# Manual for Joint Commission and OSHA Core Mandatories

## Part I - 2016

<table>
<thead>
<tr>
<th>Section</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mechanics / Ergonomics</td>
<td>BM: 1</td>
</tr>
<tr>
<td>Emergency Management Preparedness</td>
<td>DP: 1</td>
</tr>
<tr>
<td>Environmental Safety</td>
<td>ES: 1</td>
</tr>
<tr>
<td>Fire Safety</td>
<td>FS: 1</td>
</tr>
<tr>
<td>Hazardous Chemicals</td>
<td>HC: 1</td>
</tr>
<tr>
<td>HIPAA</td>
<td>HI: 1</td>
</tr>
<tr>
<td>Infection Control / Bloodborne Pathogens</td>
<td>IC: 1</td>
</tr>
</tbody>
</table>

© Copyright Clinical Assessments by Prophecy, a Division of Prophecy Healthcare, Inc.
Body Mechanics / Ergonomics

Body Mechanics / Ergonomics .............................................. BM: 1

1. Introduction ........................................................................ BM: 1
2. General Body Mechanics .................................................. BM: 2
3. Gravity ................................................................................ BM: 4
4. Posture ................................................................................ BM: 5
5. Transferring ........................................................................ BM: 7
6. Exercising ........................................................................... BM: 8
7. Safe Patient Handling & Mobility: Interprofessional National Standards (SPHM) ................................................ BM: 10
8. Conclusion ........................................................................... BM: 10
Body Mechanics / Ergonomics

Introduction

The US Department of Labor cites overexertion injuries, such as muscle strains and sprains, as the most common type of work related injury, afflicting thousands of workers each year. These injuries cost workers, businesses and industry millions of dollars annually in lost workdays, lost productivity and treatment.

The majority of these disabling injuries occur to the back and trunk of the body as a result of moving heavy or bulky objects the wrong way. Heavy, bulky objects can also include the human body. Healthcare workers who provide patient care are among those who suffer the highest rates of overexertion injuries. But these injuries can be avoided by learning to use good body mechanics to lift and move properly.

In the course of an average day, healthcare professionals are required to stand or sit for long periods of time and lift heavy, cumbersome weight, often in awkward positions or in confined spaces. This presents situations with the potential for serious strain and injury to the back and other parts of the body. In fact, as a group, nurses and nurses assistants have one of the highest rates of back injuries. But the risk of injury can be greatly reduced simply by using the proper body mechanics for any given task. This module will help you to understand the basic principles of body mechanics and show you how to benefit from good body mechanics when working in a healthcare setting.

OVERVIEW

This Module Update outlines the essentials of good body mechanics including an understanding of the major anatomical features of the body related to body mechanics.

Specific recommendations for performing safe work-related activities are included as well as recommendations for exercises that will help increase strength and flexibility and help avoid injury.

PURPOSE/OVERALL GOAL

The purpose 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.

Specific recommendations regarding a number of activities are made and exercises designed to increase flexibility and strength are recommended.
COURSE OBJECTIVES

After completing this module, the learner should be able to:

- Define body mechanics
- Explain how the major muscle and bone groups relate to body mechanics
- List the three principles of gravity
- Describe correct posture
- Demonstrate proper body mechanics techniques in several activities
- Demonstrate exercises designed to increase flexibility and strength

General Body Mechanics

Anytime we stand, walk, or lift an object, we are using a highly developed mechanical system... our body.

While the body is not mechanical in its form, it is mechanical in its performance. The body’s framework of bones, muscles and tendons function according to mechanical laws and forces. It is important to understand how these laws and forces act on our bodies, so we can use them to our benefit and avoid injury.

An understanding of body mechanics requires a basic knowledge of the musculoskeletal system and how it works. Body mechanics can be defined as the way muscle groups and bones work together to articulate at joints in an efficient and coordinated manner.

There are some general rules of good body mechanics that should always be kept in mind.

- Always try to push or pull an object. Avoid lifting when you can.
- When pushing, extend your arms out and shift your weight forward with your back straight so that your body weight helps push.
- When pulling towards you, lean back with your back straight, to make your body weight work for you. Keep your legs in a wide stance, one behind the other and use your arms to pull the object to you.
- When moving something, clear away any obstruction so you can make your move in the most safe, direct and efficient way.
- When you do need to lift a heavy object, ask for help whenever possible. Do not try to lift or move too much weight by yourself.
- When carrying an object, keep it close to your body, near your center of gravity. This transfers more of the weight to the large muscles in your legs.
- Always avoid twisting your torso. Instead, pivot on the balls of the feet.
The Backbone

A good place to start is at the backbone.

The vertebrae are divided into 5 regions: cervical, thoracic, lumbar, sacral and coccygeal. The lumbar and sacral regions are prone to damage because they are the axis of the body when the back is bent, and are the focus of pressure when a person is seated.

The spine naturally develops four curves that are associated with the cervical, thoracic, lumbar and sacral regions. The Coccygeal region is part of the sacral curve. These curves center the weight of the head and torso over the body’s center of gravity and should be maintained whenever standing, sitting or lifting.

Vertebrae are separated by intervertebral discs, which consist of a firm, fibrocartilage substance with a gelatinous center. These disks act as shock absorbers for the spine and aid in its flexibility.

The spine protects the spinal cord, and works with the strong muscles of the back to provide upright support for the trunk of the body and the head.

Abdominal Muscles

The abdominal muscles play a vital role in proper body mechanics that is often overlooked. It is the abdominal muscles that work with the back muscles to assist the spine in supporting the torso and head.

The abdominal muscles and back muscles are an example of muscle groups working together. Most body movements are performed by muscle groups working together in antagonistic and agonistic pairs -- one set of muscles contracts as the other set relaxes. By this coordinated action, bones are able to move at the joints. A clear example of this is found in the legs.

The Legs

Because we spend most of our time either standing or walking, the muscles in the legs are some of the most powerful. When we bend a leg, the hamstrings on the posterior thigh contract, bringing the tibia, fibula and foot toward the femur. Simultaneously, on the anterior thigh, the quadriceps relax, and the leg flexes at the knee. The quadriceps pass over the knee and are attached to the tibia by the patellar tendon.

Conversely, when the quadriceps contract, the tibia is brought away from the femur as the hamstrings relax and the leg is extended at the knee.

Along with the gluteal muscles of the buttocks, the quadriceps and hamstrings work together to keep the tibia and femur in proper alignment, and provide us with the power to walk, run, stand and lift effectively.
The Arms

The final group of muscles to discuss are those in the arms. The biceps and triceps are the most powerful muscles in the arms.

Conscientious use of the arms when lifting, pushing and pulling can greatly reduce the stress and strain put on the back and legs.

As we have seen, muscles must work together for the body to move. By understanding how the body’s mechanical framework is designed to function, we can know which muscle groups are best suited for any given task and can use them in the appropriate way. Otherwise we risk injury, and sometimes permanent damage, by putting too much stress on muscles, tendons and bones.

Gravity

To complete our understanding of body mechanics, we need to know how our bodies are affected by gravity.

To keep an upright stance, humans must constantly work to maintain their balance. Using proper body mechanics will keep the bones and muscles of the body properly aligned and help us maintain balance with a minimum amount of effort.

There are three principles of gravity that affect body mechanics. These are:

- Center of Gravity
- Line of Gravity
- Base of Support

Center of Gravity

This is the point in a body where weight is equally distributed on all sides. In most people this point is located in the pelvis about level with the second sacral vertebra.

Line of Gravity

The line of gravity is an imaginary line that passes through the center of gravity splitting the body into equal halves. In most people this line runs behind the ear, through the center of gravity, through the knee and just in front of the ankle. When your body’s posture corresponds to this line, your body is in balance. Sometimes this is called the plumb line.
Base of Support

The base of support is the width of your stance. This is the base that stabilizes your body. You can gain a more stable balance by widening your stance to increase your base of support -- and by lowering your center of gravity. Changing your position in either or both of these ways will help you maintain your balance. These changes also improve your body mechanics when lifting heavy objects.

With a basic understanding of body mechanics, we can use this knowledge to move and relax in efficient ways that put the least amount of stress and pressure on the bones and muscles.

Posture

Because we use our bodies constantly, even in the most simple of tasks such as standing. This can affect our overall health, energy level and effectiveness. Therefore, our posture is the first place to practice good body mechanics.

Standing

There is really only one way to stand properly that naturally aligns the body correctly in a way that is relaxed and comfortable:

- When standing properly, the head is held squarely erect, not tilted to any one side.
- The natural curves of the spine are maintained and the torso is not leaning in any direction. The arms are relaxed at the sides.
- The abdomen is held up and in to help support the back. The hips are straight with the buttocks taut. Each leg supports an equal amount of body weight and the knees are forward, slightly flexed. The feet are even and spread slightly apart, about the width of the shoulders, with the toes pointing forward.

Because healthcare professionals are on their feet so much of the time, the value of maintaining correct posture cannot be overestimated. 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.

Sitting

There is no activity that puts more continuous pressure on the lumbar region of the lower back than sitting. Therefore it is essential that we use good body mechanics to align our body properly when sitting.

The head should be held squarely erect, with the spine straight. Your body weight should be evenly distributed on your buttocks and thighs with the hips flexed at a 90 degree angle. Your knees should also be flexed at a 90-degree angle and level with your hips or elevated very slightly above them.

Your knees should be clear of your chair. There should be no pressure on the nerves and blood vessels behind the knee.
Keep the feet flat on the floor to help support the weight of the legs. A footrest can be used for comfort.

It is essential to keep your back straight when seated. Sit back into your chair, let it support the lumbar region of your back. Always avoid bending at the waist.

Bending forward at the waist just 20 degrees increases the pressure on the lumbar region by 90%.

By positioning your work closer to you, you eliminate the need to bend forward, and take pressure off your back. Whenever possible, support your forearms on a desk, chair armrests or in your lap. This takes additional pressure off your back. By using correct body mechanics to support your body when sitting, you will be able to sit longer and more comfortably without causing back pain and injury.

**Lifting**

It has been estimated that eight out of ten people will suffer lower back pain, primarily due to poor body mechanics. Few things can injure your body as quickly or severely as lifting too much weight or lifting incorrectly. Such activity can cause hernias, ruptured discs and permanent back injury.

Use your knowledge of body mechanics to lift properly, without damaging your back.

If you need to lift an object off the ground, widen your stance and squat down to lower your center of gravity.

Keep your back straight and tighten your abdominal muscles. Grasp the object and bring it as close to you as possible.

Then, use the power of the quadriceps and gluteal muscles to extend your legs to lift. Never lift with the back muscles. They are being used to keep your body erect and support your spine. Using them to lift will over-stress the back and can lead to disc injury and other serious problems.

Consider this: bending at the waist just 20 degrees to pick up a 44 pound object will increase the pressure on the lower back by 120 percent. Also, picking up a weight at arm’s length multiplies the weight’s stress on the body 7 to 10 times due to leverage.

For this reason, even if the object seems light, always use the legs and gluteal muscles to lower and raise yourself and the object. Keep the back straight and the object close to your body.
Transferring

As a healthcare professional working in a long-term care setting, or a home healthcare nurse, you will be required to lift and move patients and residents. But factors such as limited space, limited assistance, resistance from the person you are moving, and the awkwardness and weight of the human body, combine to present situations where injury to the back and body can easily occur.

Therefore, to avoid undue stress and possible injury to the back and other parts of the body, it is imperative to always use transfer techniques that apply proper body mechanics:

- Before beginning any transfer, make sure you are wearing 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.
- Always explain to the patient or resident how you will make the transfer and have them assist you as much as possible.
- Whenever necessary, have someone assist you in the transfer.

Bed to Chair Transfers

- When moving a resident or patient from a bed to a wheelchair, position the wheelchair close to the bed, on the patient’s strongest side and lock it at a slight angle.
- Have the patient sit on the edge of the bed. The patient’s feet should be flat on the floor in a shoulder-width stance to provide a good base of support. Footwear that will not slip on the floor should be worn.
- Explain what you are about to do and secure a transfer or gait belt around the patient’s waist.
- Place yourself in front of the patient, and block the patient’s leg closest to the chair with your foot and leg.
- Your other leg should be slightly behind and spread in a stance that provides a solid base of support and control of the lift.
- Grasp the sides of the transfer belt and keep your head and back straight while bending at the knees.
- The patient should lean toward you, and hold your forearms if possible. Do not allow the patient to hold onto your neck or shoulders.
- 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.
- Now, pivot on the balls of your feet or side-step and position the patient to the chair.
- Keep the patient close to you, and gently lower the patient into the chair, bending at the knees, not the back. This basic technique can also be used for chair to chair, chair to commode and chair to bed transfers.
Bed to Gurney Transfers

- Bed to gurney 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.
- Begin by positioning the patient on the lift sheet and as close to the edge of the bed as possible.
- Raise or lower the bed and gurney to equal heights. Position the gurney against the side of the bed, and lock the wheels.
- While keeping your back as straight as possible, reach over the gurney and grasp the lift sheet.
- Be sure to hold the corner of the pillow as well as the lift sheet to give support to the patient’s head during the move.
- Your assistant should grasp the sheet in the same manner and be prepared to push as you pull.
- The assistant may find it easier to place one or both knees on the patient’s bed to avoid leaning over excessively.
- Using a three count, lift and pull the patient onto the gurney while your assistant lifts and pushes.
- Several short lifts may be preferable to attempting one large movement.

