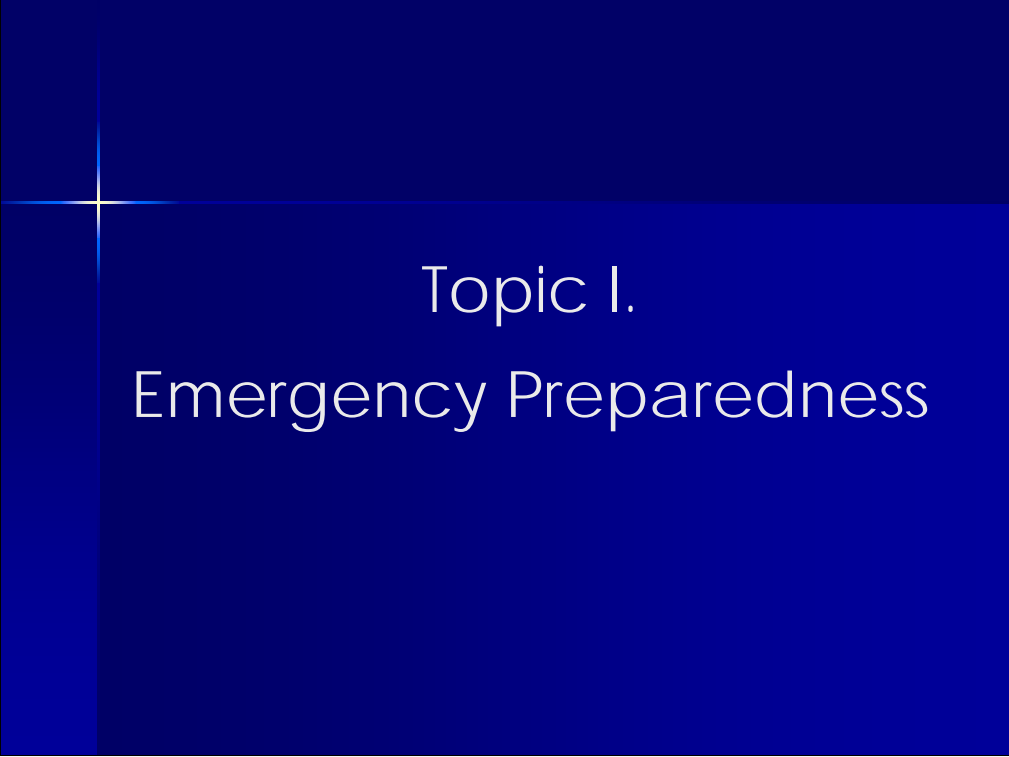
This presentation provides an overview of occupational safety topics that you need to be aware of while working or volunteering at the University of Michigan Hospitals and Health Centers.

Safety Topics

- I. Emergency Preparedness
- II. Fire Safety
- III. Hazard Communication/
Right to Know Law
- IV. Ergonomics
- V. Waste Disposal

The safety topics in this presentation include:

- I. Emergency Preparedness
- II. Fire Safety
- III. Hazard Communication/Right to Know Law
- IV. Ergonomics
- V. Waste Disposal



Topic I.
Emergency Preparedness

Learning Objectives



- Describe the purpose of hospital emergency codes
- List examples of internal and external events that may increase the demand for hospital services or disrupt care and treatment.
- State your responsibilities during an emergency or disaster

Following the completion of this section, you should be able to:

- Describe the purpose of hospital emergency codes
- List examples of internal and external events that may increase the demand for hospital services or disrupt care and treatment
- State your responsibilities during an emergency or disaster

Emergency Defined



- “Unexpected or sudden event that significantly disrupts the organization’s ability to provide care, or the environment of care itself, or that results in sudden, significantly changed or increased demand for the organization’s services.”
- A disaster is “a type of emergency...that threatens the organization’s capabilities and requires outside assistance to sustain patient care, safety or security functions.”

The Joint Commission defines an emergency as “unexpected or sudden event that significantly disrupts the organization’s ability to provide care, or the environment of care itself, or that results in sudden, significantly changed or increased demand for the organization’s services.”

A disaster is “a type of emergency...that threatens the organization’s capabilities and requires outside assistance to sustain patient care, safety or security functions.”

