Prophecy ®
Predicting Employee Success

Manual for Joint Commission and OSHA Core Mandatories
Part I

Prophecy®
Predicting Employee Success

Body Mechanics / Ergonomics

Body Mechanics/Ergonomics

INTRODUCTION

Patient caregiving is among the professions with the highest risk for musculoskeletal injuries. In the course of patient care, you bend your back, flex your arms, push with your legs, and much more. Back injuries and shoulder strain from continuously repositioning, lifting, and transferring patients can be severely debilitating.

Safe patient handling techniques among nurses, nursing assistants, physical therapists, and other healthcare workers is of paramount importance in preventing these musculoskeletal injuries. The best way to accomplish this is to practice good body mechanics.

PURPOSE/OVERALL GOAL

This module outlines the essentials of proper body mechanics for healthcare workers. It includes specific recommendations for performing safe work-related activities as well as suggestions for exercises to increase strength and flexibility and help prevent injury.

The goal of this module is to provide healthcare workers with an understanding of good body mechanics and how proper use of body mechanics can help to avoid injury.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Define proper body mechanics
2. Describe the correct posture for standing, sitting, and lifting
3. Demonstrate proper body mechanics techniques in patient care
4. Understand exercises designed to increase flexibility and strength
5. Understand ANA standards for safe patient handling and mobility

PROPER BODY MECHANICS

Using the safest and most efficient methods of moving and lifting is known as body mechanics. Body mechanics is a term that describes the coordinated effort of the muscles, bones, and nervous system in accomplishing certain tasks.

It is important to understand how the body's mechanical forces work together, in order to avoid musculoskeletal injuries as well as injury to the patient. Your physical strength is not as important as how efficiently you use your body.

When moving a patient, keep in mind these general rules of good body mechanics:
1. Move as close as possible to the patient's bed.
2. Keep your abdominal muscles contracted and your lower back in its normal position.
3. Keep your head upright and hold your shoulders up.
4. Bow slightly using your hips and squat.
5. Don't twist your body; always do a side-step or pivot on the balls of your feet.
6. Push up from your knees and use your own momentum to help move the patient.

Focus on these three concepts:
1. Maintain a stable center of gravity to evenly distribute your body weight, and keep your center low for better balance. Rather than bending, flex your knees and keep your torso straight.
2. Maintain a wide base of support and greater stability by spreading your feet apart to a reasonable distance and flexing your knees.
3. Maintain proper body alignment by keeping your back upright when performing maneuvers. Equal activity balance in the upper and lower parts of your body can reduce your risk of a back injury.

POSTURE

The best place to practice good body mechanics is with your own posture.
- When proper body mechanics are used to stand and walk, you will have more energy and less fatigue because unnecessary stress on any one muscle group is eliminated.
- No activity puts more continuous pressure on the lumbar region of the lower back than sitting. By using correct body mechanics, you will be able to sit longer and more comfortably without causing back pain and injury.
- Lifting too much weight or lifting incorrectly can cause hernias, ruptured discs, and permanent back injury.

Standing:
1. Hold your head straight and centered, not tilted to any one side.
2. Maintain the natural curves of your spine and keep your shoulders straight, not slumped forward.
3. Your abdomen should be held up and in to help support your back, with your hips straight.
4. Each leg should support an equal amount of body weight, with your knees forward and slightly flexed.
5. Your feet should be about shoulder-width apart, with your toes pointed forward.

Sitting:
1. Hold your head straight and centered, with your spine straight. Your body weight should be evenly distributed on your buttocks and thighs.
2. Keep your hips and your knees flexed at 90-degree angles.
3. Your knees should be either level with your hips or slightly above them, and they should be clear of your chair so that there is no pressure on the nerves and blood vessels behind your knees.
4. Keep your feet flat on the floor to help support the weight of your legs; use a footrest if needed.
5. Sit back in your chair and let it support the lumbar region of your back.
6. To avoid bending forward, position your work closer to you. To take additional pressure off your back, support your forearms on a desk, chair armrests, or in your lap whenever possible.

Lifting:
1. If you need to lift an object off the ground, widen your stance and squat down to lower your center of gravity.
2. Keep your back straight and tighten your abdominal muscles.
3. Grasp the object and bring it as close to you as possible.
4. Then, use the power of your quadriceps and gluteal muscles to extend your legs to lift. Always lift with your legs and never with your back muscles, as this can overstress your back and lead to disc injury.

TRANSFERRING AND AMBULATING PATIENTS

In the course of patient care, you may be required to turn and move patients on a regular basis. It is important to do so without endangering either the patient or yourself. Practicing good body mechanics when lifting and moving patients is vital.

Always use patient transfer techniques that apply proper body mechanics.
- Wear comfortable clothes with a loose fit and footwear that will not slip.
- Be sure that the floor is dry and the area is clear of obstacles.
- Explain to the patient how you will make the transfer, and have the patient assist you as much as possible.
- Whenever necessary, have someone help you in the transfer.

Transfer aids can play an important role in avoiding injury. The time it takes to use these devices is greatly offset by the time it would take to recover from an injury.
- You can provide support to a weak or unsteady person by using a transfer belt (also called a gait belt), a sturdy webbed belt with a buckle that easily secures around the patient's waist.
- In addition, mechanical lifts, roller boards, sliding boards, flexible patient movers and slings, and pivoting turntables can facilitate patient transfers and greatly reduce the level of manual effort required to move a patient.

To accomplish bed-to-chair transfers:
1. Position the wheelchair close to the bed, on the patient's strongest side, and lock it at a slight angle.
2. Have the patient sit on the edge of the bed with feet shoulder-width apart and flat on the floor. The patient should wear nonslip footwear.
3. Explain what you are about to do and secure a transfer belt around the patient's waist.
4. Place yourself in front of the patient and block the patient's leg closest to the chair with your foot and leg.
5. Your other leg should be slightly behind and spread in a stance that provides a solid base of support and control of the lift.
6. Grasp the sides of the transfer belt and keep your head and back straight while bending at the knees.
7. The patient should lean toward you, and hold your forearms if possible. Do not allow the patient to hold onto your neck or shoulders.
8. With your back straight, lift with your legs to bring the patient to a standing position. Keep the patient as close to you as possible.
9. Pivot on the balls of your feet or side-step and position the patient to the chair.
10. Gently lower the patient into the chair, bending at your knees, not your back. This basic technique can also be used for chair-to-chair, chair-to-commode and chair-to-bed transfers.

To accomplish bed-to-stretcher transfers:
1. Bed-to-stretcher transfers require the assistance of another person and are best done with a lift or draw sheet. If a lift sheet is not available, using the actual bed sheet is safer than attempting to lift the patient without a sheet.
2. Begin by positioning the patient on the lift sheet and as close to the edge of the bed as possible.
3. Raise or lower the bed and stretcher to equal heights. Position the stretcher against the side of the bed and lock the wheels.
4. While keeping your back as straight as possible, reach over the stretcher and grasp the lift sheet.
5. Be sure to hold the corner of the pillow as well as the lift sheet to support the patient's head during the move.
6. Your assistant should grasp the sheet in the same manner and be prepared to push as you pull.
7. The assistant may find it easier to place one or both knees on the patient's bed to avoid leaning over excessively.
8. Using a three count, lift and pull the patient onto the stretcher while your assistant lifts and pushes.
9. Several short lifts may be preferable to attempting one large movement.

To assist a patient with ambulation:
1. Allow the person to sit up in the bed for a few minutes before helping him or her out of bed.
2. Have the patient wear nonslip footwear.
3. Use a transfer belt for safety.
4. Position yourself to the side and slightly behind the patient.
5. If the patient is unsteady, two assistants are required (one may be a family member). Hold the patient's upper arms and support the lower arms and hands.
6. If the patient needs firm support, two assistants are required. The assistants grasp each other's arms behind the patient's back, and the patient puts his or her arms around the shoulders of the assistants.
7. Remember, if the patient becomes faint and is going to fall, you can avoid injury by safely easing him or her to the floor.

EXERCISING

Because working in a healthcare environment can be physically demanding, it is a good idea to stay in good physical shape. Exercising at home at least three times a week can help you avoid injury and increase your flexibility, strength, and stamina.

Certain stretches and exercises are especially helpful for healthcare workers. Just be sure that all exercises are "pain free." If you feel discomfort, you may not be ready to do that specific exercise.

Flexibility Exercises:
- Quadriceps Stretch – Using a towel or band, lie on your stomach, attach the band to your foot, and pull your heel to your buttocks. Hold this stretch for 1 minute. Repeat three times for each leg.
- Hip Flexor Stretch – Kneel with one knee on the ground. Raise your same-side arm up and backward to cause your hips to shift forward and your back to extend. Hold for 20-30 seconds. Repeat three times for each leg.
- Adductor Stretch – Prop up the inside of your ankle on a table about the height of your upper thigh, raise your opposite arm over your head, and lean sideways toward the table. Hold for 20-30 seconds. Repeat three times for each leg.
- Hamstring Stretch – Prop the back of your heel on a table about the height of your upper thigh, keep your back straight, and lean forward at the hips. Hold for 20-30 seconds. Repeat three times for each leg.

Strength Exercises:
- Supine Abdominal Draw-In – Lie on your back on a mat with your knees up and feet flat on the floor. Pull your abs in and push your lower back to the mat. Repeat 20 times.
- Abdominal Draw-In With Knee to Chest—Lie on your back on a mat and maintain the abdominal draw-in as you bring one knee to your chest and back out again. Don't grab your knee with your hand. Repeat 10-20 times with each leg.
- Abdominal Draw-In With Heel Slide – Lie on your back on a mat and maintain the abdominal draw-in as you bend your knee and slide your heel toward your buttocks and back out again. Repeat 10-20 times with each leg.
- Abdominal Draw-In With Double Knee to Chest – Lie on your back on a mat and maintain the abdominal draw-in as you bring both knees to your chest at the same time, then back out. Repeat 10-20 times.

Additional helpful exercises may be found in this Princeton University publication:
https://uhs.princeton.edu/sites/uhs/files/documents/Lumbar.pdf

ANA's SAFE PATIENT HANDLING AND MOBILITY

The American Nurses Association has developed national standards for safe patient handling and mobility (SPHM). The goal is to establish a uniform, national foundation for SPHM to prevent injuries in both healthcare workers and patients.

The eight evidence-based ANA SPHM standards are:
1. Culture of Safety – Establish a culture that emphasizes safety over competing goals.
2. Sustainable SPHM Program – Develop a formal program to reduce risk of injury for workers and patients.
3. Ergonomic Design Principles – Design the healthcare environment to include injury prevention considerations.
4. SPHM Technology – Have assistive tools, such as equipment, devices, accessories, software, and multimedia resources, available at the point of care to facilitate SPHM.
5. Education, Training, and Maintaining Competence – Establish an effective system of training and education to maintain SPHM competence in those who provide direct patient care.
6. Patient-Centered Assessment – Ensure that each plan of care is adapted to meet the SPHM needs of the patient and specifies appropriate technology and methods.
7. Reasonable Accommodation and Post-Injury Return to Work – Develop a comprehensive SPHM program that can help employers provide reasonable accommodations to healthcare workers who were injured.
8. Comprehensive Evaluation System – Establish a system to evaluate the SPHM program, using staff performance, staff injury incidence and severity, and healthcare recipient outcome metrics.

CONCLUSION

Injury on the job can be a traumatic and debilitating experience. It may result in loss of work and the need for ongoing medical treatment. Work time lost due to injury can also be detrimental to the facility where you work and can put additional pressure on your coworkers.

Using proper body mechanics can greatly reduce the risk of injury to both you and your patients. Because you are working with your body's natural design, you will improve your ability to work safely and efficiently.

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Emergency Management Preparedness

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INTRODUCTION

Disasters often strike without warning, and their effects can be devastating. Some disasters are the result of natural events, while others are caused by human error. In healthcare, disasters are categorized as either internal events that occur within the medical facility or external events that occur outside of the facility.

When a disaster strikes, public service agencies, emergency response agencies, and other officials will rapidly mobilize to help the injured and the broader community in general. Because saving lives in a disaster is paramount, medical professionals must be included in all phases of disaster planning as well as in the immediate response to these events.

PURPOSE/OVERALL GOAL

This module is intended to serve as a single educational unit for healthcare workers responsible for patient care in a variety of settings. The primary focus relates to emergency preparedness for a hospital or acute-care setting, and the roles and responsibilities of each worker. It is important to note that specific disaster plans vary across organizations, and each person is responsible for familiarizing him/herself with the plan(s) for the location in which they are working.

This module focuses on the unique expertise and knowledge that medical professionals must have in order to assist in disaster mitigation and planning. Without a comprehensive disaster plan in place, time is lost and lives are threatened. A carefully created disaster preparedness plan is an institution's most critical defense in an emergency.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Explain what constitutes an external or internal disaster
2. Understand national standards and guidelines related to disaster planning
3. Describe how an institution develops a Disaster Preparedness Plan
4. Define the role of healthcare workers in the event of a disaster
5. Explain the importance of conducting emergency preparedness drills
6. Describe general safety procedures for common disasters

WHAT CONSTITUTES A DISASTER?

According to the World Health Organization, a disaster is a "sudden ecological phenomenon of sufficient magnitude to require external assistance." The American College of Emergency Physicians describes a disaster as "when the destructive effects of natural or man-made forces overwhelm the ability of a given area or community to meet the demand for healthcare."

While there may be different definitions, healthcare workers must be prepared to handle a disaster and other problematic events occurring inside or outside their walls.
- An external disaster is an event that impacts a facility when the demand for services goes beyond the available resources.
- An internal disaster is an event that happens within the facility that poses a threat to interrupt the environment of care.

Disaster events may be categorized as Class A, Class B, and Class C, according to type and severity.