Transfer Aids

- The lifting techniques we have just seen are examples of several transfer methods that incorporate the proper use of body mechanics to lift and move patients.
- In addition to these, there are mechanical lifts and devices to facilitate patient transfers that greatly reduce or eliminate the amount of manual effort required to effect a patient transfer.
- These include mechanical lifts, roller boards, sliding boards, flexible patient movers and slings, and pivoting turntables.
- The time it takes to use any of these devices is greatly off-set by the time it would take to recover from the injuries they can prevent.

Exercising

Because working in a healthcare environment can sometimes be physically demanding, it is a good idea to stay in good physical shape. Exercising at home will help you avoid injuries and generally increase your flexibility, strength and stamina. It is recommended that you exercise three times a week. This will greatly benefit you not only on the job but in the normal daily activities that everyone experiences.
FLEXIBILITY EXERCISES

These exercises will help to keep you limber and avoid injury.

Lower Back Rotation

The Lower Back Rotation stretches the muscles and joints of the lower back. Lie on your back with the knees bent. Then drop both knees to one side while turning your head to the opposite side. Hold this position for a count of five. Return your head and knees to their original position and repeat four more times. Then, turning to the opposite side, repeat this exercise five more times.

Single Leg Pull

The Single Leg Pull helps stretch the muscles in the hips, lower back and buttocks. Lie on your back with one leg bent and the other leg extended flat. With your hands, slowly pull the bent knee to the chest while keeping the extended leg and lower back pressed to the floor. Hold for a count of five. Return to your beginning position and repeat four more times. When you’ve done one leg, repeat the exercise five times with the other leg.

Straight Leg Raise

The Straight Leg Raise stretches the muscles of the hips and hamstrings and strengthens the quadriceps. Lie on your back with one leg bent and the other leg extended flat. Slowly raise the extended leg until your thighs are next to each other, while keeping your lower back pressed against the floor. Hold for a count of five, then slowly lower the leg back to the floor. Repeat four more times, then switch to the opposite leg.

STRENGTHENING EXERCISES

These exercises will strengthen specific muscle groups and make it easier to perform daily tasks.

Pelvic Tilt

The Pelvic Tilt strengthens the muscles of the lower back and can be performed at home or at work. Stand with your back against a wall. Press the small of your back flat against the wall without bending at the knees or hips. Hold it for a count of five and relax. Repeat four more times.

Wall Slide

The Wall Slide strengthens the muscles of the lower back, hips and legs, and can also be performed at home or at work. Stand with your back against a wall. Slide down the wall until your body is in a seated position. Hold for a count of five. Then use your legs to slide your back up the wall. Repeat four more times.
Partial Curl

The Partial Curl strengthens the abdominal muscles that help support the back. Lie on your back with both knees bent. Cross your arms loosely over your body. Tuck your chin in and tighten your abdominal muscles. Curl half way up and hold for a count of five. Relax, and repeat the exercise four more times.

Safe Patient Handling and Mobility: Interprofessional National Standards (SPHM)

This new ANA (American Nurses Association) publication was developed to improve patient, nurses, and other health care workers’ safety by establishing a comprehensive program to eliminate the manual handling of patients. Although, the standards are currently voluntary, ANA is working with regulators and lawmakers to make these standards required by law.

The 8 evidence-based standards include:

1. Establishing a culture of safety
2. Creating a sustainable program
3. Incorporating ergonomic design principles
4. Developing a technology plan
5. Educating and training health care workers
6. Assessing patients to plan care for their individual needs
7. Setting reasonable accommodations for employees’ return to work post-injury
8. Implementing a comprehensive evaluation system


Conclusion

Injury on the job can be a traumatic and debilitating experience. It may result in loss of work for the injured person and may necessitate treatment. Work time lost due to injury can also be detrimental to the place where the person works and can put additional pressure on coworkers. Use of proper body mechanics can greatly reduce the incidence of job injuries and improve the ability of every person to work safely and efficiently.

Remember, when you use the principles of good body mechanics, you work better, play better, and perform at your highest level. Because you are working with the body’s natural design, you will be able to prevent injury and stay healthy.
1. Introduction .............................. DP: 1
2. What Constitutes a ‘Disaster’? ...................... DP: 1
3. CLASS A .................................. DP: 2
4. CLASS B .................................. DP: 2
5. CLASS C .................................. DP: 2
7. Joint Commission Standards ........................ DP: 3
8. The HICS Plan ................................ DP: 4
9. Priorities of the Hospital Disaster Committee ........ DP: 4
10. Communicating the Plan to All Staff ................ DP: 10
11. Conducting Drills ................................ DP: 10
12. Maintaining the Plan ............................. DP: 11
13. The Importance of Area Coordination .............. DP: 11
15. Conclusion .................................. DP: 15
Emergency Management Preparedness

Introduction

While some disasters are the result of natural events, many more are a result of human error. They usually strike without warning and their effects can be devastating, affecting hundreds, even thousands of lives. For the healthcare environment, disasters are categorized as either internal events that occur within the medical facility or external, which occur outside of the hospital and can be declared by an internal or external authority or can be undeclared.

For those responsible for managing patients, visitors and staff during these events, it is clear that without extensive planning and organization, emergency resources and support services cannot be effectively deployed. Without a good disaster plan in place, time is lost and lives are threatened. A carefully conceived and executed disaster preparedness plan is an institution’s most critical defense in an emergency. A plan that is developed according to the daily routine of the staff is the MOST successful plan utilized.

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 a little differently, stating that a disaster has occurred ‘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, a disaster by any other name is still a disaster.

Nurses and other professionals working in the healthcare environment MUST be prepared to handle disasters and other significant events occurring inside or outside their walls.

An external disaster is an event that impacts a facility when demand for services go beyond 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 according to type and severity:
CLASS A

Natural Disasters *
- Earthquakes
- Floods
- Tornadoes
- Hurricanes
- Blizzards
- Other serious weather conditions

External Disasters / Medical Emergencies *
- Chemical exposure
- Epidemic of disease (biological)
- Explosions
- Fire
- Large-scale poisoning
- Multiple-victim accidents (car, bus, train, plane crashes)
- 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-administrative death
- Terrorist activity
- Bomb threats
- State Board of Health declared emergency
- Strikes
- Union activity
• Malpractice suit or accusation against hospital or physician on staff
• Power failure
• Major mechanical failure
• Internet- or computer-related issues involving patient records

* May require hospital response by Hospital Disaster Committee

Emergency Management Preparation

As a healthcare professional, you should know and understand your institution’s disaster preparedness plan, as well as rulings set forth by the Joint Commission and the widely accepted HICS guidelines relating to disaster planning.

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 hospitals who have assigned leadership of emergency management to high-levels of the organization more effectively respond to disaster situations. The Joint Commission recently added new requirements to address those findings. The new 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 the organization's emergency management plan, performance and responses to actual events by the senior hospital leaders to facilitate improvement

According to the Joint Commission, an effective ‘emergency management’ plan includes four key principles:

• Mitigation - Make plans ahead of time to lessen the severity and impact of an emergency.
• Preparation - Build needed organizational capacities, including supplies and equipment, agreements with vendors, staff orientation and training, planning processes, and organization-wide drills.
• 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.
• Recovery - Take steps to restore essential services and resume normal operations - plan for staff support and community response

By implementing these four principles, your institution is prepared for any disaster, both man-made and natural.
The HICS (Hospital Incident Command System) Plan

The HICS management plan meets Joint Commission standards and offers simplified, predictable management structure for:

- communications during disasters
- predefined management positions, such as Incident Commander and Section Chiefs
- clarifies the chain of command and reporting channels
- helps to improve communication within the facility, as well as other participating facilities
- provides standardized forms for consistent documentation

Priorities of the Hospital Disaster Committee

When disaster strikes in the healthcare institution, the Hospital Disaster Committee should be activated. Each member is assigned specific management duties during and directly following a disaster, as set forth in the facility’s Disaster or Emergency Preparedness Plan.

The HICS plan suggests the following leadership roles.

- Incident Commander - responsible for calling together the Hospital Disaster Committee when a crisis event occurs
- Section Chiefs - responsible for logistics, planning, finance and operations
- Directors - responsible for directing unit leaders in their specific areas - the Director reports to the designated Section Chief
- 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
- Area Officers - responsible for specified 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 Hospital Disaster 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

© Copyright Prophecy Healthcare, Inc.
• Medical records and admissions
• Engineering / maintenance
• Laboratory
• Radiology
• Respiratory therapy
• Linen services
• Environmental services (housekeeping)

To prepare for internal and external emergencies or disasters, the Committee should consider the following:

1. Determine potential disasters

The Hospital Disaster Committee should be prepared for any type of disaster, however, they MUST determine which type has the greatest potential to affect their facility.

2. Assess resources within the institution

The Hospital Disaster Preparedness Committee should initiate an assessment to 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 hospital through the first 72 hours, post-disaster
• current staff information regarding phone numbers, addresses, emergency contact numbers.
• the use of a proper personnel identification device (ID) to ensure the staff will be permitted to cross security / disaster area lines
Different scenarios should be considered to help in identifying shortcomings before an actual situation is experienced. Drills are covered in an upcoming section.

The institution should consider establishing mutual aide or written agreements with other healthcare facilities and vendors in the community as well as adjoining communities to provide assistance during external disasters for the provision of personnel, supplies, equipment, transportation, pharmaceuticals, or whatever else may be needed.

3. Outline Key Elements

The Committee should determine the chain of command during a disaster and the communication process, both internally and externally. They should develop a process for the management of patient triage, patient management and evacuation procedures, equipment management and transfer, patient identification, records management, security issues and public information, and steps to take toward recovery from emergency situations of all kinds.

4. Chain of Command

Most medical facilities have a Safety Director in place at all times. This person is responsible for overseeing the development, implementation and monitoring of the hospital’s disaster plan. These responsibilities usually include:

- Implementing plans following a disaster based upon the space, supplies and security of the hospital 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 hospital regarding an emergency.
- Developing protocol for notifying personnel on 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 emergency communications during disasters and emergencies, and policies for alternative sources of essential utilities.
- Developing policies and procedures for evacuation of the hospital if the hospital cannot continue to support adequate patient care and treatment, and an alternate care site.
- Integrating hospital’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, 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.

This person should play a key role as a member of the Hospital Disaster Committee.

5. Communication

In preparation for a disaster, another key position is required. This person may be referred to as the Incident Commander, who is responsible for gathering the Hospital Disaster Committee together at a moment’s notice, according to HICS.

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. These people are each responsible for either directing teams or for specific duties. Refer to the beginning of this section for a generalized breakdown of responsibilities.

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

6. Patient Management

Healthcare delivery has changed over the years. Many patients are living in home healthcare environments instead of a hospital setting. 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. You may contact the local emergency preparedness agency in your area for assistance on 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 special needs 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.

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 drapes 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. Check for flashlights and extra batteries.
7. Reassure patients that all is well.

To other facilities:

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 evacuated to a secure place within the facility, designated by the search team. Patients and personnel should remain in the secured area until an ‘All Clear’ has been given.

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

These predetermined personnel are responsible for assuring that exit routes are safe. One person, however, 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 should search the premises, creating search teams if necessary. 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 areas 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. To be prepared, you should know where the following items are located, so they can be gathered in the least amount of time:

1. Keys - Housekeeping personnel may know where all keys are kept.
2. Blankets - Additional blankets may be obtained from the Housekeeping Department.
3. Other items, which may be necessary especially in external disasters - Including bandages, dressings, compresses and suture materials, sterile scrub brushes, normal saline, anti-microbial skin cleanser, waterless hand cleaner and gloves, fracture immobilization, splinting and casting materials, backboard, rigid stretchers, non-rigid transporting devices, oxygen-ventilation-suction devices, and advance life support equipment (i.e., chest tube, airway, major suture trays).
4. Portable Oxygen Tanks - Check the Emergency Room, Stress Room and Respiratory Therapy areas.

5. Carts - Usually are found in the following areas:
   - Ambulatory Care Unit
   - Emergency Room
   - Surgery
   - Radiology
   - Ultrasound
   - EKG / Stress Test Room

10. Patient Identification and Information

One person or 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 a disk, 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 personal 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 maximum amount of safety to all involved.