UMHHC Emergency Codes

- **Code Blue** = Cardiac arrest
(formerly Code A)
- **Code D** = Clinical disaster
- **Code D Drill** = Clinical disaster drill
- **Code E** = Non-clinical emergency
- **Code E Drill** = Non-clinical emergency drill
- **Code F** = Fire
- **Code F Drill** = Fire drill

Emergency reporting number: 911

The Hospitals and Health Centers use a system of emergency codes to communicate with staff over the Public Address System on the main medical campus. The purpose of code language is to minimize disruption and panic.

These codes include:

Code Blue (formerly Code A), or Cardiac arrest

Code D, Clinical disaster

Code D Drill, Clinical disaster drill

Code E, Non-clinical emergency

Code E Drill, Non-clinical emergency drill

Code F, Fire

Code F Drill, Fire drill

The emergency reporting number is 911. Depending on their location, off-sites may receive response from UM DPS or local authorities when dialing 911. To contact Hospital Security, call 97-911.

UMHHC Emergency Codes

(continued)

- **Code Pink** = Infant abduction
- **Code Strong** = Potential violence/hostage situation
- **Yellow Card** = Security responds to the scene
- **Code R-1** = Bomb threat
- **Code R-2** = Bomb discovered

Tornado watches & warnings are announced in "plain language" on the P.A. System.

In addition, UMHHC also uses:

- Code Pink, Infant abduction
- Code Strong, Potential violence/hostage situation
- Yellow Card is a distress signal that Security is needed very urgently and discreetly
- Code R-1, Bomb threat
- Code R-2, Bomb discovered
- Tornado watches & warnings are announced in "plain language" over the P.A. System.
- Staff working at off-site clinics and offices should have a site specific emergency management plan. Be sure to ask your supervisor for more information.

Disasters and Emergencies

- Disasters (Code D)
 - Clinical events
 - Demand for hospital services increases
 - Examples:
 - Hazardous material incidents
 - Transportation incidents
- Emergencies (Code E)
 - Non-clinical events
 - Disrupts care, treatment & services
 - Examples:
 - Loss of utilities
 - Flooding



Let's discuss the Codes in more detail. The two codes that relate to emergencies and disasters are Code D and Code E.

Code D, or Disaster, indicates Clinical events. Events such as hazardous material incidents and transportation incidents will increase the demand for hospital services.

Code E indicates Non-Clinical Emergencies. Examples include loss of utilities and flooding. These types of events disrupt care, treatment and services.

Your role in Emergencies

- Be prepared to respond to recall to your unit/department.
- Wear your ID badge at all times.
- Cooperate with authorities, including your supervisor, administrators, and emergency personnel (i.e., Fire, Police, and Security).
- An "All clear" will be given when essential services have been restored and normal hospital operations are possible.

Your role will vary depending upon the situation and your department's emergency management plan. In general,

- Be prepared to respond to recall to your unit/department.
- Wear your ID badge at all times.
- Cooperate with authorities, including your supervisor, administrators, and emergency personnel (i.e., Fire, Police, and Security).
- An "All clear" will be given when essential services have been restored and normal hospital operations are possible.

Critical incident plan



- Critical Incident Defined: any untoward and unplanned event involving a disruption of service; threat to patient, family and staff security; and a need for a response to a life-threatening event
- Each department/unit has a critical incident plan that describes a planned response to critical incidents
- Contact your UMHHC supervisor to learn about your department/unit critical incident plan

A critical incident is any untoward and unplanned event involving a disruption of service; threat to patient, family and staff security; and a need for a response to a life-threatening event.

Each department/unit has a critical incident plan that describes a planned response to critical incidents.