Class A: Natural Disasters
- Earthquakes
- Floods
- Tornadoes
- Hurricanes
- Blizzards
- Other serious weather conditions

Class A: External Disasters/Medical Emergencies
- Chemical exposure
- Epidemic of disease (biological)
- Explosions
- Fire
- Large-scale poisoning
- Multiple-victim accidents (car, bus, train, plane crashes)
- Terrorism
- Nuclear fallout
- Riots and other civil disturbances
- Structural collapse
- Toxic radiation

Class B: Internal Disasters/Medical Emergencies
- Disease epidemics
- Large-scale food poisoning
- Large-scale infections

Class C: Internal Disasters/Non-Medical Emergencies
- Explosions
- Fire
- Multi-administrator deaths
- Terrorist threats
- Bomb threats
- State Board of Health declared emergency
- Strikes
- Union activity
- Malpractice suit or accusation against facility or physician on staff
- Power failure
- Major mechanical failure
- Internet- or computer-related issues involving patient records

EMERGENCY MANAGEMENT PREPARATION

As a healthcare worker, you should know and understand your institution's disaster preparedness plan, as well as standards set forth by The Joint Commission (TJC) and the widely accepted Hospital Incident Command System (HICS) guidelines relating to disaster planning.

The circumstances triggering a disaster preparedness plan include:
- Severe natural events such as earthquakes, hurricanes, floods, blizzards, or heat waves
- Human-caused emergencies such as transportation crashes, industrial explosions, terrorist activities, or infectious disease epidemics such as influenza

When a disaster occurs, you will be challenged to provide care in difficult situations including:
1. Loss of essential services, such as electricity, water, or the supply chain
2. Loss of infrastructure, including damage to facilities or electronic information
3. Shortage of workers due to transportation loss, worker or worker family illness/injury, or unwillingness to report to work
4. Size of the affected population, requiring triage at a community level
5. Sudden increase in the number of patients, significantly over your facility's capacity and/or with serious injuries or other extreme patient conditions
6. The need to perform patient care at an alternate facility not equipped for patient care

In situations such as these, there can be severe consequences if changes are not made in care practices. Essential decisions about allocation of resources should be made at a system level, by the facility in which you work or the community-wide incident command structure.

As a healthcare worker, you are responsible for giving the best possible care to patients within the available resources. Understanding the latest standards, and the role you play, is vital.

THE JOINT COMMISSION STANDARDS

It is important for you to familiarize yourself with the latest standards, so you will be prepared in case of disaster. Research indicates that facilities with assigned leaders in case of emergencies can more effectively respond to disaster situations.

The Joint Commission's elements of performance require the organization to:
- Identify a leader to oversee emergency management
- Consider input from staff at different levels when evaluating exercises and responses to events
- Review of the organization's emergency management plan, performance, and responses to actual events by the facility's senior leaders to facilitate improvement

According to The Joint Commission (TJC), an effective emergency management plan includes four key principles:
1. **Mitigation** – Make plans ahead of time to lessen the severity and impact of an emergency.
2. **Preparation** – Build needed organizational capacities, including supplies and equipment, agreements with vendors, staff orientation and training, planning processes, and organization-wide drills.
3. **Response** – Define actions staff would take when confronted by an emergency, such as reporting to prearranged locations. Plan for a warning and notification process, priority-setting, and liaison with other organizations.
4. **Recovery** – Take steps to restore essential services and resume normal operations; plan for staff support and community response.

In response to TJC requirements, the Columbia University School of Nursing's Center for Health Policy developed, for the American Nurses Association, the following 11 core competencies for healthcare workers in the event of a disaster.

As a healthcare worker, you should be able to:
1. Describe your expected role in an emergency response in the specific practice setting as part of the institution or community response.
2. Respond to an emergency event within the incident or emergency management system of the practice, institution and community.
3. Recognize an illness or injury as potentially resulting from exposure to a biologic, chemical, or radiologic agent possibly associated with a terrorist event.
    o Recognize uncommon presentations of common diseases and distinguish these from common presentations of uncommon diseases that may be related to a terrorist event or emerging infectious disease.
    o Recognize emerging patterns or clusters of unusual presentations.
4. Institute appropriate steps to limit spread, including infection control measures, decontamination techniques and use of appropriate personal protective equipment.
5. Report identified cases or events to the public health system to facilitate surveillance and investigation using the established institutional or local communication protocol.
6. Initiate patient care within your professional scope of practice and arrange for prompt referral appropriate to the identified condition(s).

7. Use reliable information sources (e.g., infection control department, state or local public health agency, Centers for Disease Control and Prevention) for current referral and management guidelines.
8. Provide reliable information to others (e.g., institutional administration, other patients) as relevant to the specific practice site and emergency response protocol.
9. Communicate risks and actions taken clearly and accurately to patients and concerned others.
10. Identify and manage the expected stress/anxiety associated with emergency events, making referrals for mental health services if needed.
11. Participate in post-event feedback and assessment of response with the local public health system and take needed steps to improve future response.

THE HOSPITAL INCIDENT COMMAND SYSTEM (HICS) PLAN

The Hospital Incident Command System (HICS) management plan meets TJC standards and offers a simplified, predictable management structure for:
- Communicating during disasters
- Predefining management positions, such as Incident Commander and Section Chiefs
- Clarifying the chain of command and reporting channels
- Helping to improve communication within the facility and at other participating facilities
- Providing standardized forms for consistent documentation

The HICS plan suggests the following leadership roles.
1. Incident Commander – Responsible for calling together the Disaster Preparedness Committee when a crisis event occurs
2. Section Chiefs – Responsible for logistics, planning, finance, and operations
3. Branch Directors – Responsible for directing unit leaders in their specific areas; the Director reports to the designated Section Chief
4. Unit Leaders – Responsible for communications, transportation, materials and supplies, nutritional needs, situational status, the labor pool, medical staff, nursing staff, medical needs (including triage), and more; the Unit Leader reports to a designated Director
5. Area Officers – Responsible for specific assignments such as Public Information Officer (PIO), Safety/Security Officer, Liaison Officer, Patient Tracking and Information Officer

Whether your institution develops its own plan or follows HICS, the Disaster Preparedness Committee should include representatives from the following areas:
- Medical staff (ER physician or trauma surgeon)
- Administration (includes risk manager)
- Operating room
- Nursing staff
- Emergency department
- Security/Safety
- Communications
- Public relations
- Medical records and admissions
- Engineering/maintenance
- Laboratory
- Radiology
- Respiratory therapy
- Linen services
- Environmental services (housekeeping)

No Disaster Preparedness Plan can be effective without appropriate and organization-wide communication. Once a plan is developed, all staff should be notified and educated accordingly. Additionally, if allowed to be part of the review process, their input can be helpful.

DEVELOPING A DISASTER PREPAREDNESS PLAN

To prepare for internal and external emergencies or disasters, the Disaster Preparedness Committee should consider the following when developing a plan:

1. Determine potential disasters
Disaster Preparedness Committee members should prepared for any type of disaster, but it is imperative that they determine which type has the greatest potential to affect their facility.

2. Assess resources within the institution
Committee members should determine their facility's capabilities, potential problems, and other concerns during a disaster. Consider the following questions:
- Is there an emergency water source readily available?
- If a triage area is established outside of the facility, are there adequate power sources in the designated area, including an emergency generator?
- Will the air handlers have water if the local water supply is damaged?
- How will water be rationed?
- How will food be provided?
- How will communications be performed, both internally and externally?
- What is the back-up air, oxygen, electrical, and emergency generator status throughout the facility?

The Committee should assess:
- Whether there are sufficient supplies to maintain the facility through the first 72 hours post-disaster
- Current staff information regarding phone numbers, addresses, emergency contact numbers
- The use of proper personnel identification (ID) to ensure the staff will be permitted to cross security/disaster area lines

Different scenarios should be considered to help identify shortcomings before an actual situation is experienced. The institution should consider establishing mutual aid or written agreements with other healthcare facilities and vendors in the community, as well as in adjoining communities, to provide personnel, supplies, equipment, transportation, pharmaceuticals, or whatever else may be needed during an external disaster.

3. Outline key elements
Committee members should determine the chain of command during a disaster and the communication process, both internally and externally. They should develop a process to manage patient triage, patient care and evacuation procedures, equipment management and transfer, patient identification, records management, security issues, and public information, as well as the steps to take toward recovery from emergency situations of all kinds.

4. Chain of command

Most medical facilities have a Safety Director in place. This person is responsible for overseeing the development, implementation, and monitoring of the facility's disaster plan, and should play a key role as a member of the Disaster Preparedness Committee.

The Safety Director's responsibilities usually include:
- Implementing plans following a disaster based upon the space, supplies, and security of the facility in case of a bomb threat, natural disaster, fire, chemical spill, hostage situation, power outage, or utility failure
- Establishing policies for notifying proper authorities outside the facility regarding an emergency
- Developing protocol for notifying personnel upon implementation of the emergency preparedness plans
- Defining responsibilities of personnel during disaster and emergency situations, and assignments to reflect staffing patterns
- Developing policies for providing communications during disasters and emergencies, and policies for alternative sources of essential utilities
- Developing policies and procedures for evacuation of the facility if it cannot continue to support adequate patient care and treatment, and identifying an alternate care site
- Integrating the facility's role with community emergency preparedness plans
- Developing policies for identifying available facilities for radioactive or chemical isolation and decontamination
- Developing policies and procedures for managing patients during disasters or emergencies, including the scheduling, modification, or discontinuation of services as well as control of patient information and admission, transfer, and discharge of patients
- Promoting orientation programs and continuing education on emergency preparedness plans for all personnel
- Implementing emergency preparedness plans semi-annually, in response to an emergency or planned drill.

5. Communication

In preparation for a disaster, another key position is the Incident Commander, responsible for gathering the Disaster Preparedness Committee together at a moment's notice.

As a team, the Committee members then take control of the situation by delegating responsibilities to predetermined Section Chiefs, Directors, Unit Leaders, and Area Officers, who are responsible for either directing teams or other specific duties.

The Committee must be able to effectively communicate with one another, with all staff, the public, and other medical facilities in times of disaster.

6. Patient management

Healthcare delivery has changed over the years. Many patients are receiving healthcare at home instead of at a hospital or long-term care facility. In times of disaster, this can present a challenge.

In order for emergency preparedness agencies to properly evacuate patients, the hospital or home health agency should have the ability to provide patients' locations and their specific needs as quickly as possible. Local emergency preparedness agencies can assist in developing plans for home health situations.

Home health agencies must have a disaster plan, as required by both The Joint Commission and the Community Health Accreditation Program (CHAP). Many communities have designated special shelters for temporary care until patients can be relocated or moved back into their homes.

7. Patient transfers

A Transportation Officer should be assigned to make sure patients can be safely transferred either within the facility in cases of internal disaster or to another facility in cases of external disaster. As an example, the following is a general guideline regarding patient transfer during and after an earthquake.

Within your facility:
1. Move all patients to a central area.
2. Issue extra blankets to all patients and keep them warm.
3. Close all curtains or shades in the central area to protect against exposure to broken glass.
4. Close all doors to the central area including outer fire and smoke barrier doors.
5. Avoid using open flame devices.
6. Gather flashlights and extra batteries.
7. Reassure patients and explain measures being taken to promote their safety.
8. Should transfers of patients to other facilities be necessary, follow the guidelines set forth in your institution's policies and procedures.

8. Evacuation procedures

If evacuation is necessary following an internal disaster, patients should be relocated to a secure place within the facility, designated by the emergency response team. Patients and personnel should remain in the secured area until an "All Clear" has been given. Avoid using elevators.

Department heads, supervisors, or other predetermined area officers should assign one staff member in each of their areas to remove patient charts (if paper charts are in use). All such records should be taken to an area designated by the person in charge.

Officers are also responsible for assuring that exit routes are safe. One person must remain at the assembly area to assure that everyone remains in the area. No one should be allowed to return to the building until "All Clear" has been announced.

Once evacuation has occurred, law enforcement and designated search teams should search the premises. Once the search is completed or has been terminated by the search commander, all employees participating in the search should leave the premises and return to the assembly area designated during the evacuation process unless otherwise instructed.

9. Availability of equipment

During a disaster, the availability of equipment is essential to the survival of patients in an internal event and to the community in an external event. In preparation, know where the following items are located so they can be gathered as quickly as possible:

1. Keys –Environmental services personnel may know where all keys are kept.
2. Blankets – Additional blankets may be obtained from Environmental Services.
3. Portable Oxygen Tanks – Check the Emergency Room, Supply areas and Respiratory Therapy Department.
4. Carts (for transporting supplies) – Usually found in the following areas:
   o Ambulatory Care Unit
   o Emergency Room
   o Surgery
   o Radiology
   o Ultrasound
   o EKG/Stress Test Room
5. Miscellaneous items – This includes bandages, dressings, compresses, suture materials, sterile scrub brushes, normal saline, antimicrobial skin cleanser, waterless hand cleanser, gloves, fracture immobilization, splinting and casting materials, backboards, rigid stretchers, non-rigid transporting devices, oxygen-ventilation-suction devices, and advance life support equipment (i.e., chest tube, airway, major suture trays).

10. Patient Identification and Information

One person or the Patient Identification/Information Officer should be responsible for patient identification practices during a disaster. In brief, this person is responsible for keeping a list of patients, their location within the facility, and their condition.

11. Records

A Records Officer should be assigned to lead an effort to obtain patient records in time of disaster. That way, there is a greater likelihood that medical records and medical equipment can be transferred to another facility if necessary.

If your facility has a computerized charting system, the information can be quickly and easily downloaded onto an external drive or immediately backed up to a server, while hard copies of charts **must** be gathered and carried out.

12. Security

A Safety/Security Officer should be assigned to make sure no unauthorized persons enter the building following an internal disaster. This helps to provide security for staff, patients, visitors, and property. This officer is also responsible for ensuring that any activity that takes place at the medical facility is done with the highest level of safety considerations.

13. Public Information

Staff members answering telephones should not give out information concerning a disaster to any caller, unless authorized to do so. Similarly, publicity should be avoided as much as possible. For example, in the case of a bomb threat, publicity tends to generate additional threats.

Only the Administrator or his/her designee should answer questions asked by the media, and should provide information only on a need-to-know basis.

14. Recovery

Many disaster plans fail to include information regarding the disaster recovery phase. However, recovery is extremely important. And planning for it begins **before** a disaster ever happens.

In preparation for recovery, experts recommend that facilities start with a complete inventory of their assets, including buildings and equipment. When new buildings are built, additions are made, major renovations occur within the facility, or any other addition or improvement occurs, photographs or videos should be taken to build a historical file that can be presented to an insurance agent post-disaster.

For insurance claims, pictures present the actual condition prior to any damage. Do not forget to photograph any damage prior to its removal or clean up.

CONDUCTING DRILLS

Testing emergency preparedness plans before a disaster strikes allows everyone in your organization to learn what to do if a disaster occurs, and helps to reveal potential problems so they can be corrected before they are ever tested in a real disaster.