13. Public Information

Any medical staff answering telephones should not give out any information, unless so authorized, concerning a disaster to any caller. Similarly, publicity should be avoided as much as possible. In the case of a bomb threat, for example, publicity tends to generate additional threats.

Only the Administrator, or their designee, should answer questions of the press, and only on a need-to-know basis.
14. Recovery

Many hospital 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 hospitals 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 hospital, or any other addition or improvement occurs to the inventory, 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. In hurricane zones, the staff has time to run around and photographically document the current condition of the campus prior to the storm’s landfall. Tornadoes, fires and earthquakes do not allow that luxury. And remember, do not forget to photograph any damage prior to its removal or clean up.

Communicating the Plan to All Staff

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

Conducting Drills

Testing plans before a disaster strikes allows everyone in your organization to learn what to do when the 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 and how to communicate if the hospital loses normal communication methods. Also, your facility should identify staff who have key roles and responsibilities in the disaster plan and train them as to their responsibilities in these roles. It is also suggested that local assistance agencies be part of the drill when possible.

It is important to note that the Joint Commission mandates hospitals to conduct at least two disaster drills a year. According to the Joint Commission, these drills MUST occur a minimum of four months apart.

These drills are further mandated to include all departments and legal agencies that would be involved in a real emergency. And the drills MUST include practice treatment and transportation exercises.

Additionally, both staff and the plan MUST be evaluated once a year.
Maintaining the Plan

Once the Disaster Plan has been reviewed and finalized, it **MUST** be maintained. One way in which to accomplish this is through periodic drills. Another is to update the plan periodically to allow for changes in the community that may affect putting the plan into practice. Variables 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 like the Red Cross and Salvation Army, as well as many other community assistance services and agencies. And when it comes to creating, maintaining and practicing a Disaster or Emergency Plan, you need a high level of coordination between your institution and those services and agencies.

Predetermined members of your institution should be charged with staying in touch with community assistance agencies and services, such as the fire department, police department, other hospitals and medical facilities in the area (and beyond), the Red Cross and other agencies 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 in 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. To coordinate effectively, a high amount of continuous communication is necessary.

General Safety Procedures for Common Disasters

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 **MUST** review your institution’s Disaster or Emergency Plan for detailed instruction.

**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 can cause harm to patients, visitors and co-workers 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 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. Every healthcare professional 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 of 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 non-flammable 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.

Earthquakes

While not an everyday event, almost no area of the world is free from earthquakes. In fact, several million earthquakes occur each year globally. They range from barely perceptible quakes to those which are so severe that entire cities and countrysides are destroyed.

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 the doorway and near the outer walls. Instruct patients, co-workers and visitors to move into the hallways. If time does not permit, 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 device. This includes candles and matches. Douse all cigarettes and fires. If outside, move away from the building and utility wires. Once in the open, stay there until the shaking stops.

After the Quake:

Here is a checklist of 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 thereof, has been damaged, don’t allow anyone entrance until an ‘All Clear’ has been issued.

Be mindful of fires caused by earthquakes. They can be more dangerous than the earthquake itself, because much equipment and water lines may be destroyed or become immobilized. During and after an earthquake, be especially watchful for fires, leaking gas lines and the like.

Report such activities immediately. Should a fire occur, procedures MUST be followed as outlined in the ‘Fire Safety Plan’, unless otherwise instructed.

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 possibly can. You may not be able to get everything, but do get all you can.
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 the code system in their own facility, as they differ, between color, number, letter, name, and combination codes.)

The Switchboard Operator will then contact the following and relay the information received:

- Fire Department
- Hospital Administrator
- Chief Nursing Office and/or Med/Surg Nurse Manager
- Safety Director
- Director of Environmental Services
- Maintenance Supervisor

Only authorized law enforcement officials will remain in the building during the removal of the 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.

**Riots**

Civil disturbances or riots are rare, but planning for their occurrence **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 hospital 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.

During situations 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 an effective and well thought out preparedness plan, a hospital is setting itself up for confusion, unnecessary chaos and even loss of life.

The key for hospitals 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. Currently, guidelines for dealing with disaster are available through the HICS plan.

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 and co-workers.
Environmental Safety

1. Introduction ................................................................. ES: 1
2. Accident Prevention ...................................................... ES: 1
3. Electrical Safety ............................................................. ES: 2
4. Radiation Safety ............................................................. ES: 3
5. Compressed Medical Gas ................................................. ES: 4
6. Safe Medical Device Act .................................................. ES: 4
7. Security Tips for Personal Safety ......................................... ES: 5
8. Make Work Areas Safer ................................................... ES: 5
9. Bomb Threats ................................................................. ES: 5
Environmental Safety

Introduction

Accident Prevention is everyone’s responsibility. Accidents can be prevented as long as healthcare workers recognize hazards and respond to them.

Accident Prevention

Most accidents can be prevented if you do one of two things:

1. REMOVE the problem
2. REPORT the problem

If you REMOVE a problem, it is eliminated or taken away so that it will not cause an accident for you or anyone else.

If you see a problem that you cannot remove, call or contact the appropriate department about the problem. Once you REPORT it, someone will remove the problem.

A problem that could lead to an accident should be REMOVED or REPORTED.

Some examples of how you can prevent accidents are:

- If you see a puddle and wipe it up before someone slips, you REMOVE the problem. If the puddle is too large to easily wipe up, you should REPORT it to your Housekeeping or Environmental Services Department.
- If you see a burned out light, REPORT it. Proper lighting is important in areas such as stairwells, loading docks and parking areas.
- REMOVE or REPORT extended cords and other objects such as boxes, books or equipment to keep walkways clear and safe.
- REPORT any hazard immediately. Do not assume that someone else has reported it.

If an accident does happen, remain calm.

If you are injured, tell your supervisor. If you 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 - moving could make an injury worse. Call for help and/or wait for someone to come 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. While lifting or moving an injured person, you can hurt 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 an 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 hospital is everyone’s responsibility.
• Accidents can be prevented if workers recognize hazards and respond to them.
• Use warning signs to warn 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 do need to be reported.

Electrical Safety

Safety means looking at plugs and using them correctly. Keep electrical equipment safe. If electrical equipment is broken, electricity can leak out. The leaking electricity can cause a fire, if it is around flammable material. It can also give somebody a shock. If you receive a shock when using electrical equipment, immediately turn it off. Take it out of service so it can be repaired.

DO:

• Use only electrical equipment with three pins on the plug.
• Look at plugs for loose or broken pins or for any melted areas.
• Unplug equipment by handling the plug itself and not the cord.

DO NOT:

• Use plugs with broken pins or with only two pins.
• Pull on an electrical cord to unplug equipment. Pulling can damage the cord.
• Use cheaters. Cheaters are adaptors that convert three-pin plugs into two-pin plugs.

Rules about electrical equipment to protect you, fellow employees, patients, and visitors from harm:

DO 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
DO NOT:

- Use electrical equipment in wet areas.
- Use electrical equipment that has frayed cords.
- Use electrical equipment that has cords with exposed wires.
- Touch electrical equipment with wet hands.
- Plug too many appliances into a wall outlet. The overload may cause overheating of the wires and result in a fire.

Safety when using electrical equipment is everyone’s responsibility.

- The human body is a good conductor of electricity. People can be harmed by defects of the wall outlet, the electrical cord, or the equipment.
- Electricity follows a path. A break at any point in the path can cause fire or injury. Rolling equipment over electrical cords can damage the cord.
- Use only equipment that has electrical plugs with three pins. The third pin is a safety feature that conducts stray electricity from the equipment to the pin.
- Take electrical equipment that is not in good working order out of service and report the problem.

Radiation Safety

Protection is the name of the game when using radiation (x-ray, c-arm). By following the policies and procedures, you can protect yourself from danger.

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. Wear a thyroid shield. Use lead gloves if provided. Use equipment or other personnel as shielding. A 0.5-mm thick lead apron reduces scattered radiation by approximately 10 times.
4. Badge Monitors: Wear the badge monitor on the outside of the 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.
Compressed Medical Gas

Compressed gas cylinders need to be treated with care and respect. If the contents are released too rapidly, the cylinder can become an uncontrolled projectile. If the cylinder tipped over, it may explode. Fire can occur easily in an oxygen-enriched atmosphere. All tanks MUST be secured to some type of rigid stand at all times. The National Fire Protection Agency (NFPA) codes require that “Oxygen In Use” signs MUST be posted. Combustible materials cannot be stored near the cylinders. What does this mean? Use extreme caution with compressed medical gas cylinders and follow the WBH policies and procedures carefully.

Safe Medical Device Act

MEDWATCH 1992 / FINAL RULE 1995

The safe Medical Device Act of 1990 requires us to report all serious illnesses or serious injuries involving a medical device to the FDA. A reportable incident is one that reasonably suggests that there is a probability that the device contributed to the death, serious injury or serious illness of a patient or employee.

In June 1993, the FDA implemented MEDWATCH, their medical products reporting program. Designed to facilitate reporting and to encourage healthcare professionals to review reporting as their professional duty, the FDA emphasizes that it is the people on the front-line that are most able to recognize suspected problems with products in use. This program asks for reporting serious allergic / adverse reactions to drugs, medical devices or nutritional products. If there is an adverse drug reaction, the MEDWATCH form MUST be reported if they caused or contributed to a serious injury even if it resulted from user error.

What do you have to do?

1. Remove the suspected device from service and tag as “Defected Do Not Use”
2. Do not change any control settings on the device unless necessary to minimize injury at the time of the occurrence
3. Retain all disposable and reusable equipment, accessories and packaging related to the incident
4. Do not clean the device – place contaminated materials in an appropriate container and label with biohazard tag
5. Report the incident to your manager
6. Complete the appropriate documentation
7. Prepare the device and paperwork for proper disposition
8. Do not give the device to the company vendor
Security Tips for Personal Safety

The following tips will enhance your personal safety:

1. Wear your healthcare 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, wallets, 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.

Make Work Areas Safer

A few reminders on personal security measures while at work:

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:
   - Persons wondering or looking around
   - Theft or missing property
   - Nuisance phone calls
   - Unauthorized “sales”
4. Wear your badge at all times.
5. When leaving the department, let the last remaining person know.

Bomb Threats

A time when your adrenaline is pumping fast and your heart is racing. What do you do? How do you react? Remember these suggestions – you will be starting to help.

1. Keep the caller on the phone as long as possible.
2. Have a co-worker call Hospital Security to report the call (relay the direct extension call came in on).
3. Obtain as much information as possible:
   - Exact location of bomb(s)
   - Time set for detonation
   - Description of explosive or container color / size
   - Type of explosive
   - Reason for threat
• Note date and time of the call
• Determine exact language used
• Determine sex of caller
• Estimate age of caller
• Identify any speech characteristics – race, accent, impediment, rate
• Listen for identifiable background noises
• WRITE EVERYTHING DOWN!!!

4. Look for objects out of place
5. Do not touch anything suspicious
6. Stay calm!
7. Evaluate the areas in an orderly fashion, including the floor above and below
8. Be alert for additional explosives
Fire Safety

1. Fire Drills ................................................................. FS: 1
2. Exits ........................................................................... FS: 1
3. Fire Alarm Systems ...................................................... FS: 1
4. Fire / Smoke Barrier Doors .......................................... FS: 2
5. Emergency Generator System ...................................... FS: 2
6. Controlling a Fire ........................................................ FS: 2
7. Fire Extinguishers ....................................................... FS: 3
8. Person on Fire ............................................................ FS: 4
9. Evacuation .................................................................... FS: 4
Fire Safety

Fire Drills

- Fire drills are conducted to practice and critique fire response.
- Fire drills are required annually, on all shifts, in non-patient areas. Fire drills are required 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.

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. Note: “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

- The hospital is equipped with an automatic fire alarm system that will automatically sound when heat or smoke is detected within the facility or when a manual pull station is activated. Smoke detectors are the building fire alarm function that provides the earliest warning of a fire.
  1. Manual pull stations are red in color and are located throughout the facility. All employees should be aware of the alarm pull stations in their work areas.
  2. The fire alarm system will emit a continuous loud alarm until the fire alarm has been silenced.
  3. 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.
  4. All fire alarms are required to be monitored 24 hours a day, 365 days a year.
  5. Visual alarms have been provided for the hearing impaired. The visual alarm is a “blinking” white light located adjacent to the fire alarm bell. This system is activated at the same time the audible alarm is sounded.
  6. Sprinklers are only activated by heat. Each sprinkler has to heat up to a specific, designated, temperature before the sprinkler will discharge. Not all sprinklers in the room will automatically discharge. Each sprinkler head would have to reach the designated temperature before discharging. Three or less sprinkler heads extinguishes most major fires.
Fire / Smoke Barrier Doors

- The hospital is equipped with automatic fire / smoke barrier doors. Fire / smoke barrier 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 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 emergency generator will automatically supply power to the emergency lighting system, life support systems, and exit signs and 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 ten seconds after the loss of power. It will automatically shut off when the normal power supply is restored.