Contact your UMHHC supervisor to learn about your department/unit plan

Topic II. Fire Safety

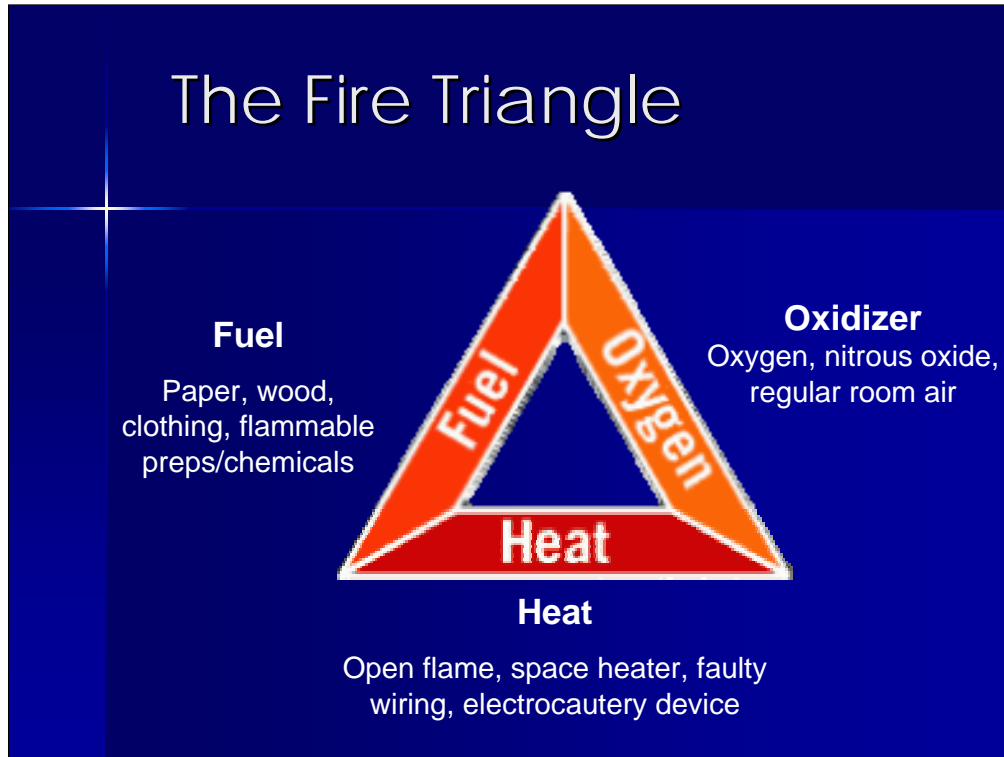
Learning Objectives



- State the three elements that complete the fire triangle and how to prevent fire.
- Describe the steps to take during a fire using RACE and PASS.
- State your responsibilities during a fire: dialing 911 and reporting the location of the fire, alerting occupants, and pulling the alarm.

Following the completion of this section, you should be able to:

- State the three elements that complete the fire triangle and how to prevent fire
- Describe the steps to take during a fire using RACE and PASS
- State your responsibilities during a fire: dialing 911 and reporting the location of the fire, alerting occupants, and pulling the alarm.



The fire triangle consists of three elements:

1. Fuel source
2. Heat source and
3. Oxidizer source

Take a moment to think about examples of each of these elements, both in the work and home environments. Fuel sources are all around us. In addition to things like paper, wood and clothing, materials used for patient care are also fuel sources including flammable prep agents like alcohol and collodian. In addition, hazardous chemicals, drapes, sponges, gowns and body hair are also fuel sources.

Heat sources can include any type of open flame, cigarettes and other smoke materials, electrostatic build up, space heaters, cooking equipment, faulty wiring, and even surgical devices like electrocautery, lasers, and fiberoptics.

Oxidizer sources include oxygen, regular room air, and anesthetizing gases. Oxidizers are gases that support combustion or increase the burning rate of combustible material.



The acronym R.A.C.E. is used to help you remember the proper steps to take in fire response.

R: RESCUE

- Direct and assist occupants away from immediate danger area
- Close the door to the room or area to contain fire and smoke

The "R" in R.A.C.E. stands for Rescue.

Direct and assist occupants away from immediate danger area and close the door to the room or area to contain fire and smoke.

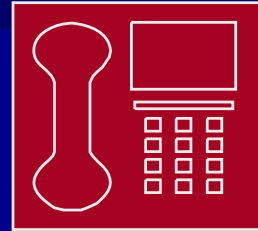
A: ALARM

Do all three

1. Dial 9-1-1

2. Pull Alarm

3. Use Code F or
Code F Drill
language



The "A" in R.A.C.E. stands for Alarm.

Do all three:

1. Dial 9-1-1
2. Pull the alarm
3. Use Code F or Code F Drill language to communicate with others

C: CONTAIN

- Close doors and windows
- Clear hallways of supplies and equipment for evacuation



The “C” in R.A.C.E. stands for Contain.

Contain involves closing doors and windows. It is also important to clear hallways of supplies and equipment for evacuation.

E: *EXTINGUISH or EVACUATE*

- Use a portable fire extinguisher if you are *trained and it is safe to do so*.