All staff should participate in basic emergency preparedness training and drills. This includes:
- How to report and respond to an emergency
- How to obtain assistance
- How to obtain equipment
- How to communicate if the facility loses normal communication methods

In addition, your facility should identify staff with key roles and responsibilities in the disaster plan and train them as to their responsibilities. It is also suggested that local assistance agencies be part of the drill when possible.

It is important to note that The Joint Commission requires facilities to conduct at least two disaster drills a year. According to TJC, these drills must occur at least four months apart. These drills are further required to include all departments and legal agencies that would be involved in a real emergency.

Drills must include practice treatment and transportation exercises. The emergency plan and staff must be evaluated once a year.

Once the Disaster Plan has been reviewed and finalized, it must be maintained. Conducting periodic drills helps maintain the plan.

In addition, the plan should be revised periodically to allow for changes that have occurred in the community that may affect implementation of the plan. Examples of these include the opening and closings of schools in the area, openings and closings of other hospitals and medical facilities in the area, and community expansion or decline.

THE IMPORTANCE OF AREA COORDINATION

In an emergency of any magnitude, you aren't just dealing with your institution and its administrators, but with fire departments, police, emergency disaster services such as the Red Cross and Salvation Army, and many other community assistance services and agencies.

Creating, maintaining, and practicing a Disaster or Emergency Plan requires a high level of coordination between your institution and those services and agencies. Designated individuals at your institution should be charged with staying in touch with community assistance agencies and services that are set up to help in a disaster.

Area coordination is necessary, especially in larger events that affect a wider base of the population both inside and outside your institution's walls. For example, in case of fire, both the fire department and police are usually involved. According to federal guidelines, the fire department must be notified regardless of the size or type of fire.

These agencies can be helpful with the exchange of information. For example, if communications in your facility go down, the fire and police departments are equipped with portable communications devices. They can provide a necessary link in the flow of information.

Outside agencies can also be helpful in evaluating your institution's Disaster or Emergency Plan when involved in drills.

GENERAL SAFETY PROCEDURES FOR COMMON DISASTERS

The following are general guidelines to follow in cases of the most commonly experienced disasters in the healthcare environment. *These are meant only as general guidelines*. You should review your institution's Disaster or Emergency Plan for detailed instructions.

1. Fires

Fire emergencies are one of the most serious situations that can occur in a healthcare environment. Healthcare professionals are exposed to many fire hazards in their workplace that have potential to harm patients, visitors, and coworkers if not handled appropriately. Having a plan in place regarding fire can save lives.

Many healthcare institutions use the R.A.C.E. system when fire breaks out. The word 'RACE' provides a convenient way for all staff members to remember what to do in case of a fire.

R = Rescue Patients and Employees in Immediate Danger
The first step in the R.A.C.E. procedure is to *rescue patients and employees in immediate danger*. 'R' can also stand for *remove all patients and employees in immediate danger*. All healthcare professionals should know the evacuation route in their area, as well as their facility's policies and procedures for evacuating patients. Follow these procedures quickly and calmly.

A = Activate the Fire Alarm
The second step of the R.A.C.E. procedure is to *activate the fire alarm*. 'A' can also stand for alarm. If you are the first to discover the fire and the fire alarm has not been activated, immediately activate the alarm. Follow your facility's policies and procedures for notifying appropriate personnel about the fire.

C = Confine/Contain the Fire
The third step of the R.A.C.E. procedure is to *confine/contain the fire*. The purpose of closing doors and containing the fire is to limit the fire's access to oxygen. Close all doors to patient and storage rooms and make sure that the fire doors have automatically closed. Closing all doors helps prevent the spread of the fire to other areas.

E = Extinguish the Fire
The final step in the R.A.C.E. procedure is to *extinguish the fire*. If the fire is small and contained, you can extinguish it by covering it with nonflammable materials or by using the correct type of fire extinguisher. Use the fire hoses available in your facility only if you have been properly trained to do so. Otherwise, evacuate everyone and wait for the fire department to extinguish the fire.

2. Earthquakes

Almost every area of the world is at risk for earthquakes. In fact, several million earthquakes occur each year globally, ranging from barely perceptible quakes to those severe enough to destroy entire cities and countrysides.

During an earthquake, the main concern for healthcare facilities is loss of power, especially those facilities that are geographically isolated. In case of earthquake, the following serves as a general guideline for operational procedures:

During the quake:
The first rule of thumb is: don't panic. If inside, remain inside, where you are the safest. The greatest danger from falling debris is just outside a doorway and near outer walls. Instruct patients, coworkers, and visitors to move into the hallways. If time does not permit this, instruct all persons to take cover under beds, tables, or against inside walls. Remind them to stay away from windows and glass.

During an earthquake, you should never use an open flame, such as candles and matches. If you are outside, move away from the building and utility wires. Once in the open, stay there until the shaking stops.

After the quake:
Here are the steps you should take once the shaking stops:
1. Check for injuries.
2. Follow treatment procedures as instructed.
3. Don't use open-flame devices until the building has been inspected for broken gas lines and has been declared safe.
4. Check utilities, but don't turn them on until the building has been declared safe.
5. If you smell gas, open windows and shut off the main gas valve.
6. Don't use telephones, except for emergencies.
7. If the building or any portion of it has been damaged, don't allow anyone entrance until an "All Clear" has been issued.
8. Be mindful of fires caused by earthquakes. They can be more dangerous than the earthquake itself, because equipment and water lines may be destroyed or immobilized. During and after an earthquake, be especially watchful for fires, leaking gas lines, and the like, and report them immediately. Should a fire occur, procedures **MUST** be followed as outlined in your facility's Fire Safety Plan, unless otherwise instructed.

3. Bomb Threats
According to federal guidelines, should a bomb threat be received by phone, the nurse or other healthcare professional taking the call should immediately institute the following procedures and complete a "Record of Bomb Threat":
1. Remain calm. Don't panic.
2. Keep the caller on the line as long as possible.
3. Record, as near as possible, every word spoken by the person calling.
4. Listen for any strange or unusual background noises such as music playing, motors running, traffic sounds, etc., which might be helpful in providing clues to determine where the call was made from.
5. Determine whether the voice is male or female, familiar or unfamiliar, and listen for any accents, speech impairments, nervousness, etc.
6. Record as much information as you can. You may not be able to get everything, but gather as much as possible.

Immediately after the caller hangs up, contact the Switchboard Operator and relay as much information as possible. This person should contact the Police Department and then make the following announcement over the intercom: "Attention please. Code 50 is now in effect." (The Switchboard Operator will use whichever code is appropriate for your facility. All healthcare employees should be familiar with their facility's code system.)

The Switchboard Operator will then contact the following and relay the information received:
- Fire Department
- Facility Administrator and/or CEO
- Chief Nursing Officer and/or Director of Nursing Services
- Safety Director
- Director of Environmental Services
- Maintenance Supervisor

Only authorized law enforcement officials will remain in the building during the removal of any suspicious object(s), and such agencies will direct the removal as quickly as possible. Once the search has been completed, an "All Clear" should be announced after a confirmation has been obtained from the police department or fire department stating the building has been searched and nothing found.

4. Riots

Planning for civil disturbances or riots **MUST** be a part of your preparedness plan. If a civil disturbance breaks out, the first thing you need to do is to secure the facility entrance nearest the location of the occurrence and notify security. Also, notify your supervisor, who in turn should notify appropriate administrators and law enforcement agencies.

In a situation of civil disturbance, the most important things to remember are to:
- Remain calm and get the facts and reason for the demonstration
- Meet and talk with the leader of the demonstration
- Make no promises or concessions without administrative authority

CONCLUSION

With an Emergency Management Plan in place, a medical facility or hospital can be properly and adequately prepared for any disaster, either internal or external. Without one, the organization is at high risk for confusion, unnecessary chaos, and even loss of life when disaster occurs.

The key for institutions to effectively manage and react to a disaster is to practice their preparedness using mock situations and periodic drills, which are requirements of The Joint Commission.

Nurses and other healthcare workers are responsible for the safety of their patients. By understanding their role in their institution's disaster plan, they can help to enhance the level of safety for patients, visitors, coworkers, and themselves.

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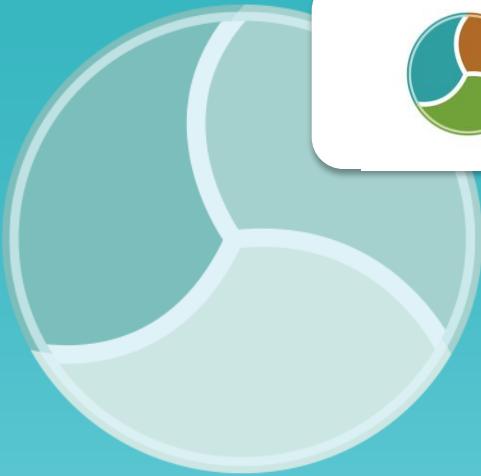
Environmental Safety

Environmental Safety

INTRODUCTION

Healthcare settings involve the use of medical equipment such as compressed gases, radiation technology, and electrical devices. If operated correctly, they can be lifesaving – but incorrect use can be life-threatening. Healthcare workers also are at increased risk for slips and falls, aggressive patient behavior, threats, and more.

Environmental safety is everyone's responsibility. Accidents can be prevented as long as healthcare workers know how to use equipment properly and can recognize hazards and respond to them. Learning important safety facts can go a long way toward keeping patients and staff as protected as possible.

PURPOSE/OVERALL GOAL

This module outlines areas within the healthcare environment that could pose safety risks, and what healthcare workers need to know in order to work safely and efficiently.

The goal of this module is to make you aware of common hazards so you can reduce the risk of injury to yourself, your coworkers, and patients.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Describe how to avoid slips, trips, and falls
2. Explain safety precautions when working with compressed gas, electricity, and radiation
3. Demonstrate appropriate actions required by the Safe Medical Devices Act
4. Describe what to do in the event of a bomb threat
5. Describe how to avoid and manage workplace violence
6. Demonstrate appropriate personal safety measures

ACCIDENT PREVENTION

According to the Centers for Disease Control, the knees, ankles, and feet are the body parts most commonly injured after a slip, trip, or fall – and such an injury is significantly more likely to result in fractures and multiple injuries.

Slips, trips, and falls can happen for a number of reasons, such as:
- Contaminants on the floor
- Indoor/outdoor walking surface irregularities
- Inadequate lighting
- Clutter
- Loose cords on the floor
- Long hoses, wires, and medical tubing

If an accident occurs:
- Remain calm.
- Inform your supervisor.
- Remove/report the problem to the proper department (Environmental Services, Engineering, etc.)

If you are injured and need treatment, see your Employee Health Nurse or go to the Emergency Department. If you are seriously injured or think you might have broken bones, do not move, since that could make an injury worse. Instead, call for help and/or wait for others to help you. Be sure to tell them what caused your accident so they can remove or report the problem.

If another person is injured, wait for someone to assist you. You can hurt yourself if you try to lift or move an injured person by yourself. Use a wheelchair or a stretcher to take the person to the Emergency Department for treatment.

If the person is seriously hurt or unconscious, wait with the injured person while someone calls for help. If there is any possibility of a back, neck, or head injury, the injured person should not be moved.

Once you have taken care of the injured person, report the accident. If you know the cause of the accident, report it so the problem can be removed. All accidents need to be reported.

Things to remember:
- Accident prevention in the workplace is everyone's responsibility.
- Accidents can be prevented if workers recognize hazards and respond to them.
- Use warning signs to alert others of possible hazards, and take extra care when you see a warning sign.
- Almost all accidents can be prevented if you REMOVE the problem or REPORT the problem.
- All accidents must be reported.

COMPRESSED GAS SAFETY

Compressed gas cylinders need to be treated with utmost care and respect. Hazards associated with compressed gases include:

- Oxygen displacement
- Fires
- Explosions
- Toxic gas exposures
- Physical hazards associated with high-pressure systems

Keep these facts in mind:

- If the contents of a compressed gas cylinder are released too quickly, the cylinder can become an uncontrollable projectile.
- If the cylinder tips over, it may explode.
- Compressed gases should be handled only by experienced and properly trained workers.
- Special storage, use, and handling precautions are necessary in order to control the hazards associated with compressed gas.

These are signs you may see at your facility to indicate compressed gas is in use:

ELECTRICAL SAFETY

Electrical hazards can cause burns, shocks, and electrocution (death). Always use caution when working with or near electricity.

Here are some safety tips to keep in mind:
1. Check plugs for loose or broken pins or for any melted areas.
2. Unplug equipment by handling the plug itself and not the cord.
3. Do not use cheaters (adaptors that convert three-pin plugs into two-pin plugs).
4. Never use electrical equipment that has frayed cords or exposed wires.
5. Do not roll equipment over electrical cords, because it can damage the cord.
6. If you receive a shock when using electrical equipment, immediately turn it off and take it out of service so it can be repaired.
7. Never operate electrical equipment with wet hands or while you are standing in water.
8. Never try to repair electrical cords or equipment unless you are qualified and authorized to do so.

Take electrical equipment out of service and report it if the equipment:
- Smells "hot"
- Has smoke coming out of it
- Is not working properly
- Has had a liquid fall into it

When outdoors, be aware that overhead wires also can pose electrical hazards, so observe these safety steps:
- Assume that all overhead wires are energized at lethal voltages. Never assume that a wire is safe to touch, even if it is down or appears to be insulated.
- Never touch a fallen overhead power line; instead, call the electric utility company to report it.
- If an overhead wire falls across your vehicle while you are driving, stay inside the vehicle and continue to drive away from the wire. If the engine stalls, do not leave your vehicle. Warn people not to touch the vehicle or the wire. Call or ask someone to notify the local electric utility company and emergency services.

This is a sign you may see at your facility to indicate electrical equipment is in use:

RADIATION SAFETY

Protection is imperative when you are working with or near radiation. Medical imaging equipment such as X-ray machines, CT scanners, mammography machines, and other devices produce various levels of radiation.