Controlling a Fire

- All fires, no matter how minor, should result in immediate activation. When confronted with a fire use the acronym **RACE** to remember the correct procedures to follow:
  1. **R**escue those in immediate danger.
  2. **A**larm others by activating the nearest fire alarm pull station.
  3. **C**onfine/contain the fire, call security for your designated area.
  4. **E**xtinguish the fire if small or evacuate.
- When a fire is discovered, attempt to control the fire through use of a fire extinguisher. Ensure that backup fire extinguishers are available. Do not pick up and run with burning articles. This will only fan the fire and could cause it to burn more rapidly.
- Personnel controlling the fire should only attempt those procedures they have been trained to perform.
- Do not attempt to put out an overhead fire. This procedure is extremely dangerous. Firemen will perform this task.
- Attempt to control the fire until the fire department arrives or until the fire is no longer controllable.
- Personnel attempting to control the fire should not endanger their own safety.
- Evacuate patients only if absolutely necessary.
- Reassure patients and visitors that we are 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, flammable liquids, are near the fire area, immediately remove such items, if possible. If the fire is out of control, do not attempt to remove such articles.

• Shut off or unplug all unnecessary electrical equipment.

• Relinquish all fire fighting procedures to 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.

Fire Extinguishers

• All areas of the Hospital are equipped with portable fire extinguishers. The type will be based on hazards present. 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.

• Classes of Fires
  1. Class A - Ordinary combustibles (wood, paper, rubber, plastics, textiles)
  2. Class B - Flammable liquids (gasoline, oils, chemicals, solvents)
  3. Class C - Energized electrical equipment (wiring, fuses, circuit breakers, machinery, computers)

• Types of Fire Extinguishers, which may be found in the hospital:
  1. Pressurized Water -- to be used on Class A fires ONLY
  2. Dry Chemical
     • ABC Type -- multipurpose
  3. Carbon Dioxide -- best used on burning liquids or electrical fires
     • BC Type -- preferred for grease fires

• 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. Never restore a discharged extinguisher to its cabinet after use. It will not function properly, no matter how little substance was used, until it has been recharged or refilled.

• Follow the acronym PASS to use a fire extinguisher.
  1. Pull the pin.
  2. Aim low at the base of the fire.
  3. Squeeze the handle. Stand approximately ten feet from the fire.
  4. Sweep the hose from side to side.
Person on Fire

- If a person is discovered on fire, do not let the person panic and run.
- Wrap the person with a blanket and pat the fire area. Do not fan. This will only cause the fire to spread and cause additional injuries.
- If a blanket is not available, roll the person over, from side to side until the fire is out.
- Once the fire is out, remove all clothing to stop the burning process, and cover the person with a clean sheet, towels. Do not cover the face. Make sure the person is breathing and transport immediately to the Emergency Department.
- Keep the injured person as calm as possible.
- Inspect the area to ensure that sparks have not created another fire, or fire is not present in the area in which the patient was discovered.

Evacuation

- Evacuation of an area 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 determined to be in immediate danger of injury or death as a result of their continued presence in an area threatened by fire or smoke.
- There are two types of evacuation:
  1. Lateral Evacuation -- is defined as 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 -- is defined as 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 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 smoke / fire 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, ensure that both 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. Do not open a door into an area where a suspected fire might be. Even if the door is not warm, do the following before opening the door. Should a fire be on the other side, this test will aid you in closing the door instead of allowing the fire to blast through.
     • Place the back of your hand against the door and feel across the door for any signs of heat. This will aid in the detection of heat being emitted from a fire on the other side of the door.
     • If the door is cool to the touch, brace a shoulder against the door.
     • Brace your foot against the base of the door.
     • With the face turned toward the hinged side of the door, begin opening the door slowly.
     • If smoke seeps through, close the door immediately. If the door is opened and fire is present, the air from the room could cause the room to explode.
     • Place a wet blanket, towel, under the door to prevent smoke from entering the room.
5. If safe, proceed to evacuate. If unsafe, continue on to a secondary evacuation route. Make sure that all doors you come to are checked in the above manner.
6. Ensure that all doors are closed in passing.
7. All non-clinical and ambulatory care areas should have a pre-designated meeting area so that when evacuation is completed, the supervisor of the department can accomplish a head count of all employees.
Hazardous Chemicals

Hazardous Chemicals ............................................................ HC: 1

1. What is the Globally Harmonized System? .......................... HC: 1
2. Chemical Safety ..................................................................... HC: 1
3. Physical and Health Hazards ............................................. HC: 2
4. Types of Exposure .............................................................. HC: 2
5. Chemical Information ......................................................... HC: 3
6. Labels .................................................................................. HC: 3
7. Safety Data Sheets (SDS) ..................................................... HC: 7
8. Hazard Communication ...................................................... HC: 11
9. Dealing with Hazardous Spills ............................................ HC: 11
Hazardous Chemicals

To keep you informed about the hazards you may face at work, OSHA created standards designed to protect and inform workers about potential hazards they may be exposed to. These standards give you the right to know about chemical hazards in your workplace and require training of individuals who may work with hazardous substances. Recently, OSHA adopted new hazardous chemical labeling requirements as a part of its recent revision of the Hazard Communication Standard, 29 CFR 1910.1200 (HCS). These revisions will be phased in over time until the year 2016. The new requirements will align with the United Nations’ Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

What is the Globally Harmonized System?

The Globally Harmonized System (GHS) is an international approach to hazard communication. It sets uniform requirements for hazard communication with the goal of improving the quality and consistency of information for those who may work with hazardous substances. The new OSHA requirement applies to the classification and labeling of all chemicals using the GHS. This will enable workers to have information that is easier to comprehend in order to avoid injuries and illnesses related to exposure to hazardous chemicals. Healthcare workers will begin to see changes in labels and the MSDS will now be called Safety Data Sheets or SDS. In order for healthcare works to protect themselves from chemical hazards in the workplace, it is critical that employees understand the new labels and Safety Data Sheets (SDS).

Chemical Safety

Chemical Safety is everyone’s responsibility.

Healthcare workers MUST:
1. Know what hazards you face on the job.
2. Know how to protect themselves, co-workers, patients, and visitors from these hazards.
3. Read labels and Safety Data Sheets (SDS) and follow instructions and warnings.
4. Follow safety procedures on the job.

Clinical affiliates 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:
1. Determine the physical and chemical hazards of their products and the possible health effects.
2. Label chemical containers.
3. Provide SDS that detail information about hazardous chemicals.
Physical and Health Hazards

Hazardous chemicals can create two types of hazards:

1. Physical hazards

   Usually result from improper use or storage of hazardous chemicals. These are chemicals that are:
   
   • flammable (catch fire easily);
   • explosive (causes a sudden release of pressure, gas and heat); and
   • reactive (burns, explodes, or releases toxic vapor if exposed to other chemicals, heat, air, or water).

2. Health hazards

   The following bodily organs or systems can be affected from exposure to hazardous chemicals: lungs, eyes, kidneys, skin, mucous membranes, blood-producing system, and the reproductive system. Examples of the signs and symptoms of exposure include skin rashes, headache, eye irritation, dizziness, nausea, and 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 take years to develop, such as cancer, birth defects or sterility.

Types of Exposure

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

• **Inhalation**
  
  Inhaling hazardous chemicals could cause dizziness, headaches, nausea, vomiting and throat or lung damage.

• **Absorption**
  
  Skin and eye contact could cause burns, allergies, vision problems, or blindness. Cuts and other skin injuries allow chemicals to pass into your bloodstream.

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

• **Injection**
  
  Accidental percutaneous injury (needle puncture, scalpel, or any sharps injury) allows toxins to enter your bloodstream directly and circulate throughout your body.
Chemical Information

There are three things you should know about a chemical before you use it. They are:

1. Proper use
2. Precautions
3. Treatment

Useful information about the chemicals you work with is available for your benefit. This data 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; and
- Xylene.

Labels

The manufacturer labels 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 to afford effective cleaning and disinfecting.
The following is information you would expect to see on the new labels (OSHA, 2013):

1. **Product Identifier**

   This is how the hazardous chemicals are identified. This would include the chemical name, code/batch number. The manufacturer, importer or distributor can decide the appropriate product identifier. 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 the reader to the potential hazard on the label. There are only two signal words that are used. They are “Danger” and “Warning”.

   - “Danger” is used for the more severe hazards
   - “Warning” is used for the less severe hazard class.

   Only one warning symbol will be displayed on the label no matter how many hazards a chemical has.

   For example, if one the hazards warrants a “Danger” signal word and another warrants a “Warning” signal word then the “Danger” will appear on the label.
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. The pictogram that must be included on the labels must be in the shape of a square set at a point and include a black hazard symbol on a white background with a red frame that must be wide enough to be clearly visible. A square red frame set at a point without a hazard symbol is not a pictogram and should not be displayed on the label.

4. Hazard Statement

The hazard statement 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.”

All of the applicable hazard statements must appear on the label. Hazard statements may be combined where appropriate to reduce redundancies and improve readability. The hazard statements are specific to the hazard classification categories. 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 is a phrase that 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.

Some key points in understanding how to use the new labels would be by the following examples:

- The labels can be used by the healthcare worker to assist in knowing how to properly store the hazardous chemicals.
- The information on the label works together with information contained on the SDS. The information on the label is related to or consistent with the information contained on the SDS. One example of this is the precautionary statements will be the same on the label and on the SDS.
- The information contained on the labels can also alert the healthcare worker or emergency personnel to quickly locate information on first aid when needed.

Safety Data Sheets (SDS)

The SDS (formerly named MSDS) is a basic hazard communication tool that provides details on chemical and physical dangers, safety procedures, and emergency response techniques. There are now 16 sections to the SDS. Healthcare workers can find in Section 8 of the new SDS information on exposure limits, engineering controls and personal protective equipment. The SDS gives you all of the information you need to work safely with chemicals.

<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1       | Identification | - Common name, product, manufacturer/importer/responsible party name, address and telephone number.  
- Recommended use of the chemical (i.e. flame retardant) and restrictions on use (i.e.: recommendations given by supplier). |
| 2       | Hazard(s) identification | - Hazardous classification (i.e. 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 | Substances:  
- Chemical Name  
- Common Name and Synonyms  
- Chemical Abstracts  
- Impurities/stabilizing additives  
Mixtures:  
- Same information required for substances  
- Chemical name and concentration (i.e. exact percentage) of all ingredients classified as a health hazard |
<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
</table>
| 4       | First-aid measures            | - Necessary first-aid instructions by relevant routes of exposure (i.e.: inhalation, skin and eye contact, and 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       | Fire-fighting 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 (i.e.: covering the drains and capping procedures).  
- Cleanup procedures (i.e. 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 (i.e.: eating, drinking in work areas is prohibited).  
- Recommendations on the conditions of safe storage and incompatibilities, as well as specific storage requirements (i.e.: ventilation requirements). |
<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Exposure controls/personal protection</td>
<td>- Exposure limits as used or recommended by agency (i.e.: OSHA, etc.), chemical manufacturer, importer, or employer, where available.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Appropriate engineering controls.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Personal Protective Measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE).</td>
</tr>
<tr>
<td>9</td>
<td>Physical and chemical properties</td>
<td>- 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.</td>
</tr>
<tr>
<td>10</td>
<td>Stability and reactivity</td>
<td>- Reactivity: Description of the specific test data such as class or family of the chemicals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Chemical Stability: Indication of whether chemical is stable or unstable.</td>
</tr>
<tr>
<td>11</td>
<td>Toxicological information</td>
<td>- Information on the likely routes of exposure (i.e.: inhalation, skin and eye contact).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Description of delayed, immediate, or chronic effects from short and long-term exposure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Numerical measures of toxicity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Description of symptoms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 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.</td>
</tr>
<tr>
<td>12</td>
<td>Ecological information (Non-Mandatory)</td>
<td>- This section provides information to evaluate the environmental impact of the chemical.</td>
</tr>
<tr>
<td>Section</td>
<td>Topic</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>13</td>
<td>Disposal considerations (Non-Mandatory)</td>
<td>-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 for information on Exposure Controls/Personal Protection) of the SDS.</td>
</tr>
<tr>
<td>14</td>
<td>Transport information (Non-Mandatory)</td>
<td>-This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea.</td>
</tr>
<tr>
<td>15</td>
<td>Regulatory information (Non-Mandatory)</td>
<td>-This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS.</td>
</tr>
<tr>
<td>16</td>
<td>Other information</td>
<td>-This section indicates when the SDS was prepared or when the last known revision was made.</td>
</tr>
</tbody>
</table>


All clinical affiliates should have an SDS for each chemical and medications that have hazardous chemical properties. Check with your preceptor or supervisor for the location of the facility’s SDS.
Hazard Communication

Hazard communication 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.