The “E” in R.A.C.E. stands for Extinguish or Evacuate.

- Use a portable fire extinguisher if you are trained and it is safe to do so. Extinguishers are only effective when the fire is confined to a small area, such as a wastebasket, and is not growing.

Evacuation

- Inpatient areas and surgery centers
 - Smoke compartments
 - Defend in place concept
 - If evacuation necessary: horizontal, vertical and total building routes
- Clinics and office buildings
 - No smoke compartments
 - Refuge sites
- Learn about multiple ways to evacuate your area!

- Smoke compartments are spaces within a building enclosed by smoke barriers on all sides, top, and bottom. Smoke compartments are present in buildings with inpatients. Those smoke compartments not directly involved in a fire serve as areas of shelter for patients and staff, while building systems and responders fight the fire. Staff follow the "defend in place" strategy until they are told to evacuate an area.
- If fire and/or smoke cannot be contained, it may be necessary to evacuate. There are **three different means to evacuate** these areas:
 1. Horizontal Evacuation - while remaining on your floor, move through smoke barrier doors a minimum of two units over to non-affected units/area locations
 2. Vertical Evacuation - use fire exit stairways to move at least two levels down from the floor where the fire occurs. Do not move below ground level (e.g., Levels B1 and B1 of University Hospital).
 3. Total Building Evacuation - move by horizontal or vertical evacuation routes to the nearest fire exit to the outside or to an attached building.

Clinics and office buildings do not have smoke compartments. Instead, when a fire alarm sounds, the building must be immediately evacuated (there are a few exceptions, check with your supervisor). The outside meeting location is referred to as your refuge site. Ask your supervisor about the designated refuge site for your work area. Remember to learn about multiple ways to evacuate your area!

**Topic III.
Hazard Communication
Right-to-Know Law**

Learning Objectives



- Define a hazardous chemical
- Recognize physical and health hazard warnings on container labels.
- Locate and review department/unit resources (UCI – Unique Chemical Inventory and MSDS – Material Safety Data Sheets), to identify health and safety risks associated with chemicals.
- Identify requirements for proper secondary container labeling, chemical spill clean-up, and personal protective equipment

Following the completion of this section, you should be able to:

- Define a hazardous chemical
- Recognize physical and health hazard warnings on container labels.
- Locate and review department/unit resources (UCI – Unique Chemical Inventory and MSDS – Material Safety Data Sheets), to identify health and safety risks associated with chemicals.
- Identify requirements for proper secondary container labeling, chemical spill clean-up, and personal protective equipment

Hazard Communication Right-to-Know Law

- Covers employees who may be exposed to hazardous substances
 - during routine work or in a foreseeable emergency
- Gives you the right to access information



The Hazard Communication/Right-to-Know Law covers employees who may be exposed to hazardous substances during routine work or in a foreseeable emergency. The Law gives you the right to access information.

Employee Rights

- You have the right to work in an environment that is *free from recognized hazards that are likely to cause death or serious harm*
- You also have the right to:
 - information about workplace hazards
 - exercise your rights without discrimination or reprisal
 - request your medical examination and exposure monitoring results
- Receive hazard communication training upon hire and refresher training as needed thereafter

More specifically, you have the right to work in an environment that is *free from recognized hazards that are likely to cause death or serious harm*

You also have the right to:

- information about workplace hazards
- exercise your rights without discrimination or reprisal
- request your medical examination and exposure monitoring results

Receive hazard communication training upon hire and refresher training as needed thereafter

Employee Responsibilities

- Use **personal protective equipment** as required
- **Inform your supervisor** of accidents, chemical exposure symptoms, unlabeled containers, and malfunctioning or unsafe equipment
- **Follow safety procedures** including container labeling, safe use, storage and disposal



You also have responsibilities under this Law. These include:

- Use personal protective equipment as required
- Inform your supervisor of accidents, chemical exposure symptoms, unlabeled containers, and malfunctioning or unsafe equipment
- Follow safety procedures including container labeling, safe use, storage and disposal

Hazardous Chemicals

- Office products
- Chemicals used for instruments
- Maintenance supplies
- Products used for procedures
- Sterilization and preservative products

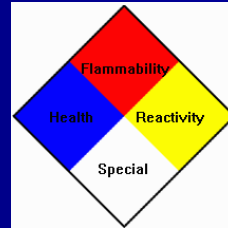


Hazardous Chemicals include:

- Office products
- Chemicals used for instruments
- Maintenance supplies
- Products used for procedures
- Sterilization and preservative products
- And many others

Hazardous Chemical Defined

- Hazardous chemicals have physical and/or health hazards
- Examples include:
 - Corrosive
 - Oxidizer
 - Combustible
 - Explosive
 - Poisonous
 - Compressed air
 - Carcinogen



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Routes of Chemical Exposure

- Mouth – eat or drink it (gastrointestinal tract)
- Mouth/nose - breathing it in (respiratory tract)
- Skin absorption (bloodstream)
- Eyes (splashes, transferred from hands, or not removing contaminated gloves)
- Needle stick
- Exposure can be acute or chronic.



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Symptoms of Chemical Exposure

- Blisters
- Stinging eyes or blurred vision
- Respiratory tract irritation
- Shortness of breath



Symptoms of Chemical Exposure include:

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- Respiratory tract irritation
- Shortness of breath

Material Safety Data Sheets

- Contain information including:
 - Manufacturer contact information
 - Physical and health hazards
 - Safe handling precautions
 - Emergency first aid procedures

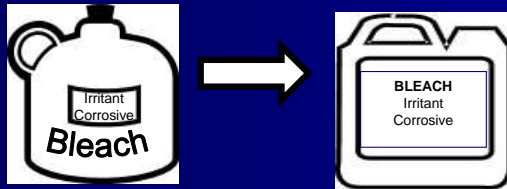


Material Safety Data Sheets contain information including:

- Manufacturer contact information
- Physical and health hazards
- Safe handling precautions
- Emergency first aid procedures

Container Labeling

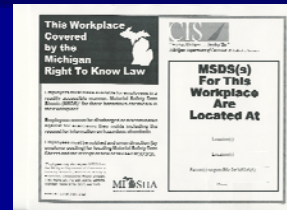
- Secondary containers must be labeled with
 1. identity of the hazardous chemical
 2. health and/or physical hazard warnings
- Found on the primary container or the MSDS



If you transfer a chemical from a primary container to a secondary container, you must label it with the identity of the hazardous chemical and appropriate health and/or physical hazard warnings. This information is either found on the original container or on the MSDS. An example of a secondary container for Bleach is pictured. The name of the chemical, “Bleach” and the appropriate health and/or physical hazard warnings (Irritant and Corrosive) are on the secondary label.

Hazard Communication Resources

- Department Unique Chemical Inventory (UCI)
- Material Safety Data Sheets
 - Some departments have hard copies
 - UMHHC online MSDS Look-Up site
<http://www.med.umich.edu/i/sms>
(internal link)
 - Emergency service from 3E Company 1-800-451-8346



Hazard Communication Resources include:

- Department Unique Chemical Inventory (UCI) – a listing of the hazardous chemicals used in your work area.
- Material Safety Data Sheets
 - Some departments have hard copies
 - UMHHC online MSDS Look-Up site <http://www.med.umich.edu/i/sms>
(internal link)
 - Emergency service from 3E Company 1-800-451-8346

Topic IV. Ergonomics

Learning Objectives



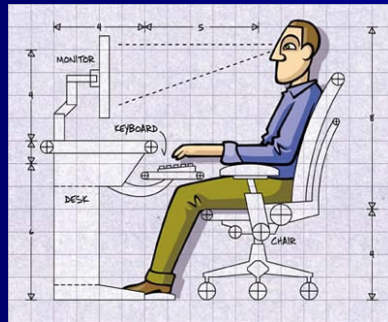
- Define ergonomics
- List ergonomic risk factors for injury including awkward postures, repetition/sustained exertion, force, and contact stress.
- Explain ways to reduce risk for injury for each of these risk factors

Following the completion of this section, you should be able to:

- Define ergonomics
- List ergonomic risk factors for injury including awkward postures, repetition/sustained exertion, force, and contact stress.
- Explain ways to reduce risk for injury for each of these risk factors

Ergonomics

- “Fitting the job to the person”
- Designing the workplace and job tasks to fit the human performance (NIOSH)



In simple terms, ergonomics is defined as fitting the job to the person. The National Institute for Occupational Safety and Health, or NIOSH, defines it as designing the workplace and job tasks to fit human performance.