You can protect yourself by always following your facility's policies and procedures. Here are some practical tips:

1. **Minimize Time** – If you reduce your time around radiation, you reduce your exposure. Put forethought into how you will accomplish a procedure, before you attempt it.
2. **Maximize Distance** – Doubling the distance between a person and the radiation source reduces the radiation exposure by a factor of 4. This means every step back makes a significant exposure difference.
3. **Maximize Shielding** – If a lead wall is provided, use it. Wear lead aprons, double-sided preferred, with a thyroid shield. Use lead gloves if provided. A 0.5-mm thick lead apron reduces scattered radiation by approximately 10 times.
- **Use a Badge Monitor** – Wear your badge monitor on the outside of your lead apron and have it read at the prescribed times. Only wear your own badge, never another person's badge. Never wear the badge at home and/or when you are undergoing a radiological procedure yourself.

This is a sign you may see at your facility to indicate radioactive equipment is in use:
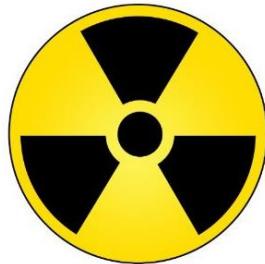
SAFE MEDICAL DEVICES ACT

The Safe Medical Devices Act of 1990 requires a medical device user facility (DUF) to report – to the U.S. Secretary of Health and Human Services, the manufacturer, or both – whenever they believe there is a probability that a medical device has caused or contributed to a death, illness, or injury.

Medical devices include:
- Hospital beds and wheelchairs
- Oxygen tanks
- Walkers and canes
- Catheters
- Air mattresses
- Hoyer lifts
- Suction equipment
- Wound vacs
- Blood glucose monitoring devices
- Electronic blood pressure monitor/machine
- And more

As a healthcare worker, your responsibility is to do the following:
- Remove the suspected device from service and tag as "Defective, Do Not Use."
- Do not change any control settings on the device unless necessary to minimize injury at the time of the occurrence.
- Retain all disposable and reusable equipment, accessories, and packaging related to the incident.
- Do not clean the device; instead, place contaminated materials in an appropriate container and label with a biohazard tag.
- Report the incident to your manager.
- Complete the appropriate documentation.
- Do not give the device to the company vendor.

BOMB THREATS

Most bomb threats are received by phone. All bomb threats should be considered serious until proven otherwise.

According to federal guidelines, should a bomb threat be received by phone, the nurse or other healthcare professional taking the call should immediately institute the following procedures and complete a "Record of Bomb Threat":
1. Remain calm. Don't panic.
2. Keep the caller on the line as long as possible. Do not hang up, even if the caller does.
3. Write down, as best you can, every word spoken by the person calling.
4. Listen for any strange or unusual background noises such as music playing, motors running, traffic sounds, etc., which might be helpful in providing clues to determine where the call was made from.
5. Determine whether the voice is male or female, familiar or unfamiliar, and listen for any accents, speech impairments, nervousness, etc.
6. Record as much information as you can. You may not be able to get everything, but gather as much as possible.

Questions to ask include:
- Where is the bomb located (building, floor, room, etc.)?
- When will it go off?
- What does it look like?
- What kind of bomb is it?
- What will make it explode?
- Did you place the bomb? If yes, why?
- What is your name?

If a bomb threat is received by handwritten note, handle the note as little as possible. If it is received by email, do not delete the message.

If you receive a suspicious package, inform authorities immediately. Do not move the package. Signs of a suspicious package include:
- No return address
- Poorly handwritten
- Excessive postage
- Misspelled words
- Strange odor
- Foreign postage
- Strange sounds

WORKPLACE VIOLENCE

The National Institute for Occupational Safety and Health (NIOSH) defines workplace violence as "violent acts (including physical assaults and threats of assaults) directed toward persons at work or on duty." Unfortunately, healthcare workers are at higher risk for job-related violence.

But preparation and training can help avoid or mitigate violence. Healthcare workers should understand the importance of a culture of respect and dignity in preventing workplace violence.

A written program for workplace violence prevention, incorporated into an organization's overall safety and health program, offers an effective approach in reducing or eliminating the risk of violence in the workplace.

Topics that you should be aware of include:
1. Risk factors that cause or contribute to assaults
2. Policies and procedures for documenting changes in behavior in patients
3. The location and operation of safety devices such as alarm systems
4. Early recognition of escalating behavior, or recognition of warning signs or situations that may lead to assaults
5. Ways to recognize, prevent, or diffuse volatile situations or aggressive behavior, manage anger, and appropriately use medications
6. Ways to manage aggressive, violent or hostile behavior in people other than patients and clients, such as relatives and visitors
7. Proper use of safe rooms – areas where staff can find shelter from a violent incident
8. A standard response action plan for violent situations, including the availability of assistance, response to alarm systems, and communication procedures
9. Techniques for caring for a violent patient, such as remaining aware of surroundings, minimizing items that could be used as weapons, and keeping your body positioned between the patient and the door
10. Progressive behavior-control methods and when and how to apply restraints properly and safety when necessary
11. Ways to protect yourself and your coworkers, including use of the "buddy system"

PERSONAL SAFETY

To help protect your personal safety as a healthcare worker, follow these steps:
1. Wear your facility-issued badge at all times, and expect to see other employees wearing their badges also.
2. Avoid carrying large sums of money. Keep car keys, credit cards, wallet, etc., separate from purses while going to and from your car.
3. Plan your route of travel using well-lit routes. Walk with others if possible.
4. Lock your car and keep packages or other items out of sight.

To make your work area safer, here are some reminders about personal security:
1. Keep valuable items, including purse and coats, secured.
2. Lock your work area whenever it is unoccupied.
3. Report any unusual activity, unknown persons, or any incident to Security immediately, such as:
   o Persons wandering or looking around
   o Theft or missing property
   o Nuisance phone calls
   o Unauthorized "sales" visits
4. When leaving the department, let the last remaining person know.

CONCLUSION

As with other professions, healthcare workers face certain safety and health hazards. However, healthcare workers have not only themselves to protect, but also the patients who are depending on them for care. A culture of safety, therefore, is of paramount importance and a shared responsibility.

In the busy healthcare setting, it is essential that you understand common safety risks and issues, and how to prevent or manage them. Environmental safety includes accident prevention, the proper use of compressed gases, electrical and radiation safety, what to do in a crisis such as a bomb threat, and how to prevent and manage workplace violence.

By following simple safety practices, you can help ensure a more secure environment for all.

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Fire Safety

Fire Safety

INTRODUCTION

Within the healthcare environment are risks and hazards that could lead to the possibility of a fire. According to the United States Federal Emergency Management Agency (FEMA), between 2004 and 2006, an average of 6,400 fires occurred in medical facilities each year, resulting in over $34 million in losses.

It is imperative for everyone in a medical facility to understand what to do in the event of a fire, in order to protect themselves and others from harm. This may include removing patients from their room and relocating them to a different unit or floor, or how to react if you are the first and only available person to help extinguish a fire.

PURPOSE/OVERALL GOAL

This module outlines what healthcare workers need to know about fire safety, preparation, and response, including how to react quickly, how to use fire extinguishers, and how to evacuate patients.

The goal of this module is to ensure you are prepared to deal with a fire, large or small, at your facility, and that you know the steps to take to keep yourself, coworkers, and patients safe.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Define the R.A.C.E. acronym for how to respond to a fire
2. Explain what should and should not be done in the event of a fire
3. Demonstrate the proper use of a fire extinguisher
4. Understand the importance of fire drills and fire preparedness
5. Describe what to do if a person is on fire or facility evacuation is necessary

CONTROLLING A FIRE

All fires, no matter how minor, should result in immediate action. The most popular acronym associated with fire safety education is "R.A.C.E." because it provides a convenient way for you to remember what to do in case of a fire.

- **R = Rescue Patients and Employees in Immediate Danger**

The first step in the R.A.C.E. procedure is to *rescue patients and employees in immediate danger*. 'R' can also stand for *remove all patients and employees in immediate danger*. All healthcare professionals should know the evacuation route in their area, as well as their facility's policies and procedures for evacuating patients. Follow these procedures quickly and calmly.

- **A = Activate the Fire Alarm**

The second step of the R.A.C.E. procedure is to *activate the fire alarm*. 'A' can also stand for alarm. If you are the first to discover the fire and the fire alarm has not been activated, immediately activate the alarm. Follow your facility's policies and procedures for notifying appropriate personnel about the fire.

- **C = Confine/Contain the Fire**

The third step of the R.A.C.E. procedure is to *confine/contain the fire*. The purpose of closing doors and containing the fire is to limit the fire's access to oxygen. Close all doors to patient and storage rooms and make sure that the fire doors have automatically closed. Closing all doors helps prevent the spread of the fire to other areas.

- **E = Extinguish the Fire**

The final step in the R.A.C.E. procedure is to *extinguish the fire*. If the fire is small and contained, you can extinguish it by covering it with nonflammable materials or by using the correct type of fire extinguisher. Use the fire hoses available in your facility only if you have been properly trained to do so. Otherwise, evacuate everyone and wait for the fire department to extinguish the fire.

FIRE EMERGENCY DO'S AND DON'TS

In the event of a fire, here is what you should and should not do as a healthcare worker.

WHAT YOU SHOULD DO:
- If you are trained to do so, attempt to control the fire with a fire extinguisher. Ensure that backup fire extinguishers are available.
- Evacuate patients only if absolutely necessary.
- Reassure patients and visitors that the facility is responding to the emergency.
- To limit the amount of smoke released from a fire, close all doors in the immediate area of the fire. If possible, place a blanket under the entrance door to prevent smoke from escaping to other areas.
- If combustible materials such as oxygen, gas, or flammable liquids are near the fire area, immediately remove them if possible – but not if the fire is out of control.
- Shut off or unplug all unnecessary electrical equipment.
- Relinquish all firefighting procedures to members of the fire department upon their arrival.
- Provide fire department personnel with information concerning the contents of the room on fire, and any other information requested.

DO NOT:
- Do not pick up and run with burning articles. This will only fan the fire and could cause it to burn more rapidly.
- Do not attempt to put out an overhead fire. This procedure is extremely dangerous. Firefighters will perform this task.
- Do not endanger your own safety if you find the fire is no longer controllable.

FIRE EXTINGUISHERS

Per law, all areas of a healthcare facility are equipped with portable fire extinguishers. Fire extinguishers are located so that employees responding to a fire do not have to travel more than 75 feet, in any direction, to obtain one.

The type of extinguisher is based on hazards present in each location; however, the ABC extinguisher is most commonly found in the healthcare setting.

Types of fire extinguishers are as follows:
- Type A is for ordinary flammable materials such as paper, wood, fabric, and most plastics
- Type B is for flammable liquids such as gasoline, grease, paint, and compressed anesthetic gases
- Type C is for electrical equipment fires
- Type ABC – the most common in healthcare facilities – is for all types of fire

To use a fire extinguisher, remember the acronym "P.A.S.S.":
1. **P = PULL** the pin
2. **A = AIM** low, at the base of the fire
3. **S = SQUEEZE** the handle while standing about 10 feet from the fire
4. **S = SWEEP** the hose from side to side

You should know the following about fire extinguishers:
- Access to fire extinguishers or extinguisher cabinets should remain unobstructed at all times.
- Should a fire extinguisher be discovered missing or discharged, contact the department responsible for fire extinguishers at your facility.
- Never put a discharged extinguisher back after use. It will not function properly, no matter how little substance was used, until it has been recharged or refilled.

The Oklahoma City Fire Department has made available a short video about the P.A.S.S. method, which you can view here: https://www.youtube.com/watch?v=w_ZYoIzwMX4

FIRE DRILLS

Fire drills are conducted to practice how to respond to a fire, and to assess how well this response is performed.

Fire drills are required:
- At least once a year, on all shifts, in non-patient areas
- Quarterly, on all shifts, in buildings that house patients overnight

Fire drills are conducted on an unannounced basis. Participation in fire drills is mandatory for all employees and must be taken very seriously.

FIRE PREPAREDNESS

Exits:
- Exits are to be kept clear at all times. Exit doors and stairwells are a means of escape and should be clear and unobstructed.
- Corridors and hallways should be maintained clear. "Movable carts in attendance and use" may be located in corridors, as long as they are off to one side and do not obstruct exit doors, fire pull stations, fire extinguisher cabinets, or medical gas zone valves.

Fire Alarm Systems:
- Healthcare facilities are equipped with smoke detectors and an automatic fire alarm system that will sound when heat or smoke is detected within the facility or when a manual pull station is activated.
- Manual pull stations are red in color and are located throughout the facility. All employees should know where the alarm pull stations are located in their work areas.
- The fire alarm system will emit a continuous loud alarm until the alarm has been silenced.
- If the automatic fire alarm system is activated, the alarm will sound not only at the location of the fire, but on the floors above and below the emergency.
- Visual alarms are provided for the hearing impaired. The visual alarm is a blinking white light next to the fire alarm bell. This system is activated at the same time the loud alarm is sounded.
- Sprinklers are activated only by heat. Each sprinkler has to heat up to a specific temperature before water will come out.
- Not all sprinklers in a room will automatically discharge. Each sprinkler head would have to reach the designated temperature before discharging. Three or fewer sprinkler heads extinguish most major fires.

Fire/Smoke Barrier Doors:
- Healthcare facilities are equipped with automatic fire/smoke barrier doors.
- These doors MUST remain closed at all times, unless held open with an electric device that enables the doors to close automatically when the fire alarm system is activated or in the event of a power failure.
- If a fire alarm is sounded, the fire/smoke zone doors close automatically.
- Do not block access ways to the fire/smoke barrier doors or cause them to be held open for any period of time or for any reason.
- If you should discover a fire/smoke barrier door that is partially open or that will not close properly, report it immediately.

Emergency Generator System
- Should the normal supply of power be disrupted, the facility's emergency generator will automatically supply power to the emergency lighting system, life support systems, and exit signs.
- The emergency generator will also supply power to all red electrical outlets in the facility. In an emergency, use the red electrical outlets for emergency purposes only.
- The emergency generator will automatically activate within 10 seconds after the loss of power. It will automatically shut off when the normal power supply is restored.

PERSON ON FIRE

If you discover a person on fire:
1. Do not let the person panic and run.
2. Wrap the person with a blanket and pat the fire area. Do not fan it; this will only cause the fire to spread and cause additional injuries.
3. If a blanket is not available, get the person on the ground and then roll him or her over, from side to side, until the fire is out.
4. Once the fire is out, remove all clothing to stop the burning process and cover the person with a clean sheet and towels. Do not cover the face. Make sure the person is breathing and transport immediately to the Emergency Department.
5. Keep the injured person as calm as possible.
6. Inspect the area to ensure that sparks have not created another fire, or that fire is not present in the area where the patient was discovered.