Dealing with Hazardous Spills

All clinical affiliates will have specific clean-up policies for various types of hazardous spills. Please consult with your preceptor or supervisor in the event you encounter a hazardous spill in an area you are working in. In general, you should respond to a hazardous spill by:

1. Protecting your safety and the safety of others;
2. Isolating the scene and denying entry to it; and
3. Notifying the individual or department who is responsible to clean up hazardous spills.
HIPAA
Health Insurance Portability and Accountability Act

1. HIPAA
   A. Overview..........................................................HI: 1
   B. Who should comply with HIPAA?.............................HI: 1
   C. What is PHI?.........................................................HI: 2
   D. The Privacy Rule..................................................HI: 4
   E. The Security Rule..................................................HI: 4
   F. How can I protect PHI?.............................................HI: 5
   G. PHI Access & Disclosure........................................HI: 5
   H. Who are Business Associates....................................HI: 6
   I. Security Rule Expanded..........................................HI: 6
   J. Electronic Health Records (EHR) and e-PHI................HI: 7
   K. What is a Breach in PHI?.........................................HI: 7
   L. Penalties for Violations.........................................HI: 8
   M. Recommendations for Caregivers..............................HI: 9

2. HITECH Act.........................................................HI: 10
   A. What is the HITECH Act?.......................................HI: 10
   B. What is an EHR (Electronic Health Record)?..............HI: 10
   C. Impact of HITECH Act on Caregiver........................HI: 10

Bibliography......................................................................HI: 11
1. HIPAA

A. Overview

Healthcare workers and organizations rely heavily on the sharing of patient information. As we continue the transition toward electronic sharing of patient health information, healthcare workers and organizations understand that standards and technology must stay current to enable fast, secure and accurate transmission of that information across the care continuum.

As technology advances and patient information becomes more portable (easy to share), it becomes more difficult to protect the privacy of patient health information. Therefore healthcare workers, organizations, and consumers are increasingly concerned about patient privacy.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), Public Law 104-191, was enacted on August 21, 1996. The Health Insurance Portability and Accountability Act of 1996, commonly known as HIPAA, was enacted to address these issues. HIPAA Standards establish a format for the fast and accurate exchange of health information data, and for maintaining the security of that information. The Department of Health and Human Services published two rules under HIPAA, the Privacy rule and the Security rule.

B. Who should comply with HIPAA?

All Covered Entities must comply with the HIPAA Privacy & Security Rules. A Covered Entity includes:

- Healthcare provider who transmits data electronically (i.e.: doctors, hospitals, dentists, nursing homes and pharmacies).

  ***Under HIPAA, a healthcare provider is defined as any person or organization that furnishes, bills or is paid for health care services in the normal course of business and electronically transmits and stores that healthcare information. A healthcare provider can also include a person or organization that engages a third party to process, transmit and store their claims electronically.

- Health Plans

- Healthcare Clearinghouses
C. What is PHI?

As mentioned earlier, Protected Health Information or PHI is individually identifiable health information or information that is linked to a patient. PHI concerns the health status, treatment, or payment of a specific patient that is created or received and maintained by a covered entity.

PHI does not include individually identifiable health information contained in education records and in employment records held by a covered entity serving its role as an employer.

Individually identifiable health information is health information that specifically identifies the individual, or is information that could reasonably be expected to identify an individual, even if the individual is not named.

One Example of 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 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 could be used to identify an individual's PHI under the Privacy Regulations, including but not limited to:

- Patient’s name
- Patient’s address
- Any elements of dates that are directly related to an individual, including birth date, admission date, discharge date, death date
- Telephone numbers, Fax numbers, Email addresses
- Social security numbers, Medical record numbers, Account numbers
- The individual's e-mail, URL, or ISP address
- Health plan beneficiary numbers (Insurance Numbers)
- Certificate/license numbers
- Vehicle identifiers and serial numbers, including license plate numbers
- Device identifiers and serial numbers
• Web Universal Resource Locators (URLs)
• Internet Protocol (IP) addresses
• Biometric identifiers, including finger and voice prints
• Full-face photographs and any comparable images
• Any other unique identifying number, characteristic, or code

Information that meets the de-identified criteria would not be subject to the HIPAA Privacy Rule, as it would not qualify as PHI.

**How should PHI be used and disclosed?**

The HIPAA Privacy Rule allows the use or disclosure of PHI:

• For treatment
• For payment
• For health care operations
• With authorization by the individual
• When required by law

The HIPAA Privacy Rule protects the privacy of patient information. Any employee of a covered entity who is involved in the gathering, storing, and transmission of patient information MUST comply with the HIPAA Privacy Rule. Failure to follow HIPAA regulations could result in punitive fines for healthcare providers and/or individuals involved.

Protected Health Information (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.

The Privacy Rule generally requires covered entities to take reasonable steps to limit the use or disclosure of, and requests for, protected health information to the **minimum necessary** to accomplish the intended purpose.

The minimum necessary standard does NOT apply to the following:

• Disclosures to or requests by a health care provider for treatment purposes (i.e. communication hand-offs).
• Disclosures to the individual who is the subject of the information (i.e. patient).
• Uses or disclosures made with a patient’s authorization.
• Uses or disclosures required for compliance with HIPAA Rules.
• Disclosures to HHS when disclosure of information is required under the Privacy Rule for enforcement purposes.
• Uses or disclosures that are required by other law.
The Minimum Necessary Rule requires that only the information needed to get the job done be provided. Healthcare organizations must obtain express 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 hospitals health information policies and procedures regarding the use and disclosure of PHI.

D. The Privacy Rule

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

In general, HIPAA Privacy Rule requirements:

- Apply to most health care providers;
- Set a federal floor 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 a right to examine and obtain a copy of information in their medical records and 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

For additional information regarding the de-identification standards, see: [http://www.hhs.gov/ocr/privacy/hipaa/understanding/coveredentities/Deidentification/guidance.html#rationale](http://www.hhs.gov/ocr/privacy/hipaa/understanding/coveredentities/Deidentification/guidance.html#rationale)

E. The Security Rule

The Security Rule establishes a national set of security standards for protecting certain health information that is held or transferred in electronic form. The Office of Civil Rights, in conjunction with the Department of Justice, is responsible for enforcement actions resulting in criminal penalties of imprisonment and fines for HIPAA violations involving Protected Health Information (PHI).
F. How can I protect PHI?

In order to understand how a caregiver can protect PHI, it is important to understand how PHI can be compromised.

Some Examples of ways PHI is potentially compromised:

- Conversations via Face-to-face
- Conversations via Telephone or Dictation
- Hard Drives (unprotected) i.e.: Computers, Photo Copy Machines
- Fax Transmissions
- Mobile Devices i.e.: Laptop, Mobile devices, Flash drives, CD-Rom
- Cell Phones, PDA’s
- E-mail/Text Messages
- Disposal of PHI in trash
- Unsecured PHI i.e.: No Data Encryption, Unsecured Networks, and File Cabinets
- Inappropriate access to PHI i.e.: a caregiver accessing PHI on a patient they are not caring for

For example, a caregiver who is talking on a mobile device such as a cell phone regarding a patient should be in a private location where PHI cannot be compromised. Any healthcare provider handling PHI should view themselves as responsible for the privacy and security of health information in any organization.

G. PHI Access & Disclosure

Patients have the right to access their own Protected Health Information. Patients have the right to access PHI, including electronic PHI, inspect and receive a copy of their PHI in electronic form and format. The Covered Entity must respond to the individual’s request 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 have the right to amend their Protected Health Information. Healthcare providers should consult their organizations policies and procedures regarding the disclosing of PHI for purposes other than treatment, payment and healthcare operations.

Patients can request that the organization change any PHI that it maintains in record sets. The organization can require that these requests for change be in writing and that the individual explain the reason for the change. Individuals also have a right to have an account of access to their PHI. Individuals have a right to know the identities of those persons or agencies that have accessed their PHI for 6 years PRIOR to the request, including Business Associates.
Special Circumstances

Protecting public health, including through public health surveillance, program evaluation, terrorism preparedness, outbreak investigations, and other public health activities, often requires access to or the reporting of the protected health information of individuals.

The Privacy Rule 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, therefore it is important for healthcare providers to be knowledgeable of policies and procedures in place for the organization they are presently working for.

H. Who are Business Associates?

In 2013, the new HIPAA rules expanded to include Business Associates of Covered Entities. A "Business Associate" includes any person or organization that functions on behalf of a covered entity that involves use or disclosure of identifiable health information. Examples of this would include billing, coding or an Electronic Health Record (EHR) Vendor. A member of the covered entity (i.e.: hospital) workforce is NOT a business associate. While a member of the hospitals workforce is not a business associate, they are required to follow all requirements under HIPAA.

I. Security Rule Expanded

The Security Rule requires appropriate administrative, physical and technical safeguards to ensure the confidentiality, integrity, and security of electronic protected health information (e-PHI).

Electronic storage material on which data is or may be recorded electronically, including, for example, devices in computers (hard drives) and any removable/transportable digital memory medium, such as magnetic tape or disk, optical disk (CD, DVD, Blu-ray), or digital memory card.

Transmission media used to exchange information already in electronic storage media includes the following:

- Internet
- Extranet
- Intranet
- Leased lines
- Dial-up lines
- Private networks
- Physical movement of removable/transportable electronic storage media
Certain transmissions, including paper, facsimile (fax), voice, and telephone, are NOT considered to be transmissions via electronic media under the Security Rule, since the information being exchanged did not exist in electronic form immediately before the transmission. However, paper, facsimile and telephones (including cell phones) containing PHI would be subject to the HIPAA rule.

An example of this:

- Telephone calls over standard phone lines would not be considered electronic media. 
  ***Recordings of telephone calls or messages that are transmitted electronically would be considered electronic media.
- Faxed documents over standard phone lines would not be considered electronic media unless the faxed documents are uploaded electronically, such as a computer.

J. Electronic Health Records (EHR) and e-PHI

An EHR (Electronic Health Record) creates new responsibilities for healthcare providers to safeguard patients’ health information in electronic form. The HIPAA Security Rule establishes national standards to protect individuals’ electronic protected health information (e-PHI) that is created, received, used, or maintained by a HIPAA covered entity. Even with proper safeguards in place, Electronic Patient Health Information can be at risk for common security gaps such as cyber attack and data loss.

The HIPAA Security Rule requires appropriate administrative, physical and technical safeguards to ensure the confidentiality, integrity, and security of e-PHI.

The HIPAA Security Rule does require covered providers to implement security measures, which help protect patients’ privacy by creating the conditions for patient health information to be available but not be improperly used or disclosed.

K. What is a Breach in PHI?

A breach is, generally, an impermissible use or disclosure under the Privacy Rule that compromises the security or privacy of PHI such that the use or disclosure poses a significant risk of financial, reputational, or other harm to the affected individual.

The HIPAA Breach Notification Rule requires covered entities to promptly notify individuals and the Secretary of the HHS of the loss, theft, or certain other impermissible uses or disclosures of unsecured PHI. There are some exceptions to Breach Rule therefore; it is critical that a healthcare provider refer to their organizations policies and procedures regarding any known/potential data breach.
Furthermore, it is critical that healthcare providers report any knowledge of potential/actual breaches immediately to their supervisor. Healthcare organizations should have contingency plans in place in order to address an actual or attempted security incident. This would include e-PHI and any electronic media containing the e-PHI, whether on or off hospital premises.

**L. Penalties for Violations**

A caregiver who works for a covered entity, such as a hospital, must abide by the organizations health information privacy and security policies and procedures mandated under HIPAA. A caregiver who violates an organizations privacy and security policies could place themselves and the organization they work for at risk for investigative or enforcement actions by HHS Office of Civil Rights. Furthermore, there may be potential violations in accordance to their respective state and professional licensing boards.

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

**Civil Penalties**

- 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 and conducts associated complaint investigations, compliance reviews, and audits. The OCR may impose fines on covered providers for failure to comply with the HIPAA Rules.
- State Attorneys General may also enforce provisions of the HIPAA Rules.