Ergonomics

- Prevention of **Musculoskeletal Disorders**
 - Disorders of muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels and spinal discs
 - Examples
 - low back pain / neck pain
 - carpal tunnel
 - sprains / strains / tendonitis
 - These disorders are often preventable and reversible in the early stages
- This category of disorders does not include acute injuries!

•By applying ergonomic principles to our work, we can help in the prevention of musculoskeletal disorders. These are disorders of muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels and spinal discs.

•Examples include low back pain, neck pain, carpal tunnel, and sprains, strains and tendonitis.

•The likelihood of injury is dependent upon frequency and duration of exposure to risk factors.

•The key is that these disorders are preventable and often reversible in the early stages, that is why it is so important to understand risk factors for developing these disorders.

•This category of disorders does not include acute injuries!

Risk Factors

- Force

- physical effort required to perform tasks like lifting, pushing, and pulling



- Awkward posture

- posture is the position the body is in when involved in physical activities
- *awkward* posture is when you move a joint as far as it can go, or close to that point



Risk factors for injury include force, which is the physical effort required to perform tasks like lifting, pushing and pulling.

Awkward posture is another risk factor. Posture is the position the body is in when involved in physical activities. *Awkward* posture is when you move a joint as far as it can go, or close to it. Examples include reaching overhead or bending at the waist to pick something up from the floor.

Risk Factors

- Repetition & sustained exertions

- using the same muscles over and over; body cannot recover quickly enough
- when tension is held in a body part, but the joint itself does not move



- Contact stress

- pressure placed on body or nerves by hard or sharp surfaces; restricts blood flow to body parts



All jobs have risk factors!

Other risk factors include repetition, using the same muscles over and over. Problems occur when the body cannot recover quickly enough. Sustained exertions occur when tension is held in a body part, but the joint itself does not move. There is no pumping action of the muscle to aid in blood flow. The muscles are working just as hard as if they were moving.

Contact stress is pressure placed on the body by hard or sharp surfaces resulting in restricted blood flow to body parts.

Unfortunately, all jobs have risk factors, however, there are things we can do to reduce these risk factors.

Risk Factor Remedies

- Limit duration / intensity – plan first to reduce work, use a device, get help
- Limit frequency - pace / change tasks to allow recovery time
- Limit distance - keep work close, your body balanced, neutral positions

To help reduce these risk factors:

- Limit duration / intensity – plan first to reduce work, use a device, get help
- Limit frequency - pace / change tasks to allow recovery time
- Limit distance - keep work close, your body balanced, neutral positions

Topic V. Waste Disposal

Learning Objective



- Identify the three different types of waste streams in the Hospitals and Health Centers and how to properly dispose of waste.
- For this section, reference the Medical Waste Disposal Quick Tips www.med.umich.edu/sms/MedWastequicktips.pdf

Following the completion of this section, you should be able to:

- Identify the three different types of waste streams in the Hospitals and Health Centers and how to properly dispose of waste.



There are three main waste streams here at UMHHC:

- General Waste includes items like paper, packaging, and boxes. Unless recycled these items go directly to landfills. Recycling containers are located on units for use.
- Medical Waste, such as sharps, biohazard buckets, and red bags are taken to the autoclave where they are sterilized, then ground into small pieces. Afterward they are sent to landfills for disposal.
- Hazardous waste, such as chemotherapy drugs, radioactive waste, hazardous chemicals, and universal waste are disposed of in proper containers and shipped out for special disposal.

Employee Safety Matters Be Aware ~ Take Care

- Most injuries/illnesses ARE preventable
- It's your responsibility to stay informed and follow procedures/guidelines
- Review your department Fire and Safety Tackboard!

Safety takes a proactive team approach!

Remember that:

- Most injuries/illnesses ARE preventable
- It's your responsibility to stay informed and follow procedures/guidelines
- Review your department Safety Tackboard!

- Safety takes a proactive team approach!

Resources

- Website Resources (internal)
 - SMS www.med.umich.edu/i/sms/
 - Safety Central
www.med.umich.edu/i/safety/

- Departmental Resources
 - Fire & Safety Tackboard
 - Safety Liaison

Website Resources (internal)

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Departmental Resources

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Safety Liaison

Contact Information

University of Michigan Health System

Safety Management Services

300 North Ingalls Street

Room 5B-04

Ann Arbor, MI 48109-5470

734-764-4427

Website (internal): www.med.umich.edu/i/sms

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