EVACUATION

Evacuation in the event of a fire will be ordered only if:
1. It is determined that a fire cannot be controlled by the immediate use of available fire extinguishing devices.
2. Patients, visitors, and employees are determined to be in immediate danger of injury or death if they remain in an area threatened by fire or smoke.

There are two types of evacuation:
1. Lateral evacuation – This is an evacuation of all occupants in an area threatened by fire, through the fire/smoke barrier doors, to a safe area on the same floor.
2. Vertical evacuation –This is an evacuation of all occupants on a floor threatened by fire to a safe floor.

The most likely route for evacuation of patients is laterally. Evacuate all patients nearest the danger area first.

If a complete evacuation of the area is ordered, move patients in the following order:
1. Ambulatory patients – Provide a guide to lead patients out and someone to follow to assure that no one becomes confused and tries to return to the area.
2. Wheelchair patients – Provide one person per chair to safely push the patient out of danger.
3. Bedfast patients – Many of these patients have equipment attached that will have to be disconnected prior to being moved.

Preparing patients for evacuation:
1. If possible, have ambulatory patients get dressed.
2. If possible, place bedfast patients in wheelchairs. Beds are difficult to move through patient room doorways.
3. Make sure all patients are accounted for. When the order for evacuation has been given, one person should be assigned the duty of making sure that medical charts are moved with the patient.
4. Check exits in advance of the evacuation to ensure they are safe and usable if evacuation from the building is ordered.
5. Once evacuation has occurred, do not let anyone return to the danger area. Stay with evacuated patients.
6. Fire/smoke barrier doors will close automatically when the fire alarm system is activated. When patients, visitors and employees are evacuated to an area on the same floor, move them beyond the fire/smoke barrier doors.
7. If you have laterally evacuated to a safe area, on the smoke-free side of the fire/smoke barrier doors, you may evacuate by elevator ONLY under the direction of the fire department.

Safety precautions during evacuation:

1. When traveling through smoke, keep low. Smoke and heat rise. Crawl along the floor if you must, but keep low.
2. Do not run, or allow anyone to run, in smoke-filled areas.
3. Ensure that all patients are wrapped in a blanket. When going through smoke, make sure that patients' and employees' faces are covered. If evacuating through fire or extremely hot areas, ensure that evacuees are covered with wet blankets, if possible.
4. Close all doors after everyone has passed through.
5. All non-clinical and ambulatory care areas should have a designated meeting area so that when evacuation is completed, the supervisor of the department can take an accurate head count.

Never open a door into an area where a suspected fire might be unless you do the following. If a fire is on the other side, these steps will help you close the door instead of allowing the fire to blast through.

1. Place the back of your hand against the door and feel across the door for any signs of heat from the other side.
2. If the door is cool to the touch, brace your shoulder against the door.
3. Brace your foot against the base of the door.
4. With your face turned toward the hinged side of the door, begin opening the door slowly.
5. If smoke seeps through, close the door immediately. If the door is opened wider and fire is present, the air from the room could cause the room to explode.
6. Place a wet blanket or towel under the door to prevent smoke from entering the room.

CONCLUSION

Fires are rare, but they do happen. Fires in medical facilities can be particularly dangerous due to the presence of oxygen and other flammable substances, as well as the challenge of evacuating patients who may not be ambulatory.

Knowing how to prepare for and respond to a fire is critical for all healthcare workers. Your appropriate response during a fire emergency can save your life, and the lives of your coworkers and patients as well.

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Hazardous Chemicals

Hazardous Chemicals

INTRODUCTION

To protect and inform workers about potential hazards they may be exposed to, the United States Occupational Safety and Health Administration (OSHA) created certain standards.

These standards state that:
- You have the right to know about chemical hazards in your workplace.
- Facilities are required to educate and train individuals who may work with hazardous substances.

OSHA also provides specific criteria for how health and physical standards are classified, and how chemicals are classified, based on international standards. Hazardous chemical labeling requirements are now consistent worldwide, to protect those who work with them.

PURPOSE/OVERALL GOAL

This module outlines what you as a healthcare worker need to know about working with hazardous chemicals. In particular, the focus is on how to read and understand the labels and Safety Data Sheets (SDS) that accompany every chemical in your facility.

The goal of this module is to keep you as safe as possible from accidental chemical exposure in your workplace.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Describe the chemical hazards that may be faced on the job
2. Describe how to protect him/herself as well as coworkers, patients, and visitors from these hazards
3. Demonstrate understanding of chemical labels and Safety Data Sheets
4. Explain safety procedures when working with chemicals
5. Understand what to do in the event of a hazardous spill

CHEMICAL SAFETY

In healthcare, chemical safety is everyone's responsibility.

To ensure consistent safety information worldwide on hazardous chemical products, the United Nations adopted the Globally Harmonized System (GHS). This system defines and classifies the hazards of chemical products, and calls for consistent health and safety information on labels and safety data sheets.

The United States Occupational Safety and Health Administration (OSHA) requirements are in line with the GHS. The goal is to give workers easy-to-understand information to help avoid injuries and illnesses related to exposure to hazardous chemicals.

Information for every chemical is provided on a Safety Data Sheet, or SDS (formerly known as a Material Safety Data Sheet, or MSDS). To protect yourself, it is critical that you understand chemical labels and the SDS.

Healthcare workers **MUST**:
1. Know what chemical hazards they may face on the job
2. Know how to protect themselves, coworkers, patients, and visitors from these hazards
3. Read and understand labels and Safety Data Sheets, and follow instructions and warnings
4. Follow safety procedures on the job

Facilities **MUST** implement a written hazard communication program including:
1. Listing hazardous chemicals in the workplace
2. Labeling on-site chemical containers
3. Making chemical information available to healthcare workers in the form of labels and SDS

Chemical manufacturers **MUST**:
- Determine the physical and chemical hazards of their products and the possible health effects
- Label chemical containers
- Provide SDS that details information about hazardous chemicals

PHYSICAL AND HEALTH HAZARDS

Hazardous chemicals can create two types of hazards: physical hazards and health hazards.

Physical hazards usually result from improper use or storage of hazardous chemicals. Physical hazards are posed by chemicals that are:
- Flammable (catch fire easily)
- Explosive (causes a sudden release of pressure, gas, and heat)
- Reactive (burns, explodes, or releases toxic vapor if exposed to other chemicals, heat, air, or water)

Health hazards are posed by chemicals that, upon exposure, can affect body organs or systems including:
- Lungs
- Eyes
- Kidneys
- Skin
- Mucous membranes
- Blood-producing system
- Reproductive system

Signs and symptoms of chemical exposure include:
- Skin rashes
- Headache
- Eye irritation
- Dizziness
- Nausea
- Difficulty breathing or wheezing

Existing medical conditions can also be aggravated by exposure to hazardous chemicals. Effects can be acute and appear right after the exposure, such as a rash, burn, or wheezing. Effects can also be chronic or long-term and may take years to develop, such as cancer, birth defects, or sterility.

TYPES OF CHEMICAL EXPOSURE

There are four different ways a chemical could enter your body. These types of exposures include:

1. **Inhalation.** Inhaling hazardous chemicals could cause:
   o Dizziness
   o Headaches
   o Nausea
   o Vomiting
   o Throat and/or lung damage

2. **Absorption.** Skin and eye contact could cause:
   o Burns
   o Allergies
   o Vision problems
   o Blindness
   In addition, cuts and other skin injuries may allow chemicals to pass into your bloodstream.

3. **Ingestion.** Swallowing hazardous chemicals when you eat, drink, or smoke in areas where chemicals are located could damage your internal organs.

4. **Injection.** An accidental puncture with a needle, scalpel, or any sharp object can allow toxins to enter your bloodstream directly and circulate throughout your body.

CHEMICAL INFORMATION

Before you use a chemical, you must know this important information about it:
1. Proper use
2. Precautions
3. Treatment if accidentally exposed to it

This information has been researched by the chemical manufacturers and can be found on container labels and Safety Data Sheets (SDS).

It is the manufacturer's responsibility to research the product and the chemicals it contains, provide a SDS for the product, and provide a warning label.

Common chemical hazards in a healthcare facility may include:
- Acids and bases
- Natural rubber latex (proteins)
- Resins and adhesives
- Soaps and detergents
- Solvents
- Cadmium/lead
- Ethylene oxide
- Formaldehyde
- Glutaraldehyde
- Mercury
- Phenol
- Xylene

LABELS

Chemical manufacturers must label every container of hazardous chemicals. The format will differ from company to company, but the labels must contain similar types of information.

- All chemical containers **MUST** be labeled.
- If you pour a chemical from a larger container into a smaller one, the smaller container **MUST** still be labeled.
- If the chemical is a disinfectant, the date it was poured or mixed and the contact time **MUST** also be included on the label. The contact time is the time the chemical must remain on the surface for effective cleaning and disinfecting.

Some key points regarding labels:

- The labels will help you know how to properly store the hazardous chemicals.
- The information on the label works together with information contained on the Safety Data Sheet (SDS). For example, the precautionary statements will be the same on the label and on the SDS.
- The information on the labels can also help you or emergency personnel to quickly find information on first aid if needed.

The following six items are what you should expect to see on labels:

1. **Product Identifier.** This is how the hazardous chemicals are identified and includes the chemical name and code/batch number.
   o The manufacturer, importer or distributor can decide the appropriate product identifier.
   o However, the same product identifier that is used must be both on the label and in Section 1 of the SDS for Identification.

2. **Signal Word.** This is used to indicate the relative level of severity of hazard. It also alerts you to a potential hazard on the label. Only two signal words are used:
   o "Danger" is used for the more severe hazards
   o "Warning" is used for the less severe hazards

3. **Pictogram.** When chemicals have multiple hazards, different pictograms are used to identify the various hazards. The healthcare worker should expect to see the appropriate pictogram for the corresponding hazard class.
   - o The pictogram that must be included on the labels must be in the shape of a square set at a point.
   - o It must include a black hazard symbol on a white background with a red frame that must be wide enough to be clearly visible.

HAZCOM STANDARD PICTOGRAMS

Health Hazard	Flame	Exclamation Mark
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	Corrosion	Exploding Bomb
• Gases Under Pressure	• Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle	Environment (Non-Mandatory)	Skull and Crossbones
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

4. **Hazard Statement.** This should include the nature of the hazard(s) of a chemical, including the degree of the hazard, where appropriate. One example of this is: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin."
    o   **ALL** of the applicable hazard statements must appear on the label.
    o   Hazard statements may be combined where appropriate to reduce redundancies and improve readability.
    o   All chemical users should always see the same statement for the same hazards, no matter what the chemical is or who produces it.

5. **Precautionary Statement(s).** This phrase describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling. In cases where there are similar precautionary statements, the one providing the most protective information will be included on the label.

6. **Name, Address & Phone Number of Chemical Manufacturer, Distributor, or Importer.** This information should always be displayed on each label.

SAFETY DATA SHEETS (SDS)

The Safety Data Sheet (SDS), formerly called MSDS, is a basic hazard communication tool that provides details on:
1. Chemical and physical dangers
2. Safety procedures
3. Emergency response techniques

There are 16 sections to the SDS. As a healthcare worker, you will find information on exposure limits, engineering controls, and personal protective equipment in Section 8.

The SDA gives you all of the information you need to work safely with chemicals. Check with your supervisor for the location of your facility's SDS.

Here is the information provided in each section of the 16 SDS sections:

SECTION	TOPIC	DESCRIPTION
1	Identification	✓ Common name, product, manufacturer/ importer/ responsible party name, address, and telephone number ✓ Recommended use of the chemical (for example, flame retardant) and restrictions on use (for example, recommendations given by supplier)
2	Hazard(s) identification	✓ Hazardous classification (such as "flammable liquid") ✓ Signal Word ✓ Hazard Statement(s) ✓ Pictograms ✓ Precautionary Statement(s) ✓ Description of any hazards not otherwise classified ✓ For a mixture that contains an ingredient with unknown toxicity, percentage of how much of the mixture consists of ingredient(s) with unknown toxicity
3	Composition/ information on ingredients	For substances: ✓ Chemical name ✓ Common name and synonyms ✓ Chemical abstracts ✓ Impurities/stabilizing additives For mixtures: ✓ Same information as required for substances ✓ Chemical name and concentration (such as exact percentage) of all ingredients classified as a health hazard

SECTION	TOPIC	DESCRIPTION
4	First-aid measures	✓ Necessary first-aid instructions by relevant routes of exposure (such as what to do in the event of inhalation, skin and eye contact, ingestion) ✓ Description of the most important symptoms or effects, and any symptoms that are acute or delayed ✓ Recommendations for immediate medical care and special treatment needed, when necessary
5	Firefighting measures	✓ Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation ✓ Advice on specific hazards that develop from the chemical during the hazardous combustion products created when the chemical burns ✓ Recommendations on special protective equipment or precautions for firefighters
6	Accidental release measures	✓ Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing ✓ Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing ✓ Methods and materials used for containment (such as covering drains and capping procedures) ✓ Cleanup procedures (such as appropriate techniques for neutralization, decontamination, cleaning/vacuuming, adsorbent materials; and/or equipment required for containment/cleanup)
7	Handling and storage	✓ Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (such as stating that eating or drinking in work areas is prohibited) ✓ Recommendations on the conditions of safe storage and incompatibilities, as well as specific storage requirements (such as ventilation requirements)
8	Exposure controls/personal protection	✓ Exposure limits as used or recommended by agency (OSHA, etc.), chemical manufacturer, importer, or employer, where available ✓ Appropriate engineering controls ✓ Personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE)

SECTION	TOPIC	DESCRIPTION
9	Physical and chemical properties	✓ Minimum required information (as applicable/available) consists of: Appearance (physical state, color, etc.), Odor, Odor threshold, pH, Melting point/freezing point, Initial boiling point/range, Flash Point, Evaporation rate, Flammability (solid, gas), Upper/lower flammability/explosive limits, Vapor pressure/density, Relative density, Solubility(ies), Partition coefficient (n-octanol/water), Auto-ignition temperature, Decomposition temperature, and Viscosity
10	Stability and reactivity	✓ Reactivity: Description of the specific test data such as class or family of the chemicals ✓ Chemical Stability: Indication of whether the chemical is stable or unstable
11	Toxicological information	✓ Information on the likely routes of exposure (such as inhalation, skin, eye contact) ✓ Description of delayed, immediate, or chronic effects from short-term and long-term exposure ✓ Numerical measures of toxicity ✓ Description of symptoms ✓ Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens, or has been found to be a potential carcinogen by International Agency for Research on Cancer (IARC) Monographs or by OSHA
12	Ecological information (non-mandatory)	✓ This section provides information to evaluate the environmental impact of the chemical
13	Disposal considerations (non-mandatory)	✓ This section provides guidance on proper disposal practices, recycling, or reclamation of the chemical(s) or its container, and safe handling practices (refer to Section 8 of the SDS for information on Exposure Controls/Personal Protection)
14	Transport information (non-mandatory)	✓ This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea
15	Regulatory information (non-mandatory)	✓ This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS
16	Other information	✓ This section indicates when the SDS was prepared or when the last known revision was made

DEALING WITH HAZARDOUS SPILLS

Your facility will have specific clean-up policies for various types of hazardous spills. Please consult with your supervisor in the event you encounter a hazardous spill in an area in which you are working.