The penalties for HIPAA violations are displayed in the following tables:

<table>
<thead>
<tr>
<th>Violation Category</th>
<th>Per Violation(Minimum)</th>
<th>Maximum Civil Money Penalties for Violations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Know - (and by exercising reasonable diligence would not have known) that he/she violated HIPAA</td>
<td>$100 per violation, with an annual maximum of $25,000 for repeat violations</td>
<td>$50,000 per violation, with an annual maximum of $1.5 million</td>
</tr>
<tr>
<td>Reasonable Cause (not due to willful neglect)</td>
<td>$1,000 per violation, with an annual maximum of $100,000 for repeat violations</td>
<td>$50,000 per violation, with an annual maximum of $1.5 million</td>
</tr>
<tr>
<td>HIPAA violation due to willful neglect but violation is corrected(within required time period)</td>
<td>$10,000 per violation, with an annual maximum of $250,000 for repeat violations</td>
<td>$50,000 per violation, with an annual maximum of $1.5 million</td>
</tr>
<tr>
<td>HIPAA violation is due to willful neglect (not corrected)</td>
<td>$50,000 per violation, with an annual maximum of $1.5 million</td>
<td>$50,000 per violation, with an annual maximum of $1.5 million</td>
</tr>
</tbody>
</table>
Criminal Penalties for HIPAA violations

<table>
<thead>
<tr>
<th>Violations for Non-Compliance</th>
<th>Criminal Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Up to $50,000 and 1 year in prison for improperly obtained or disclosed PHI</td>
<td></td>
</tr>
<tr>
<td>* Up to $100,000 and up to 5 years in prison for offenses committed in obtaining PHI under false pretenses</td>
<td></td>
</tr>
<tr>
<td>* 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</td>
<td></td>
</tr>
</tbody>
</table>

M. Recommendations for Caregivers

- Ensure conversations (i.e.: hand-off communications) regarding patients are done in a confidential area
  - Avoid discussing a patient's condition in front of other patients, visitors, or family members in a hallway
  - Lowering 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 public i.e.: Computer Screens
- Sign off of computers when not in use
- Use passwords on desktop and portable media devices
- Change passwords, as often as organization policy allows
- NEVER share your password
- Ensure data encrypted computers are used when handling PHI
- Keep protected health information secure i.e.: password protected, lock filing cabinets/rooms
- Use precautions to protect PHI from accidental disclosure:
  - Avoid sending PHI by e-mail if at all possible.
  - Use a fax cover sheet when faxing PHI and double check the fax number to be sure it is correct

The key is balancing the objectives of safeguarding confidentiality while engaging in communications to ensure the delivery of quality health care in an effective manner. Any individual working for a covered entity (i.e.: hospital) who may come into contact with PHI must be aware of the hospitals policies and procedures regarding HIPAA, procedures for reporting and documenting incidents or possible breaches of PHI.
2. HITECH Act

In addition to the Health Insurance Portability and Accountability Act (HIPAA) of 1996, a new piece of legislation was ratified in 2009. The new Health Information Technology for Economic and Clinical Health Act (the “HITECH Act”) was enacted as part of the American Recovery and Reinvestment Act of 2009.

A. What is the HITECH Act?

The HITECH Act is an amendment to the previous HIPAA enforcement with an increased responsibility for the protection of PHI (Protected Health Information). The HITECH Act addresses the privacy and security concerns of electronically transmitted health information (HIPAA Administrative Simplification, 2009). A portion of the money approved in this legislation is intended for use in the expansion of Electronic Health Records (EHR) by physicians and hospitals.

B. What is an EHR (Electronic Health Record)?

An Electronic Health Record (EHR) is an electronic version of a patient’s medical history and is maintained by the provider. The electronic health record 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 and radiology reports (CMS, 2010).

C. Impact of HITECH Act on Caregiver

It is essential for the healthcare provider to understand what the HITECH Act is but also how it affects you in the workplace setting.

How this new federal legislation impacts you:

- Increased development and use of EHR(Electronic Health Records) 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 those discovered breaching safeguards contained in the Security Rules
- Requires HHS(Health and Human Services) to conduct periodic audits
- Mandatory penalties imposed for “willful neglect”

As with all Protected Health Information, it is critical for the caregiver to exercise prudence when accessing, managing, and/or transmitting any and all PHI.

The caregiver needs to know the policies of their organization regarding electronic health information and security measures that are in place to ensure security of PHI.
Bibliography


© Copyright Prophecy Healthcare, Inc.
Introduction

Each year, an estimated 2 million patients get a hospital-related infection. It is also estimated that 90,000 patients will die from their infection (Center for Disease Control, 2010).

Standard (Universal) Precautions

Universal Precautions were renamed to Standard Precautions in 1998 (HICPAC Guidelines). The HICPAC Guidelines help to protect the patient and the healthcare workers from exposure to potentially infectious agents. They are based on the principle that whether it is suspected or confirmed, all blood, body fluids, secretions, excretions except sweat, nonintact skin, and mucous membranes may contain transmissible infectious agents (HIV, HBV, HCV, or any other pathogen). Prevention practices include hand hygiene, use of personal protective equipment, safe injection practices, and respiratory hygiene/cough etiquette. Standard Precautions reduce the risk of cross contamination from one infected patient to another, when the caregiver consistently uses appropriate barriers and washes his / her hands. Standard Precautions should be used for all patients at all times, by all healthcare workers (CDC, 2010).

Standard Precautions are not an option. OSHA and MIOSHA monitor hospitals for compliance with this regulation. Not only must personnel be observing these precautions, the hospital MUST have a mechanism in place for discipline for those found to be noncompliant.

Hand Hygiene

Hand washing is considered the single most important procedure for preventing nosocomial (hospital - acquired) infections. Hand washing is a basic form of sanitation and a required part of all infection control measures.

WHO’s (World Health Organization) 5 Moments for Hand Hygiene:

- Before patient contact
- Before an aseptic task (manipulating invasive devices)
- After body fluid exposure risk, such as touching excretions or secretions (and following glove removal)
- After patient contact
- After contact with patient surroundings (touching items/surfaces in the immediate patient care environment, even if you don’t touch the patient)
NOTE: If you use hand lotion, you should have your own container. “Shared use” bottles should not be used as they easily become contaminated. Use only water-based products and only those that are hospital-approved. Using lanolin or oil-based lotions before donning gloves will seriously weaken the gloves. This increases the risk that germs will pass through the glove. Just because a product washes off with water does not mean it is water-based.

Techniques for Hand Hygiene

A. When using alcohol-based hand rub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, rubbing until hands are dry. Follow the manufacturer’s recommendations regarding the volume of product to use.

B. When washing hands with soap and water, wet hands first with water, apply an amount of product recommended by the manufacturer to hands, and rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers. Rinse hands with water and dry thoroughly with a disposable towel. Use towel to turn off the faucet. Avoid using hot water, because repeated exposure to hot water may increase the risk of dermatitis.

C. Liquid, bar, leaflet or powdered forms of plain soap are acceptable when washing hands with a non-antimicrobial soap and water. When bar soap is used, soap racks that facilitate drainage and small bars of soap should be used. Multiple-use cloth towels of the hanging or roll type are not recommended for use in health-care settings.

D. If hands are visibly soiled, soap and water is recommended.

E. If hands are NOT visibly soiled, use of alcohol-based hand rubs is recommended for routine decontamination.

SOURCE: Center for Disease Control

Recommendations for Nail Hygiene & Artificial Nails

Numerous studies have been conducted on artificial nails and nail hygiene of healthcare personnel and the transmission of certain health care-associated pathogens to patients. The evidence suggests that wearing artificial nails and other nail hygiene characteristics can transmit health care-associated infections. Organizational policies on nail hygiene may differ based on which hand hygiene guidelines are followed by the facility per the National Patient Safety Goals set forth by The Joint Commission, which state healthcare facilities follow EITHER the CDC or WHO current hand hygiene guidelines.

CDC recommends the following:

- Keep nail tips less than ¼-inch long
- Do not wear artificial fingernails or extenders when having direct contact with patients at high risk (such as intensive-care units and operating rooms)

WHO guidelines state:

- No direct care providers should have artificial nails or extenders.

NOTE: In the interest of patient safety, most organizations have chosen to ban artificial nails and require natural nail tips to be less than ¼-inch long.
Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) is specialized clothing or equipment worn by an employee for protection against infectious material (OSHA, 2010). The selection of PPE is based on the nature of the patient interaction and potential for exposure to blood, body fluids, or infectious agents. It is important to understand and follow facility specific protocols and guidelines regarding PPE.

When Do I Wear Gloves?

Gloves **MUST** be worn when there is a possibility of contact with blood and/or body fluids, mucous membranes, nonintact skin; or contact with contaminated items.

- Wear gloves that fit properly
- Do not wear the same pair of gloves for the care of more than one patient
- Do not was gloves for the purpose of reuse
- Remove and/or change gloves after use or task and whenever gloves become soiled or damaged
- Turn the glove inside out when de-gloving and dispose of them in the proper receptacle
- Perform hand hygiene before and immediately after removing gloves
- 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, wear a synthetic glove such as vinyl.

**Latex Allergies**

Latex is contained in a variety of products from gloves to catheters to Band-Aids to adhesive tape to the elastic on the blue head covers. It is also present in a variety of household items such as rubber (elastic) bands, balloons, condoms, and dental dams. The list is endless.

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

**Important Points to Remember About Latex Allergies**

1. Ask patients questions about allergies in terms that they understand.
2. Document findings in the patient chart.
3. Inform the preoperative team so that latex can be removed from the environment and substitutions can be made.
4. The case should be scheduled first case of the day or the OR environment should be kept powder free prior to latex-sensitive patient entering the room.
5. Patients with latex allergy are premedicated preoperatively to help prevent allergic reactions.
6. All latex products, including gloves, **MUST** be kept away from allergic patients and staff.
7. Latex products release latex allergens into the air and these allergens may cause reactions in latex allergic persons.
8. Glove powder from latex gloves may carry enough latex allergen through the air to cause reactions in allergic persons.
9. If you suspect that you have a latex allergy, please contact Employee Health for an appointment to rule out this allergy.
10. If you are not sure about the latex content of a particular product, please contact your supervisor.

**When Do I Wear a Gown?**

Wear a gown that is appropriate to the task, to protect skin and prevent soiling or contamination of clothing during procedures or activities when it is likely to come in contact with blood, bodily 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 and practice hand hygiene after removal of gown (CDC, 2010).

**When Do I Wear a Mask/Goggles/Face Shield?**

Wear a mask and eye protection, or a face shield, during procedures/activities when it is likely to come in contact with blood, bodily fluids, excretions, or secretions to protect the mucous membranes of the eyes, nose and mouth (CDC, 2010). A respirator should be worn to protect the respiratory tract from airborne infectious agents such as TB.

**Safe Injection Practices**

The CDC has identified instances of improper use of syringes, needles, and medication vials during routine healthcare procedures that have resulted in transmission of bloodborne viruses (HCV, HBV, and HIV). Recommendations by the CDC for safe injection practices to protect patients include:

- Follow proper infection control practices and maintain aseptic technique during the preparation and administration of injected medications (e.g., perform hand hygiene).
- 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-doses 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.

**Aseptic Technique**

Principles of aseptic technique should guide our daily activities whether it is in the Operating Room or any other area where procedures are performed. The purpose of basic principles is to ensure that sterile techniques are used and a sterile field is created and maintained. All persons are responsible for maintaining aseptic technique.

The Principles of Aseptic Technique are:

- Hand washing guidelines should be followed.
- All materials in contact with the wound and used in the sterile field **MUST** be sterile.
- Gowns are considered sterile in front from chest to the level of the sterile field. The sleeves are also considered sterile from 2” above the elbow to the stockinet cuff.
- Sterile drapes are used to create a sterile field. Only the top surface of a draped table is considered sterile.
- Items should be dispensed to a sterile field by methods that preserve the sterility of the items and the integrity of the sterile field.
- Motions are from sterile to sterile areas and from un-sterile to un-sterile areas.
- Movement around a sterile field **MUST NOT** cause contamination of that sterile field.
- Whenever a sterile barrier is permeated, it **MUST** be considered contaminated.
- Every sterile field should be constantly monitored and maintained.

**Respiratory Hygiene/Cough Etiquette**

This infection control practice is targeted at patients and accompanying family members and friends with undiagnosed transmissible respiratory infections. It applies to any one with signs of illness including cough, congestion or increased production of respiratory secretions.

Elements of Respiratory Hygiene/Cough Etiquette include:

- Education of staff, patients, and visitors.
- Post signs with instructions to patients and visitors.
- Source control measures: Covering mouth/nose with a tissue; Prompt disposal of used tissues; Using surgical masks on coughing person when tolerated and appropriate.
- Hand hygiene after contact with respiratory secretions.
Spatial separation (ideally greater than 3 feet) of persons with respiratory infections in common waiting areas if possible.

When examining or caring for patients with signs and symptoms of respiratory infections, healthcare personnel are advised to observe Droplet Precautions and hand hygiene practices.

**Bloodborne Pathogens**

Bloodborne pathogens include, but are not limited to, Hepatitis B (HBV), Hepatitis C (HCV), and human immunodeficiency virus (HIV). These pathogens are infectious microorganisms in human blood that can cause disease in humans.