In general, you should respond to a hazardous spill by:
- Protecting your safety and the safety of others
- Isolating the scene and denying entry to it
- Notifying the individual or department responsible for cleaning up hazardous spills

CONCLUSION

Hazardous chemical communication is a valuable way to ensure everyone benefits from the same safety warnings. But it can protect you only if you:

1. Read labels and SDS
2. Know where to find information about the chemicals you work with
3. Follow warnings and instructions
4. Use and store chemicals safely
5. Use the correct protective clothing and equipment when handling hazardous substances
6. Learn emergency procedures in the event of a spill or exposure
7. Practice sensible, safe work habits

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HIPAA
Health Insurance Portability and Accountability Act

HIPAA: Health Insurance Portability and Accountability Act

INTRODUCTION

Healthcare workers and organizations rely heavily on the sharing of patient information. As the industry continues to move toward electronic sharing of patient records, protecting the privacy of health information becomes more of a challenge.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), Public Law 104-191, was enacted in 1996 to address these concerns.

HIPAA establishes standards for the fast and accurate exchange of health information data, while maintaining the security of that information.

PURPOSE/OVERALL GOAL

This module outlines what you as a healthcare worker need to know about Protected Health Information (PHI) and HIPAA rules and regulations concerning patient privacy and the confidentiality of health information.

The goal of this module is to provide the information you need to comply with HIPAA privacy and security rules at all times.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Describe the importance of complying with HIPAA rules and regulation
2. Define Protected Health Information (PHI)
3. Describe how PHI can become compromised
4. Explain what to do in the event of a HIPAA violation
5. Describe the penalties for HIPAA violations

WHO MUST COMPLY WITH HIPAA?

HIPAA's main goal is to assure that a person's health information is properly protected – while still allowing the flow of health information needed to provide high-quality healthcare and to protect the public's health and well-being.

According to HIPAA, all "Covered Entities" must comply with privacy and security rules.

"Covered Entities" include:
1. Healthcare providers (including doctors, nurses, hospitals, dentists, nursing homes, and pharmacies). Under HIPAA, a healthcare provider is defined as:
   o Any person or organization that furnishes, bills, or is paid for healthcare services in the normal course of business, and transmits and stores that healthcare information
   o A person or organization that engages a third party to process, transmit, and store claims
2. Health plans (insurance companies)
3. Healthcare clearinghouses, which are entities that process certain information, such as:
   o Billing services
   o Repricing companies
   o Community health management information systems

As a healthcare worker, you are part of the "healthcare provider" network and therefore are required comply with HIPAA rules and regulations regarding Protected Health Information (PHI).
Workers in dietary, engineering, housekeeping, etc. may have access to PHI and also required to comply with HIPAA regulations.

WHAT IS PROTECTED HEALTH INFORMATION (PHI)?

Protected Health Information (PHI) is:
- Individually identifiable health information
- Information that is linked to a patient

PHI relates to:
- A person's past, present, or future physical or mental health or condition
- The provision of healthcare to a person
- The past, present, or future payment for the provision of healthcare to the person

Individually identifiable health information is either:
- Health information that specifically identifies a person, or
- Information that could reasonably be expected to identify a person, even if that person is not named

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An example of Protected Health Information (PHI):

Mary Smith is the only 50-year-old patient with a diagnosis of lung cancer at XYZ Hospital.

The following statement DOES NOT provide individually identifiable health information about Mary Smith and is therefore NOT PHI:
- There are presently 7 persons of all ages with a diagnosis of lung cancer at XYZ Hospital.

The following statement DOES provide individually identifiable health information:
- There is a 50-year-old woman with lung cancer at XYZ Hospital.

Though the second statement does not mention Mary Smith by name, it is PHI because Mary Smith is the only person who fits the description.

Many different types of information can identify an individual's PHI under HIPAA, including but not limited to:
- Patient's name
- Patient's address
- Dates directly related to a person, such as birth date, admission date, discharge date, death date
- Telephone number, fax number, email address
- Social security number, medical record number, account number
- The individual's e-mail, URL, or IP address
- Health plan beneficiary number (insurance number)
- Certificate/license number
- Vehicle identifier and serial number, including license plate number
- Biometric identifier, including fingerprints and voice prints
- Full-face photographs and any comparable images
- Any other unique identifying number, characteristic, or code

HOW SHOULD PHI BE USED AND DISCLOSED?

HIPAA protects the privacy of Personal Health Information (PHI). Here are some important facts to keep in mind:

- As a healthcare worker, if you are involved in the gathering, storing, and transmission of patient information, you MUST comply with HIPAA.
- Failure to follow HIPAA regulations could result in fines for you and/or your employer.
- However, PHI can be used and disclosed without a signed or verbal authorization from the patient when it is a necessary part of treatment, payment, or healthcare operations.

HIPAA allows the use or disclosure of PHI for the following reasons:

1. For treatment
2. For payment
3. For healthcare operations
4. When authorized by the individual
5. When required by law

About the Minimum Necessary Standard Rule

The Minimum Necessary Standard Rule states that only the information needed to get the job done should be provided.

- Healthcare organizations MUST obtain permission or authorization from a patient for the purpose of marketing, advertising, and other purposes.
- Healthcare organizations must establish written privacy policies and procedures regarding protected health information.
- Caregivers should refer to their facility's health information policies and procedures regarding the use and disclosure of PHI.

The Minimum Necessary Standard Rule does NOT apply to the following:

1. Disclosures to or requests by a healthcare provider for treatment purposes (such as communication hand-offs)
2. Disclosures to the patient
3. Uses or disclosures made with a patient's authorization
4. Uses or disclosures required for compliance with HIPAA Rules
5. Disclosures to the U.S. Department of Health and Human Services when disclosure of information is required under HIPAA for enforcement purposes
6. Uses or disclosures that are required by other laws

HIPAA PRIVACY AND SECURITY RULES

The Privacy Rule

Under HIPAA, the Privacy Rule protects the privacy of all Protected Health Information (PHI), which is individually identifiable health information that is gathered, stored, or transmitted on paper, orally, or by electronic or any other media.

It is important to know that the HIPAA Privacy Rule requirements:
- Apply to most healthcare providers
- Set a federal standard for protecting individually identifiable health information across all mediums (electronic, paper, and oral)
- Limit how Covered Entities may use and disclose individually identifiable health information they receive or create
- Give individuals rights with respect to their PHI, including:
  - The right to examine and obtain a copy of information in their medical records
  - The right to ask Covered Entities to amend their medical record if information is inaccurate or incomplete
- Impose administrative requirements for Covered Entities; and establish civil penalties

Under the HIPAA Privacy Rule:
- All patients MUST receive a healthcare organization's Notice of Privacy Practices.
- Patients may give a verbal authorization to provide PHI to family members and friends.
- Patients are notified of their rights to complain about an organization's compliance with the Privacy Rule.
- Patients have the right to access and amend their own Personal Health Information.

The Security Rule

The Security Rule establishes national standards to protect certain health information that is held or transferred in electronic form.

The Security Rule requires appropriate safeguards to ensure the confidentiality, integrity, and security of electronic Protected Health Information (PHI).

The U.S. Office of Civil Rights, in conjunction with the federal Department of Justice, is responsible for enforcing this rule and imposing criminal penalties of imprisonment and fines for HIPAA violations involving PHI.

HOW PHI CAN BE COMPROMISED

In order to understand how a caregiver can safeguard Protected Health Information (PHI), it is important to understand how PHI can be compromised.

Here are ways in which PHI could be compromised:
- Face-to-face conversations
- Telephone or dictated conversations
- On unprotected computer hard drives or on copy machines
- Via fax transmissions
- Through mobile devices, laptops, flash drives, CDs
- Via cell phones or PDAs (personal digital assistants that function as electronic organizers)
- Through email, text messages, or social media posts
- By disposing PHI in the trash
- Having unsecured PHI (no data encryption, unsecured networks, unlocked file cabinets)
- Through inappropriate access, such as a caregiver accessing the PHI of a patient they are not caring for

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An example of how Protected Health Information (PHI) can be compromised:

A caregiver is in a hallway talking on a cell phone about a patient, and someone passing by overhears the conversation. This is a violation of HIPAA rules.

Conversations of this nature should be in a private location where confidentiality of PHI cannot be compromised. As a healthcare worker, you are responsible for the privacy and security of patients' health information.

PHI ACCESS AND DISCLOSURE

Under HIPAA, patients have certain rights regarding their Protected Health Information (PHI).
- Patients have the right to request, inspect, and receive a copy of their own PHI, including electronic records.
- A response to such a request must be made within 30 days. An exception of this would be psychotherapy notes and information that has been gathered in anticipation of civil, criminal, or administrative action.
- Patients also have the right to amend their Protected Health Information. An organization can require that these requests are in writing and that the individual explains the reason for the change.
- Patients also have a right to know the identities of individuals or agencies that have accessed their PHI for the past six years.

Special Circumstances

Protecting public health – such as through public health surveillance, program evaluation, terrorism preparedness, outbreak investigations, and other public health activities – often requires access to or the reporting of Protected Health Information.

HIPAA permits Covered Entities to disclose protected health information without authorization for specified public health purposes.

There may be more rigorous state laws regarding special circumstances, so it is important for you as a healthcare worker to know about the policies and procedures in place for your organization.

HIPAA VIOLATIONS

A HIPAA violation is the use or disclosure of Protected Health Information (PHI) in a way that compromises an individual's right to privacy or security and poses a significant risk of financial, reputational, or other harm.

The HIPAA Breach Notification Rule requires Covered Entities to promptly notify the affected person as well as the U.S. Secretary of Health and Human Services of the loss, theft, or certain other impermissible uses or disclosures of PHI.

As a healthcare worker, you must report any knowledge of potential or actual violations immediately to your supervisor.

An example of a HIPAA violation:

A well-known actress is being treated at your hospital, and there is much excitement among the staff. The fact that she has been hospitalized has not been made known or reported in the media.

 This actress is a favorite of your best friend, so you text your friend to say that the celebrity is a patient at your facility. You don't disclose the reason; only the fact that she is there.

This is a HIPAA breach that could leave you and your employer open to penalties that may include fines and imprisonment.

PENALTIES FOR HIPAA VIOLATIONS

All healthcare workers must follow their organization's health information privacy and security policies and procedures mandated under HIPAA.

Workers who violate these policies could place themselves and their organization at risk for investigative or enforcement actions by the U.S. Department of Health and Human Services. In addition, there may be penalties imposed by their respective state and professional licensing boards.

The U.S. Department of Health and Human Services' Office for Civil Rights (OCR):
- Is responsible for administering and enforcing the HIPAA Privacy and Security Rules
- Conducts associated complaint investigations, compliance reviews, and audits
- May impose fines on covered providers for failure to comply with the HIPAA Rules

The State Attorney General may also enforce provisions of the HIPAA Rules.

Failure to comply with the HIPAA Rules can result in the following civil and criminal penalties:

Civil Monetary Penalties under HIPAA		
Violation Category	Per Violation (Minimum)	Maximum Civil Monetary Penalties for Violations
Did not know (and by exercising reasonable diligence would not have known) that he/she violated HIPAA	$100 per violation, with an annual maximum of $25,000 for repeat violations	$50,000 per violation, with an annual maximum of $1.5 million
Reasonable cause (not due to willful neglect)	$1,000 per violation, with an annual maximum of $100,000 for repeat violations	$50,000 per violation, with an annual maximum of $1.5 million
HIPAA violation due to willful neglect but violation is corrected (within required time period)	$10,000 per violation, with an annual maximum of $250,000 for repeat violations	$50,000 per violation, with an annual maximum of $1.5 million
HIPAA violation is due to willful neglect (not corrected)	$50,000 per violation, with an annual maximum of $1.5 million	$50,000 per violation, with an annual maximum of $1.5 million

Criminal Penalties under HIPAA
- Up to $50,000 and 1 year in prison for improperly obtained or disclosed PHI   - Up to $100,000 and up to 5 years in prison for offenses committed in obtaining PHI under false pretenses   - Up to $250,000 and up to 10 years in prison for offenses committed in disclosing PHI with the intent to sell, transfer, or use this information for commercial advantage, personal gain, or malicious harm

RECOMMENDATIONS FOR CAREGIVERS

As a healthcare worker, here are recommendations to help you follow HIPAA rules and regulations regarding patient confidentiality:

- ✓ Ensure conversations regarding patients, such as hand-off communications, are done in a confidential area.
- ✓ Avoid discussing a patient's condition in front of other patients, visitors, or family members in a hallway.
- ✓ Lower your voice when discussing patient information in person and/or over the phone.
- ✓ Avoid having conversations about patients in public places, such as elevators, public hallways, or the cafeteria.
- ✓ Ensure that patient-related information is not visible to the public, such as on computer screens.
- ✓ Sign off of computers when not in use.
- ✓ Use passwords on desktop and portable media devices, and change them as often as your organization's policy allows.
- ✓ Never share your password.
- ✓ Ensure data-encrypted computers are used for Protected Health Information (PHI).

Use these precautions to protect PHI from accidental disclosure:

- ✓ Avoid sending PHI by email if at all possible.
- ✓ Do not post patient information or photos on social media (such as Facebook, Twitter, Instagram, etc.).
- ✓ Use a fax cover sheet when faxing PHI and double-check the fax number to be sure it is correct.

HITECH ACT REGARDING ELECTRONIC HEALTH RECORDS

The Health Information Technology for Economic and Clinical Health Act (HITECH Act) was created in 2009 to stimulate the adoption of electronic health records (EHR) while addressing the privacy and security of electronically transmitted health information.

An EHR is an electronic version of a patient's medical history and is maintained by the provider. The EHR is a means to automate access to personal health information and improve clinical workflow processes.

The EHR may include clinical data such as:
- Demographics
- Progress notes
- Problems
- Medications
- Vital signs
- Past medical history
- Immunizations
- Laboratory data
- Radiology reports

The HITECH Act is an amendment to HIPAA that provides increased responsibility for the protection of Protected Health Information (PHI) in electronic form. It is essential for you as a healthcare worker to understand how the HITECH Act affects you in the workplace setting.

The HITECH Act requires:
- Increased development and use of EHR in the workplace
- Increased development and monitoring of EHR security in the workplace; in other words, who is accessing EHR and do they have a "need to know"
- Immediate reporting of any and all EHR security breaches
- Increased penalties for HIPAA breaches
- Periodic audits by the U.S. Department of Health and Human Services
- Mandatory penalties imposed for "willful neglect"

CONCLUSION

For healthcare workers, it is crucial to know how to balance patient confidentiality with the need for effective communication to ensure quality patient care.

Understanding HIPAA rules and regulations, as well as your facility's policies and procedures, can ensure that Protected Health Information (PHI) remains safeguarded and in the hands of only the individuals who have a need and a right to know it.

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Infection Control/ Bloodborne Pathogens

Infection Control/Bloodborne Pathogens

INTRODUCTION

Infectious diseases are caused by microscopic organisms that penetrate the body's natural barriers and multiply. They create symptoms that can range from mild to fatal.

The U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization, and other agencies have established guidelines to help protect patients and healthcare workers from exposure to potential infections. These guidelines establish policies for hand-washing, the use of Personal Protective Equipment (PPE), safe injection practices, cough etiquette, and more.

Following Standard Precautions is a requirement, not an option. It will reduce your risk of cross contamination from infected patients to yourself and others, as well as from yourself to patients. Standard Precautions must be used for all patients, at all times, by all healthcare workers.

PURPOSE/OVERALL GOAL

This module outlines procedures for healthcare workers to avoid personal exposure to infections and bloodborne pathogens, and to keep infections from spreading to patients, visitors, and other workers.

The goal of this module is to instruct you on how to stay safe from infection as you go about your work at your facility.

COURSE OBJECTIVES

After completing this module, the learner should be able to:
1. Explain the importance of standard infection-control precautions
2. Explain how to protect themselves and others from infection
3. Define Personal Protection Equipment and how to use it
4. Describe precautions to take for patients with serious infections
5. Describe how to handle and dispose of infectious waste

HAND HYGIENE

Hand-washing is considered the single most important procedure for preventing nosocomial (hospital - acquired) infections. Any healthcare worker involved in direct or indirect patient care must know how and when to perform proper hand hygiene.

The World Health Organization states that hands must always be properly washed:
1. Before patient contact
2. Before performing an aseptic procedure (a procedure that must be free from bacteria and other microorganisms)
3. After exposure to any body fluids
4. After patient contact
5. After contact with patient surroundings (touching items in the immediate patient care environment, even if you don't touch the patient)

If your hands are not visibly soiled, you may use an alcohol-based rub:
1. Apply the product to the palm of one hand.
2. Rub your hands together, covering all surfaces of hands and fingers.
3. Rub until your hands are dry.

If your hands are soiled, wash with soap and water following these procedures:
1. Wet your hands first with water.
2. Apply soap; liquid, bar, or powdered forms of plain soap are acceptable.
3. Rub your hands together vigorously for at least 15 seconds, covering all surfaces of your hands and fingers.
4. Rinse your hands with water and dry thoroughly with a disposable towel.
5. Use the towel to turn off the faucet.
6. Avoid using very hot water, since repeated exposure to hot water may increase the risk of dermatitis.

If you use hand lotion:
- You should have your own container; shared bottles can easily become contaminated.
- Use only water-based products and only those that are hospital-approved. Just because a product washes off with water does not mean it is water-based.
- Using lanolin or oil-based lotions before donning gloves will seriously weaken the gloves, increasing the risk that germs will pass through the gloves.

Fingernails:
- Numerous studies have been conducted on artificial nails, the nail hygiene of healthcare personnel, and the transmission of healthcare-associated infections to patients.
- The U.S. Centers for Disease Control and Prevention (CDC) states that nail tips should be less than one-quarter inch long.
- The CDC and the World Health Organization state that those who have direct contact with patients at high risk should not have artificial fingernails or extenders.

GLOVES

Personal Protective Equipment (PPE) is specialized clothing or equipment designed for your protection against infection. Gloves are a type of PPE.

Gloves MUST be worn when there is a possibility of contact with:
1. Blood and/or body fluids
2. Mucous membranes
3. Non-intact (broken) skin
4. Contact with contaminated items

Keep these important facts in mind regarding gloves:
- Wear gloves that fit properly.
- Do not wear the same pair of gloves for the care of more than one patient.
- Do not wash gloves so that you can reuse them.
- Remove and/or change gloves after you complete your task and whenever the gloves become soiled or damaged.
- Turn the gloves inside out when removing them, and dispose of them in the proper receptacle.
- Clean your hands before putting gloves on and also immediately after removing them.
- Never wear multiple layers of gloves in order to "peel off" layers between tasks.
- Always wear the right gloves for the job:
  - Wear heavy work gloves for cleaning.
  - Never wear latex gloves when caring for a patient with a latex allergy; instead, wear a synthetic glove such as vinyl.

Latex Allergies

Latex is contained in a variety of products such as gloves, catheters, adhesive bandages and tape, and more. It is also present in a variety of household items such as rubber bands, balloons, condoms, and dental dams.

Allergic reactions to latex range from skin irritation and itching to life-threatening episodes of anaphylactic shock. It is the responsibility of healthcare workers to protect themselves, coworkers and patients from unnecessary exposure to latex.

Some important points to remember about latex allergies:
- Ask patients questions about allergies, including latex allergies, in terms that they understand.
- Document findings in the patient chart.
- All latex products, including gloves, MUST be kept away from allergic patients and staff.
- Latex products release latex allergens into the air, and these allergens may cause reactions in latex-allergic persons.
- Glove powder from latex gloves may carry enough latex allergen through the air to cause reactions in allergic persons.
- If you suspect that you have a latex allergy, contact Employee Health for an appointment to rule out this allergy.

GOWNS, MASKS, EYE PROTECTION

Other types of Personal Protective Equipment (PPE) include gowns, masks, and eye protection.

Wear a gown that is appropriate to your task, to protect your skin and prevent soiling or contamination of your clothing during procedures or activities when you are likely to come in contact with blood, body fluids, excretions, or secretions.
- Do not wear the same gown for the care of more than one patient.
- Remove a soiled gown as soon as possible.
- Practice hand hygiene after removal of gown.

Wear a mask and eye protection or a face shield to protect the mucous membranes of your eyes, nose, and mouth during procedures or activities when you are likely to come in contact with blood, body fluids, excretions, or secretions.

To protect your respiratory tract from airborne infectious agent such as tuberculosis (TB), use a respirator (commonly called the "N95 mask") when necessary.

SAFE INJECTION PRACTICES

According to the U.S. Centers for Disease Control and Prevention (CDC), improper use of syringes, needles, and medication vials during routine healthcare procedures have resulted in transmission of bloodborne viruses such as hepatitis and human immunodeficiency virus (HIV).

Recommendations by the CDC for safe injection practices include:
- Follow proper infection control practices.
- Maintain Aseptic Technique when preparing and administering injected medications (follow hand-washing guidelines and maintain a sterile field).
- Never administer medications from the same syringe to more than one patient, even if the needle is changed.
- Never enter a vial with a used syringe or needle.
- Do not use medications packaged as single-dose or single-use for more than one patient.
- Do not use bags of intravenous solution as a common source of supply for more than one patient.
- Limit the use of multi-dose vials and dedicate them to a single patient whenever possible.
- Always use facemasks when injected material or inserting a catheter into the epidural or subdural space.

RESPIRATORY INFECTIONS/COUGH ETIQUETTE

Coughs and sneezes produce droplets that can be inhaled by people nearby, spreading viruses. Following simple "cough etiquette" procedures can help protect you as a healthcare worker as well as patients and visitors at your facility.

- ✓ Cover your mouth and nose when you cough or sneeze, with a tissue if at all possible.
- ✓ Throw used tissues away immediately.
- ✓ Use a surgical mask for patients who are coughing, if tolerated and appropriate.
- ✓ Use a surgical mask yourself if you are coughing.
- ✓ Clean your hands after contact with respiratory secretions.
- ✓ Stay at least three feet away, if possible, from people with respiratory infections.

BLOODBORNE PATHOGENS

Bloodborne pathogens are infectious microorganisms in human blood that can cause disease. Examples are hepatitis B (HBV), hepatitis C (HCV), and human immunodeficiency virus (HIV, the virus that causes AIDS).

Healthcare workers are at risk for exposure through needle sticks or other sharps related injuries. All used sharps are considered contaminated.

It is essential to follow these guidelines:
- Never bend or break needles and other used sharps after use.
- Never recap contaminated needles.
- Always use needle-based safety devices when available.
- Never carry a used sharp in a pocket.
- Dispose of sharps in designated sharps disposal containers.
- Sharps disposal containers should be sealed and removed when three-quarters full to avoid overflow.
- Do not attempt to remove anything from a sharps disposal container.
- Properly dispose of all sharp objects, such as syringes with needles and scalpels, after use.

The U.S. Occupational Safety and Health Administration requires employers to:
- Establish an exposure control plan and update it annually
- Implement the use of Standard Precautions (treating all blood and other potentially infectious material as if known to be infectious for bloodborne pathogens)
- Identify and use engineering controls (sharps disposal containers, self-sheathing needles, and safer medical devices such as needleless systems)
- Identify and ensure the use of work practice controls (appropriate practices for handling and disposing of contaminated sharps, handling specimens, handling laundry, and cleaning contaminated surfaces and items)
- Provide Personal Protective Equipment (PPE)
- Make hepatitis B vaccinations available to all workers with occupational exposure
- Make post-exposure evaluation and follow-up available to any occupationally exposed worker who experiences an exposure incident
- Use labels and signs to communicate hazards
- Provide information and training to workers, and maintain worker medical and training records

HEPATITIS

Hepatitis is a serious disease of the liver, an organ necessary for life. Hepatitis B (HBV) and hepatitis C (HCV), the two most serious kinds of hepatitis, are similar kinds of liver infections caused by different viruses.

Although there are fewer new hepatitis C infections each year compared with hepatitis B, there are more deaths in the long term due to hepatitis C.

About 50% of hepatitis B infections and 75% of hepatitis C infections cause no initial symptoms. When symptoms do occur, they include:
- Jaundice (yellowing of skin and eyes)
- Loss of appetite
- Dark urine
- Nausea and vomiting
- Fever
- Fatigue
- Clay-colored bowel movements
- Joint pain
- Abdominal pain

Hepatitis B and hepatitis C viruses are transmitted through blood and body fluids. Methods of bloodborne transmission of HBV and HCV that you should be aware of include:
- Blood splashes from minor cuts and nosebleeds
- Procedures that involve blood
- Hemodialysis
- Sharing personal items like nail clippers, razors, and toothbrushes
- Sharing needles for intravenous drug use
- Body piercing and tattoos

Precautions for Healthcare Workers

Although it is rare, healthcare workers are at risk of becoming infected with hepatitis. Even exposure to a small amount of blood from an infected person can cause hepatitis.

Here are guidelines to follow:
- Assume that blood and other body fluids from all patients are potentially infectious.
- Routinely use Personal Protective Equipment (PPE) such as goggles and masks if you might come in contact with blood or body fluids
- Immediately wash your hands and other skin surfaces after contact with blood and body fluids.
- Carefully handle and dispose of sharp instruments during and after use.
- The CDC's Advisory Committee on Immunization Practices recommends that all healthcare workers at risk for exposure to blood or blood-contaminated body fluids receive the hepatitis B vaccination.

HIV/AIDS

HIV (human immunodeficiency virus) is the virus that causes AIDS (acquired immunodeficiency syndrome).

HIV weakens a person's immune system by gradually destroying the body's CD4 cells, which fight disease and infection. This makes a person more likely to get other infections or infection-related cancers. AIDS is considered to be the last stage of HIV infection.

Currently, no effective cure exists for HIV or AIDS. With antiretroviral therapy (ART), people can be treated before HIV progresses and have a nearly normal life expectancy. However, ART treatment is a lifetime therapy and must be strictly followed.

Many people infected with HIV may not feel sick or even know they have the virus for many years. During that time, the virus, a bloodborne pathogen, can infect other people – including healthcare workers.

To prevent the transmission of HIV, implement Standard Precautions (treating all blood and other potentially infectious material as if known to be infectious for bloodborne pathogens).

TRANSMISSION-BASED PRECAUTIONS

As a healthcare worker, you should be aware of the three specific Transmission-Based Precautions that are used for patients when there is a risk of the spread of infection by direct or indirect contact:
1. Contact Precautions
2. Droplet Precautions
3. Airborne Precautions

Contact Precautions

Contact Precautions are used for:
- Patients infected with multidrug-resistant organisms (MDROs)
- Situations where excessive wound drainage, fecal incontinence (may include patients with norovirus, rotavirus, or C. difficile), or other discharges from the body suggest an increased risk of transmission

Healthcare workers caring for patients on Contact Precautions should:
- Wear appropriate Personal Protective Equipment (PPE) such as gown and gloves when entering the patient's room
- Discard the PPE before exiting the patient's room to contain the pathogens
- Place those patients in a single room when possible

Droplet Precautions

Droplet Precautions are used in cases where respiratory secretions (saliva, mucus) could spread an infection. These patients may not need special air handling and ventilation in their room, but a single room is preferred.