**OSHA’s Bloodborne Pathogens Standard requires employers to:**

- Establish an exposure control plan
- Update the plan 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 (sharp disposal containers, self sheathing needles, and safer medical devices such as sharps with engineered sharps-injury protection and 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 available hepatitis B vaccinations to all workers with occupational exposure
- Make available post-exposure evaluation and follow-up 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

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

- Needles and other used sharps **MUST NOT** be bent, broken, or otherwise manipulated by hand after use
- Contaminated needles should never be recapped
- Never carry a used sharp in a pocket
- Do not attempt to remove anything from a sharps disposal container
- Properly dispose of all sharp objects (e.g. syringes with needles, broken glass, scalpels) after use
• Use appropriate sharps counts protocols (count the number of sharps on a sterile field, place them where always visible, and count before clean-up minimize accidental injury from unseen sharps)
• Dispose of sharps in designated sharps disposal containers
• Sharps disposal containers are to be sealed and removed when ¾ full to avoid overflow

Hepatitis

Hepatitis is a serious disease of the liver, an organ necessary for life. Hepatitis B (HBV) and C (HVC), the two most serious kinds of hepatitis, are similar kinds of liver infection that are 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, which is a more serious chronic disease.

Symptoms of Hepatitis

About 50% of Hepatitis B infections and 75% of Hepatitis C infections cause NO initial symptoms. When symptoms are present, they include:

• Jaundice
• Loss of appetite
• Dark urine
• Nausea
• Vomiting
• Fever
• Fatigue
• Clay-colored bowel movements
• Joint pain
• Abdominal pain

Testing & Diagnosis

Clinical presentations of all types of acute viral hepatitis are similar, therefore the specific cause of the illness cannot be determined solely on the basis of signs, symptoms, history, and risk factors, and must be verified by specific serologic testing. Accurate detection techniques were developed for Hepatitis B in 1972, and for Hepatitis C in 1992. Before these dates, the virus could not be detected reliably, so some people could receive infected blood in blood transfusions.

Modes of Transmission

Hepatitis B and Hepatitis C viruses are transmitted through blood and body fluids. Infected blood can be transmitted from one person to another through openings in the skin, or through contact by both individuals with a sharp tool. About one third of Hepatitis C patients never find out how they contracted the virus.

Methods of blood-borne transmission of both Hepatitis B and C include:

• Blood splashes from minor cuts and nosebleeds
• Procedures that involve blood (especially in healthcare)
• Hemodialysis (using kidney machines)
- Sharing personal items like nail clippers, razors, and toothbrushes
- Sharing needles for intravenous drug use
- Body piercing and tattoos.

Hepatitis B and, to a lesser extent, Hepatitis C can also be transmitted as a result of:
- Close household contact with an infected person
- Unprotected sex with multiple partners
- Childbirth (from mother to baby)

**Risk of Transmission**

Persons most at risk for developing these diseases are IV drug users, people with multiple sex partners, and people who have direct exposure to infected blood or body fluids. Body piercing needles, tattoo needles, and even sharing toothbrushes or razors can spread the disease.

**Precautions for Healthcare Workers**

- Although rare, healthcare workers are at risk of transmission through percutaneous or mucous membrane exposure to blood or body fluids. Even exposure to a small amount of blood from an infected person can cause hepatitis, and healthcare workers can transmit or receive the virus.
- To prevent transmission healthcare workers must assume that blood and other body fluids from all patients are potentially infectious.
- Routinely use barriers (gloves/goggles/masks) when anticipating contact with blood or body fluids
- Immediately wash hands and other skin surfaces after contact with blood and body fluids
- Carefully handle and dispose of sharp instruments during and after use.
- The Advisory Committee on Immunization Practices recommends that all health care workers at risk for exposure to blood or blood-contaminated body fluids receive the Hepatitis B vaccination.
- Follow the rules of your facility, get vaccinated if you are not immune to Hepatitis B, and practice good personal hygiene to prevent the spread of hepatitis.

**HIV / AIDS**

HIV (Human Immunodeficiency Virus) is the virus that causes AIDS (Acquired Immune Deficiency Syndrome). Once this virus enters and infects the body, the person is said to be “HIV Positive.” However, the person may be infected with the virus for up to 10 years or more before developing AIDS. Most people who are HIV positive will eventually develop AIDS.
HIV / AIDS Statistics

- The CDC estimates that there are 1.2 million individuals living with HIV in the United States. Of those, 12.8% do not know they are infected.
- Approximately 50,000 new HIV infections occur each year in the United States.
- 70% of new infections are in men and 30% are in women.
- According to WHO by the end of 2014, worldwide there were approximately 36.9 million people living with HIV.
- In 2014, worldwide 2 million people became newly infected with HIV.
- In the 2014, an estimated 1.2 people died from AIDS-related illnesses. 39 million people worldwide have died of AIDS-related causes since epidemic began.

AIDS or AIDS-related diagnosis

HIV specifically attacks the CD4 cells, which help the immune system fight off infections. This weakens the immune system making the person more likely to get other infections or infection-related cancers. An HIV positive person may not feel sick or even know they have the virus for ten or more years. During that time, the virus (a bloodborne pathogen) can infect other people. A person may only know they are HIV positive by having specific blood tests.

A positive HIV test does not mean that a person has AIDS. A diagnosis of AIDS is made under either of two conditions and is considered the last stage of HIV infection:

1. If the CD4 cell count (normally 800-1000/microliter of blood) falls below 200/microliter, whether or not symptoms of the disease are present
2. If a person shows signs of having infections that healthy people are usually able to fight off such as tuberculosis, Kaposi’s Sarcoma, Pneumocystis Carinii Pneumonia.

People today, with antiretroviral therapy (ART), can be treated before the disease progresses and have a nearly normal life expectancy, however ART treatment is a lifetime therapy that has to be strictly followed.

Precautions for Healthcare Workers

- To prevent transmission healthcare workers must assume that blood and other body fluids from all patients are potentially infectious.
- Routinely use barriers (gloves/goggles/masks) when anticipating contact with blood or body fluids
- Immediately wash hands and other skin surfaces after contact with blood and body fluids
- Carefully handle and dispose of sharp instruments during and after use.
- Follow the rules of your facility.

© Copyright Prophecy Healthcare, Inc.
Transmission-Based Precautions

There are three specific Transmission-Based Precautions to be used when Standard Precautions alone are not enough to interrupt the route(s) of transmission. In some instances more than one Transmission-Based Precaution can be used depending on if the disease has multiple routes of transmission, for example SARS. Regardless if one or more category is used, Transmission-Based Precautions should always be used in addition to Standard Precautions. The three categories for precautions are: Contact Precautions, Droplet Precautions, and Airborne Precautions.

Contact Precautions

These precautions would be used to prevent the spread of infectious agents by direct or indirect contact with the patient or patient’s environment. Contact Precautions would be used for patients infected or colonized with multi-drug resistant organisms (MDRO’s) and for situations where excessive wound drainage, fecal incontinence (may include patients with norovirus, rotavirus, or Clostridium difficile), or other discharges from the body suggest an increased potential for environmental contamination or increased risk of transmission. Healthcare personnel caring for patients on Contact Precautions should wear appropriate PPE (gown and gloves) for all interactions that may involve contact with the patient or potentially contaminated areas in the patient environment. PPE should be donned upon entry and discarded before exiting the patient room to contain pathogens, and a single patient room is preferred.

Droplet Precautions

These precautions are intended for transmission prevention of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions. Since the pathogens are not infectious over long distances, special air handling and ventilation are not necessary, however a single patient room is preferred. Pathogens that would qualify for Droplet Precautions include: B. pertussis influenza virus, adenovirus, and group A streptococcus. Healthcare personnel caring for patients on Droplet Precautions should wear a mask (a respirator is not necessary) for close contact with an infectious patient, which should be donned upon entry to the patient room. Patients who must be transported outside of the room should wear a mask if tolerated and follow Respiratory Hygiene/Cough Etiquette.

Airborne Precautions

Pathogens that remain infectious over long distances when suspended in the air would require the use of Airborne Precautions. Infectious agents that would require Airborne Precautions include: measles, chickenpox (varicella), M. tuberculosis, and smallpox. An airborne infection isolation room (AIIR), which is a room with special air handling and ventilation equipment, is preferred when Airborne Precautions are necessary. Any facility with AIIR rooms are required to have a respiratory protection program that includes education about use of respirators, fit-testing, and user seal checks. 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, and smallpox).

**More information on CDC recommendations for specific infections can be found here:** http://www.cdc.gov/hicpac/2007IP/2007ip_appendA.html

**Multi-Drug Resistant Organisms (MDRO)**

MDRO’s are microorganisms, primarily bacteria, that are resistant to one or more antimicrobial agents and therefore can be difficult to treat. The most common MDRO’s are MRSA and VRE.

**The CDC recommends Standard and Contact Precautions for patients with MDRO’s.**

**VRE (Vancomycin Resistant Enterococcus)**

Vancomycin is an antibiotic used to treat certain infections, including those caused by most strains of Enterococcus. It is an organism found normally in the intestinal tract and in females, in the vaginal tract. When Vancomycin is unable to kill this organism it is called VRE.

**Risk Factors for VRE**

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

**Transmission**

It is found most often in the stool, but it can be found in the blood, urine, and wounds, or wherever it can be carried by blood.

It can be spread to other people by contact between persons. To prevent this from happening, VRE precautions are used when VRE colonization or infection is identified. Everyone who comes into the hospital room of a patient with VRE will wear a gown and gloves. If it is in the spectrum of the respiratory tract, they will wear a mask.

**Precautions for VRE**

VRE is a very hardy organism. It can survive on hard surfaces for 7-10 days and on hands for hours. It is easy to kill with hand washing and a proper use of disinfectants.

1. Private room – necessary
2. Personal protective equipment
   a. GLOVES – **MUST** be worn by healthcare workers before or upon entry to patient’s room. Hands **MUST** be washed following glove removal.
b. MASKS – standard surgical mask necessary if organism is in the spectrum of the respiratory tract for close contact with the patient, suctioning, and performance of other cough inducing procedures. (Close contact defined as within 2-3 feet of the patient).
c. GOWNS – **MUST** be worn by all persons having contact with patients or articles that the patient may come in contact with.

3. **HAND WASHING** – hands **MUST BE WASHED** after removal of gloves, and before leaving the room.

**MRSA (Methicillin Resistant Staphylococcus Aureus)**

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

**Modes of MRSA transmission**

MRSA is passed from person to person by contact with someone who has MRSA. A person who is infected or colonized with MRSA may have it in their nose as well as on their hands, and whenever they touch others, they can pass the germ along. MRSA can be transmitted from a person in contact with a MRSA patient to another patient. Therefore, it is **CRITICAL** that you wash your hands.

**Precautions for MRSA**

1. Private room – necessary
2. Personal protective equipment
   a. GLOVES – **MUST** be worn by healthcare workers before or upon entry to patient’s room. Hands **MUST** be washed following glove removal.
   b. MASKS – standard surgical mask necessary if organism is in the spectrum of the respiratory tract for close contact with the patient, suctioning, and performance of other cough inducing procedures. (Close contact defined as within 2-3 feet of the patient).
   c. GOWNS – **MUST** be worn by all persons having contact with patients or articles that the patient may come in contact with.
3. **HAND WASHING** – hands **MUST** be washed after removing gloves, and before leaving room.

**Tuberculosis**

Tuberculosis (TB) is a disease that is caused by bacteria called *Mycobacterium tuberculosis* (*M. tuberculosis*). This bacterium is carried through the air by tiny droplet nuclei. Primarily TB attacks the lungs, but any part of the body can be affected such as the kidney, spine, and brain. It is the largest single cause of death among people diagnosed with AIDS. Tuberculosis is curable, but it involves taking medication for a very long time.
**Symptoms of TB include:**

- Chest pain
- Prolonged productive cough (3 weeks or longer)
- Coughing up of blood or sputum
- Fever and chills
- Night sweats
- Weight loss
- Weakness or fatigue
- No appetite

**Transmission**

TB is transmitted through the air when a person with TB of the lungs or throat coughs, sneezes, speaks/shouts, or sings, infecting those nearby by inhaling the infectious airborne droplet nuclei. Shaking someone’s hand, sharing food or drink, touching bed linens or toilet seats, sharing toothbrushes, or kissing does NOT spread TB.

**Latent TB Infection**

In most cases the body is able to fight the bacteria and keep it from growing in people who become infected. This condition is referred to as Latent TB Infection. People with latent TB infection do not feel sick and do not have symptoms, nor are they infectious and cannot spread TB bacteria to others.

**Active TB Disease**

When the immune system can’t stop the bacteria from growing, the TB bacterium becomes active. People with Active TB disease will be symptomatic and be able to spread the bacteria to others.