Droplet Precautions may be used for patients with:
- Influenza (the flu)
- Whooping cough (pertussis)
- Adenovirus, which can cause bronchitis, pneumonia, diarrhea, and pink eye
- Group A streptococcus, which can cause strep throat

Healthcare personnel caring for patients on Droplet Precautions should:
- Wear a mask (a respirator is not necessary) for close contact with the patient
- Put the mask on as soon as they enter the patient's room
- Put a mask on the patient, if tolerated, when transporting the patient outside the room

Airborne Precautions

Airborne Precautions are used for patients with pathogens that remain infectious over long distances when suspended in the air. This includes:

- Measles
- Chickenpox (varicella)
- Tuberculosis
- Smallpox

When Airborne Precautions are necessary:

- An airborne infection isolation room (AIIR), which is a room with special air handling and ventilation equipment, is preferred.
- Healthcare personnel caring for patients on Airborne Precautions should wear a mask or respirator, depending on the disease-specific recommendations, which is donned prior to room entry.
- Whenever possible, non-immune healthcare workers should not care for patients with vaccine-preventable airborne diseases (measles, chickenpox, smallpox).

MULTIDRUG-RESISTANT ORGANISMS (MDRO)

Multidrug-resistant organisms (MDROs) are microorganisms, primarily bacteria, that are resistant to antimicrobial agents and therefore can be difficult to treat. Common MDROs are VRE and MRSA.

VRE (Vancomycin-Resistant Enterococci)

Vancomycin-resistant enterococci (VRE) are bacterial strains of the genus Enterococcus that are resistant to the antibiotic vancomycin. Enterococci are organisms found normally in the intestinal tract and, in females, in the vaginal tract.

People at higher risk for VRE are those who have been ill and have been taking many antibiotics or have weakened immune systems due to illness or age.

VRE:
- Are found most often in the stool
- Can also be found in the blood, urine, and wounds, or wherever it can be carried by blood
- Can be spread to other people by contact between persons

VRE are hardy organisms. They can survive on hard surfaces for 7 to 10 days and on hands for hours. But it is easy to kill them with hand-washing and the proper use of disinfectants.

Healthcare workers treating VRE patients must follow these rules:
- Gloves MUST be worn before or upon entry to patient's room.
- Hands MUST be washed after glove removal and before leaving the room.
- Gowns MUST be worn by anyone having contact with VRE patients or items that the patient may have come in contact with.
- A standard surgical mask is necessary if the organism is in the respiratory tract for close contact with the patient, which is defined as being within 2 to 3 feet.

MRSA (Methicillin-Resistant Staphylococcus Aureus)

MRSA is a strain of the germ Staphylococcus aureus that has developed resistance to most of the antibiotics commonly used to treat staph infections.

MRSA is passed from person to person through contact.
- A person who is infected with MRSA may have it in their nose as well as on their hands – so whenever they touch others, they can pass the germ along.
- MRSA can be transmitted from someone in contact with a MRSA patient to another patient.

Healthcare workers treating MRSA patients must follow these rules:
- Use Personal Protective Equipment (PPE), including gloves and gowns, if it can be reasonably anticipated that contact with blood or other potentially infectious materials may occur.
- Hands must be washed after touching blood, body fluids, secretions, excretions, and contaminated items. Also wash hands after glove removal and before leaving the room.
- A standard surgical mask is necessary if the organism is in the respiratory tract and close contact with the patient is required, which is defined as being within 2 to 3 feet.

TUBERCULOSIS

Tuberculosis (TB) is a disease that is caused by bacteria that are carried through the air by tiny droplets. TB mainly attacks the lungs, but any part of the body can be affected, including the kidneys, spine, and brain. With long-term medication, tuberculosis can be cured.

Symptoms of TB include:
- Chest pain
- Prolonged productive cough (3 weeks or longer)
- Coughing up of blood or sputum
- Fever, chills, night sweats
- Weight loss, lack of appetite
- Weakness or fatigue

TB transmission:
- TB is transmitted through the air when a person with TB in the lungs or throat coughs, sneezes, or speaks, infecting those nearby if they inhale the infectious airborne droplets.
- According to the U.S. Centers for Disease Control and Prevention (CDC), TB is NOT spread by shaking someone's hand, sharing food or drink, touching bed linens or toilet seats, sharing toothbrushes, or kissing.

There are two types of tests for TB – a skin test or TB blood test. People working in healthcare settings should receive an initial TB skin test upon hire, and then annual tests depending on the type of setting.

Special precautions for healthcare workers regarding TB patients:
- TB patients should be in private rooms with their door kept closed.
- Pulmonary TB patients should be in a negative pressure ventilated room or an AIIR (airborne infection isolation room).
- Healthcare workers should wear a special "fit-tested" mask such as an N-95 or greater to provide at least 95% efficiency, and receive training on proper fitting and how to wear it correctly.
- The N-95 or greater efficiency mask should be worn when entering the patient's room and while in the room.
- Patients should be kept in their rooms as much as possible; if transportation is necessary, patient MUST wear a high-efficiency mask (if medically feasible).
- Patients should be encouraged to cough or sneeze directly into tissues and to dispose of them.
- HANDS MUST BE WASHED after touching the patient or potentially contaminated articles, and after taking off gloves, mask, and/or gown.

EBOLA

Ebola is a rare and deadly disease that first occurred in remote villages in central Africa but has affected people in other countries around the world.

Symptoms of Ebola may appear between 2 and 21 days after exposure and include:
- Fever
- Muscle pain
- Weakness
- Vomiting
- Fatigue
- Severe headache
- Diarrhea
- Abdominal pain
- Internal or external bleeding (from skin, eyes, gums)

It is difficult to diagnose a person in the first few days of contracting Ebola, mainly because the early symptoms are often seen in many other illnesses. The screening process includes taking a recent travel history. Confirmation of Ebola virus infection is with blood tests.

How Ebola is Transmitted
Ebola can infect humans and other mammals, including bats, monkeys, and apes. Human-to-human transmission occurs through direct contact with blood or body fluids of an infected person.

Healthcare providers caring for Ebola patients, as well as the family and friends in close contact with Ebola patients, are at the highest risk of contracting Ebola because they are more likely to come into contact with their blood or body fluids.

The virus also can be spread through contact with objects that have been contaminated with the virus, such as:
- Clothes
- Bedding
- Needles
- Syringes/sharps
- Medical equipment

Currently there is no FDA-approved vaccine or medicine available for Ebola. These basic interventions, when used early, can significantly improve the chances of survival:
- Providing intravenous (IV) fluids and electrolytes
- Maintaining oxygen status and blood pressure
- Treating other infections that may occur

Caring for a Suspected Ebola Patient
If a patient has met the criteria for Ebola:
- Healthcare providers should implement Standard, Contact, and Droplet Precautions using appropriate Personal Protective Equipment (PPE).
- The patient should be placed in isolation in a single patient room with a private bathroom.
- The patient's door(s) should be kept closed.
- A log should be maintained of all persons entering the patient's room.
- Public health officials should be notified.

Special Precautions for Healthcare Workers
Here are recommendations from the U.S. Centers for Disease Control and Prevention (CDC) for healthcare workers in close contact with patients who have suspected or known Ebola infection:
1. ALL body parts should be completely covered when putting on Personal Protective Equipment (PPE).
2. Impermeable garment should be:
   - Single-use (disposable) fluid-resistant or impermeable gown that extends to at least mid-calf, OR
   - Coverall without integrated hood
3. Respiratory protection should be:
   - PAPR (powered air purifying respirator), a hooded respirator with a full-face shield, helmet, or headpiece. Any reusable helmet or headpiece must be covered with a single-use hood that extends to the shoulders and fully covers the neck and is compatible with the selected PAPR, OR
   - A single-use N95 respirator in combination with single-use surgical hood extending to the shoulders and single-use full-face shield.
4. Single-use boot covers that are waterproof and go to at least mid-calf
5. Single-use examination gloves with extended cuffs, using double-glove technique (sterile for some procedures)
6. Single-use apron that is waterproof and covers the torso to the level of the mid-calf should be used if Ebola patients have vomiting or diarrhea

Healthcare workers should receive rigorous and repeated training to ensure they are knowledgeable and proficient in putting on (donning) and taking off (doffing) PPE prior to managing an Ebola patient. The sequence for donning and doffing are critical to avoiding exposure.

A clear layout and separation between clean and potentially contaminated areas is critical to prevent contamination and exposure.

Non-dedicated, non-disposable equipment used for patient care should be immediately cleaned and disinfected according to manufacturer's instructions and hospital policies.

Additional Infection Control Practices for Ebola

1. Limit the use of needles and other sharps as much as possible.
2. All needle and sharps should be handled with extreme care.
3. Dispose of all needles and sharps in puncture-proof, sealed containers.
4. Keep hands away from the face.
5. Limit touching surfaces and body fluids.
6. Immediately disinfect any visibly contaminated PPE surfaces, equipment, or patient care area surfaces using an EPA-registered disinfectant wipe.
7. Perform regular cleaning and disinfection of patient care surfaces, even if visible contamination is not seen.
8. Perform frequent disinfection of gloved hands using an alcohol-based hand rub, particularly after handling body fluids.

Aerosol Generating Procedures (AGP's)

It has not been established that Ebola can be contracted through airborne transmission; however, there may be some patients with severe pulmonary involvement or who during certain invasive procedures can potentially produce aerosols. Aerosol Generating Procedures (AGPs) include:

- Airway suctioning
- Aerosolized or nebulized medication administration
- Bronchoscopy
- Endotracheal intubation and extubation
- Positive pressure ventilation via face mask

In these instances, facilities may choose to adhere to the following CDC recommendations:

- Visitors should not be present.
- Limit number of individuals entering room.
- Only pertinent healthcare personnel needed for procedure are present.
- Conduct the procedure in a private room or ideally, when possible, in an airborne infection isolation room (AIIR).
- All doors should be kept closed; entry and exit should be limited or eliminated if possible during the procedure.
- Use strict PPE recommendations for these procedures.

Environmental Cleaning & Control

The CDC recommends the following environmental cleaning practices for any care areas of known or suspected Ebola virus patients. This especially applies to Environmental Services staff but is also for anyone who would be performing cleaning tasks.

- Wear Ebola PPE during cleaning procedures, and follow Ebola donning and doffing procedures.
- Use an EPA-registered hospital disinfectant with a label claim for a non-enveloped virus (norovirus, rotavirus, adenovirus, poliovirus).
- Avoid contamination of reusable porous surfaces that cannot be made single use.
- Use disposable cleaning cloths, mop cloths, and wipes, and dispose of these in leak-proof bags.
- Use a rigid waste receptacle designed to support the bag to help minimize contamination of the bag's exterior.

Keep these cleaning facts in mind in cases of diagnosed or suspected Ebola:
- Daily cleaning and disinfection of hard, non-porous surfaces (high-touch surfaces such as bed rails and over bed tables, housekeeping surfaces such as floors and counters) should be done.
- Remove all upholstered furniture and decorative curtains from patient rooms before use.
- Mattresses and pillows should have plastic covers or other protective covering to prevent fluids from leaking through.
- Patient rooms should not be carpeted.
- Basic principles for blood or body substance spill management should be followed as outlined by OSHA's Bloodborne Pathogen.
- Ebola-associated waste that has been appropriately incinerated, autoclaved, or otherwise inactivated is not infectious, does not pose a health risk, and is not considered to be regulated medical waste or a hazardous material under federal law.
- Waste items transported offsite for disposal that is contaminated or suspected of being contaminated with Ebola virus must be packaged and transported in accordance with the Department of Transportation's (DOT) Hazardous Materials Regulations. This includes:
  - Medical equipment
  - Sharps
  - Linens
  - Used healthcare products (such as soiled absorbent pads or dressings, kidney-shaped emesis pans, portable toilets, or byproducts of cleaning)
  - Used Personal Protection Equipment (gowns, masks, gloves, goggles, face shields, respirators, booties, etc.)

If You Are Exposed to Ebola
If you are exposed to the blood, other body fluids, secretions, or excretions of an Ebola patient:
- Stop working and immediately wash the affected skin surfaces with soap and water. Eyes should be irrigated with copious amounts of water or eyewash solution.
- Immediately contact your occupational health/supervisor for assessment and access to post-exposure management services.

If you develop sudden fever, intense weakness or muscle pains, vomiting, diarrhea, or any signs of hemorrhage after exposure to an Ebola patient, you should:
- Not report to work or should immediately stop working
- Notify your supervisor
- Seek prompt medical evaluation and testing
- Notify local and state health departments
- Comply with work exclusion until it is established that you are no longer infectious to others

Post-Mortem Care for Ebola Patients
Unfortunately, there will be Ebola-related deaths. Healthcare workers who will provide post-mortem care for these patients must know and understand their organization's policies and procedures related to providing post-mortem care for Ebola patients.

HANDLING AND DISPOSAL OF INFECTIOUS WASTES

Remember these simple steps when dealing with infectious materials or waste (such as blood and body fluids, human tissue, sharps, needles, scalpels, IV tubing):

1. Infectious waste should be placed in closable leak-proof containers – color-coded, labeled, or tagged with the biohazard symbol.
2. Waste MUST be separated into appropriate containers.
3. Biohazard bags should be used for contaminated materials that are saturated with blood or other potentially infectious material.
4. Sharps MUST NOT be recapped.
5. Sharps MUST be placed in approved puncture-resistant biohazard sharps container, only up to the three-quarters-full mark.
6. Fluids MUST be emptied into the sanitary sewer system.
7. Fluid-filled container that cannot be emptied prior to disposal MUST be placed in biohazard receptacle.
8. Always protect yourself by wearing Personal Protective Equipment (PPE) when handling infectious waste.

When handling specimens:

1. Laboratory specimens from all patients should be handled with equal care.
2. All non-blood specimen containers MUST be securely closed before transport.
3. Blood specimens and other glass containers MUST be transported in a manner that reduces the risk of breakage.
4. Specimens with visible soiling on their containers MUST be properly cleaned before transport to the lab.
5. If the lab tag becomes visibly soiled, issue a replacement tag for the specimen.
6. Workers transporting specimens should wash their hands after delivering them to the lab. A glove may be worn on the hand used to carry the specimen, leaving the ungloved hand free for opening doors, pushing elevator buttons, etc. A tray or box can make it easier to transport multiple specimens.

CONCLUSION

In the healthcare setting, infections are a major threat. As a healthcare worker, you are an important part of infection prevention at your facility.

Understanding ways to protect yourself and others, particularly when exposed to a patient with a serious transmittable infection, is crucial. By observing certain precautions and following certain procedures, you can reduce the risk that an infection will spread.

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