**Risk Factors of TB**

Once infected with TB bacteria, the chance of developing Active TB Disease increase if the person:

- Has HIV infection
- Has been infected with TB bacteria in the last 2 years
- Has other health problems, like diabetes which make it hard for the body to fight bacteria
- Abuses alcohol or uses illegal drugs
- Was not treated correctly for TB infection in the past

**Testing for TB**

There are two types of tests for TB – a skin test or TB blood test. The skin test consists of injecting a small amount of fluid (called tuberculin) into the lower part of the arm. The skin test must be read by a healthcare professional within 48 to 72 hours to assess for a reaction on the arm.
A positive TB skin test only tells if a person has been infected with TB bacteria. Other tests are necessary to determine whether the person has TB disease, such as a chest x-ray and sample of sputum. The TB blood test measure how a person’s immune system reacts to the bacteria that cause TB.

People working in healthcare settings should receive an initial TB skin test upon hire, and then annual tests depending on the type of setting.

**Treatment of TB**

Treatment for latent TB infection is based on the chances of developing TB disease. However, to effectively control and eliminate TB in the United States it is essential to treat latent TB infection.

Treatment for Active TB Disease consists of taking several drugs, usually for 6 to 9 months. It is critical to take the medication exactly as prescribed for the full length of prescribed treatment. If the medication is stopped too soon, the bacterium that is still alive may become resistant to those drugs. Drugs previously used will no longer be effective. This condition, referred to as Multi-Drug Resistant (MDR) TB, is extremely difficult to cure.

**Special Precautions for TB patients**

- Place TB patients in private rooms, keep door closed.
- For pulmonary TB patients, place patient in a negative pressure ventilated room or an AIIR (Airborne Infection Isolation Room).
- Wear a special “fit-tested” mask such as an N-95 or greater to provide at least 95% efficiency. The healthcare provider should receive training on proper fitting and how to wear correctly.
- The N-95 or greater efficiency mask should be worn upon entrance into patients room and while in patients room.
- Explain to patients and visitors how to use special masks.
- Keep patients in their rooms as much as possible and transport if only necessary. Patient **MUST** wear high efficiency mask (if medically feasible). Transporter does not require respiratory protection.
- Encourage patients 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 your gloves, mask, and/or gown off.

**Ebola**

Ebola, previously known as Ebola hemorrhagic fever, is a rare and deadly disease found in several African countries. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees), and although the natural reservoir host of Ebola remains unknown, researchers believe that the virus is animal-borne and that bats are the most likely reservoir.
**Symptoms of Ebola include:**

Symptoms of Ebola may appear anywhere from 2 to 21 days after exposure to Ebola, but the average 8 to 10 days, and include:

- Fever
- Muscle pain
- Weakness
- Vomiting
- Internal/External bleeding (from skin, eyes, gums)
- Fatigue
- Severe headache
- Diarrhea
- Abdominal pain

**How is Ebola transmitted?**

Ebola can infect mammals, including humans, bats, monkeys, and apes. Humans can be infected through contact with blood, secretions, organs, and other bodily fluids of an infected animal. Human to human transmission occurs through direct contact with blood or body fluids of an infected person. Healthcare providers caring for Ebola patients and the family and friends in close contact with Ebola patients are at the highest risk of contracting Ebola. Their risk of exposure is elevated because they may come in contact with the blood or body fluids of patients who have Ebola.

The risk of exposure can also occur after coming in contact with infected wildlife. 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

**Suspected Ebola Patient**

The screening process is a critical component to identifying a patient with Ebola. This process should include taking a recent travel history.

Once a patient has been determined as having met the criteria for Ebola, the healthcare provider should also implement standard, contact, & droplet precautions using appropriate personal protective equipment (PPE) and the patient should be placed in isolation in a single patient room with a private bathroom. The door(s) should be kept closed and a log should be maintained of all persons entering the patient's room. In addition, public health officials should be notified if Ebola is suspected.

Further information for the evaluation and management for the Emergency Department and complete algorithm can be found here and the algorithm for evaluation and management for Ambulatory Care can be found here. The CDC general patient evaluation for suspected Ebola can be accessed here.
Diagnosis of Ebola

It is difficult to diagnose a person in the first few days of contracting the disease. The early symptoms, such as fever, can be often seen in other more commonly occurring diseases known to the healthcare worker. Confirmation that symptoms are caused by Ebola virus infection are made by obtaining blood samples for lab tests.

Treatment of Ebola

Currently, there is no FDA-approved vaccine or medicine (e.g., antiviral drug) available for Ebola. The following basic interventions, when used early, can significantly improve the chances of survival:

- Providing intravenous fluids (IV) and electrolytes
- Maintaining oxygen status and blood pressure
- Treating other infections if they occur

People who recover from Ebola infection develop antibodies that last for at least 10 years.

Special Precautions for the treatment of Ebola patients:

Personal Protective Equipment

It is important to remember that ALL body parts should be completely covered when putting on Personal Protective Equipment. The CDC recommends that healthcare workers in close contact with patients who have suspected or known infection of Ebola wear the following personal protective equipment (PPE):

- Impermeable garment:
  - Single-use (disposable) fluid resistant or impermeable gown that extends to at least mid-calf
  - Coverall without integrated hood
- Respiratory protection:
  - PAPR (powered air purifying respirator) – a hooded respirator with single-use a full-face shield, helmet, or headpiece. Any reusable helmet or headpiece must be covered with a single-use (disposable) hood that extends to the shoulders and fully covers the neck and is compatible with the selected PAPR.
- Single-use (disposable) N95 respirator in combination with single-use (disposable) surgical hood extending to the shoulders and single-use (disposable) full-face shield.
- Single-use (disposable) boot covers that are waterproof and go to at least mid-calf or leg covers
- Single-use (disposable) examination gloves with extended cuffs, using double-glove technique (sterile for some procedures)
- Single-use (disposable) 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 eye protection
Training on Correct Use of PPE

Healthcare workers should receive rigorous and repeated training to ensure they are knowledgeable and proficient in donning and doffing PPE prior to engaging in management of an Ebola patient. They should demonstrate competency while being observed by a trained observer. In addition to donning and doffing training, the healthcare worker should practice performing required duties while wearing PPE. A step-by-step training video regarding the CDC's recommended procedures for donning and doffing personal protective equipment (PPE) for all healthcare workers coming in contact with known or suspected Ebola patients can be found here:

CDC's Guidance for Donning and Doffing Personal Protective Equipment (PPE) During Management of Patients with Ebola Virus Disease in U.S. Hospitals

Use of Trained Observer

The sequence and actions for donning and doffing are critical to avoiding exposure, a trained observer will read aloud to the healthcare worker each step in the procedure checklist and visually confirm and document that the step has been completed correctly. The trained observer should be knowledgeable about all aspects related to PPE and should know the exposure management plan in the event of an unintentional break in procedure. The trained observer should NOT provide physical assistance during doffing procedures. However since the trained observer will be present in the PPE removal area during the doffing process, the trained observer should wear the following recommended PPE:

- Single-use (disposable) fluid-resistant gown that extends to at least mid-calf or coverall without integrated hood
- Single-use (disposable) full face shield
- Single-use (disposable) surgical mask
- Single-use (disposable) gloves with extended cuffs, two pairs should be worn
- Single-use (disposable) ankle-high shoe covers

Designated areas for donning and doffing of PPE

A clear layout and separation between clean and potentially contaminated areas is critical to prevent contamination and exposure. A one-way flow of care should be established and marked with visible signage (signs on the floor) moving from clear areas where PPE is donned to the patient room and to the PPE removal area. Signs should be posted to highlight key aspects of PPE donning and doffing:

- Designating clean areas vs. potentially contaminated areas
- Reminding healthcare workers of wait for trained observer before removing PPE
- Reinforcing need for slow and deliberate removal of PPE to prevent self-contamination
- Reminding healthcare workers to perform disinfection of gloved hands in between steps of the doffing procedure
Patient Care Equipment

- Have dedicated medical equipment for patient care (preferably disposable)
- 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

- Safe injection practices (as outlined in Standard Precautions)
- Limit the use of needles and other sharps as much as possible
- All needle and sharps should be handled with extreme care
- Dispose of all needles and sharps in puncture-proof, sealed containers
- Keep hands away from the face
- Limit touching surfaces and body fluids
- Disinfect immediately any visibly contaminated PPE surfaces, equipment, or patient care area surfaces using an *EPA-registered disinfectant wipe
- Perform regular cleaning and disinfection of patient care surfaces, even if absent of visible contamination (this should be performed by only the nurses or physicians as a part of patient care activities in order to limit the number of additional healthcare workers in the room)
- Healthcare workers should perform frequent disinfection of gloved hands using an alcohol-based hand rub (ABHR), 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 during certain invasive procedures that can potentially produce aerosols. Aerosol Generating Procedures (AGP’s) include but may not be limited to: airway suctioning, aerosolized or nebulized medication administration, bronchoscopy, endotracheal intubation and extubation, and 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 and entry and exit should be limited or eliminated if possible during the procedure
- Use PPE recommendations as outlined above for these procedures
Environmental Cleaning & Control

The CDC recommends the following environmental cleaning practices for any patient care areas of known or suspected Ebola virus patients, this especially includes environmental staff services but are also for anyone who would be performing cleaning tasks.

- PPE worn during cleaning procedures should follow the above recommended PPE, as well as the same donning and doffing procedures.
- Use a U.S. Environmental Protection Agency (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.
- 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 Standards. CDC guidelines recommend removal of bulk spill matter, clean the site, and then disinfect the site. For large spills, an EPA-registered hospital disinfectant with label claims for non-enveloped viruses should be used and instructions for cleaning and decontaminating should be followed.
- 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 (which is considered a Category A infections substance) must be packaged and transported in accordance with the Department of Transportation’s (DOT) Hazardous Materials Regulations (HMR, 49 C.F.R., Parts 171-180). This includes:
  - medical equipment
  - sharps
  - linens
  - used health care 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.)
What happens after being exposed to Ebola?

Meticulous PPE application and removal of PPE should be adhered to, however, if you experience an inadvertent exposure to patient blood, other body fluids, secretions or excretions:

- Stop working and immediately wash the affected skin surfaces with soap and water. Mucous membranes (e.g., conjunctiva) should be irrigated with copious amounts of water or eyewash solution
- Immediately contact occupational health/supervisor for assessment and access to postexposure management services

Healthcare Providers who develop sudden onset of fever, intense weakness or muscle pains, vomiting, diarrhea, or any signs of hemorrhage after an unprotected exposure (i.e. not wearing recommended PPE at the time of patient contact or through direct contact to blood or body fluids) to a patient with EVD should:

- Not report to work or should immediately stop working
- Notify their supervisor
- Seek prompt medical evaluation and testing
- Notify local and state health departments
- Comply with work exclusion until they are deemed no longer infectious to others

Post Mortem Care for the patient with Ebola

Unfortunately, there will be Ebola-related deaths and healthcare providers who will provide post-mortem care to these patients need to understand how to provide care in the event of death. It is critical for healthcare providers to know and understand your organization’s policies and procedures related to providing post-mortem care in the Ebola patient.

For guidance, please see more on the CDC website [here](https://www.cdc.gov).

Handling and Disposal of Infectious Wastes

Remember these simple points dealing with infectious materials / waste (e.g. blood and bodily fluids, human tissue, sharps, needles, scalpels, IV tubing):

1. All infectious waste is placed in closable leak proof containers or color coded, labeled or tagged with the biohazard symbol
2. Waste **MUST** be separated into appropriate containers
3. Biohazard bags are used for contaminated materials that are saturated with blood or other potentially infectious material
4. Sharps **MUST NOT** be recapped routinely
5. Sharps **MUST** be placed in approved puncture – resistant biohazard sharps container to the ¾ full mark
6. Fluids **MUST** be emptied into 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 when handling infectious waste

**Specimen Handling**

Laboratory specimen from all patients should be handled with equal care. All non-blood specimen containers **MUST** be securely closed before transport.

Blood specimens and other glass containers **MUST** be transported in a manner that reduces the risk of breakage and subsequent breakage.

Visible exterior soiling of specimen containers or lab tags **MUST** be handled before transport to the lab. If the lab tag becomes visibly soiled, issue a replacement tag for the specimen.

Transporting personnel should wash their hands after delivery of items to the lab. A glove may be worn on the hand used to carry the specimen(s) leaving the un-gloved hand free for opening doors, pushing elevator buttons, etc. A tray or box will facilitate the transport of multiple specimens.

**Crash Cart**

It is the responsibility of every employee in any patient care area to know where the crash cart is located. Nurses, Monitor Techs, Unit Secretaries, Nurse Techs, Nursing Assistants and all other staff in the patient care areas **MUST** be able to located and bring the crash cart to the bedside when requested.

**It is the responsibility of each Registered Nurse to be familiar with the medications and equipment stored in the crash cart.**
References:


