The purpose of this training is to inform healthcare workers of best practices, general regulatory compliance, and accrediting organization standards and requirements. This course is intended to serve as a review and refresher for learners who have previously completed the full regulatory courses offered by HealthStream. It is not meant as a substitute for full training

After completing this review, you should be able to:				
	Identify personal and facility safety concerns for healthcare workers			
	Cite best practices to ensure hospital safety for patients and healthcare workers			
	Identify components of an Emergency Operations Plan			
	Identify infection-related risks for patient and healthcare workers			
	Identify best practices to control the spread of infection in the healthcare environment			
	City Key components of the Bloodborne Pathogens Standards			

Rationale

This course will rapidly review and update your knowledge of the following topics:

- Safety
- Emergency Preparedness
- Infection Control

For additional information on the topics discussed in this course, please refer to the HealthStream Regulatory course titles listed below:

- General Safety
- > Fire Safety
- Electrical Safety
- Ergonomics
- Back Safety

- Hazard Communication
- Workplace Violence
- Emergency Preparedness
- > Infection Control
- Healthcare-Associated Infection

Course Objectives

After completing this review, you should be able to:

- Identify personal and facility safety concerns for healthcare workers.
- Cite best practices to ensure hospital safety for patients and healthcare workers.
- Identify components of an Emergency Operations Plan.
- Identify infection-related risks for patients and healthcare workers.
- ➤ Identify best practices to control the spread of infection in the healthcare environment.
- City key components of the Bloodborne Pathogens Standard.

Course Outline

Lesson 1: This introductory lesson gave the course rationale.

Lesson 2: General Safety will discuss aspects of safety including personal and facility concerns and best practices

Lesson 3: Emergency Preparedness will focus on emergency preparedness.

Lesson 4: Infection Control will discuss infection control. This lesson will provide information on best practices to control the spread of infection in the healthcare environment.

Lesson 2: General Safety

Healthcare facilities have many potential hazards.

The Occupational Safety and Health Administration (OSHA) separates theses hazards into six (6) general categories:

- Biological hazards
- Chemical and dust hazards
- Work organization hazards
- Physical hazards
- Ergonomic hazards
- Safety hazards

As shown in the following table

- Eliminate as many of these hazards as possible
- Safeguard against exposure to the hazards that cannot be eliminated.

General Safety: Hazards and Safeguards

Hazard Category	Definition	Examples	Safeguards
Biological Hazards	Infectious agents	Anthrax, ebola, HIV, VRE, MRSA, HBV, HCV, TB	Use Standard Precautions and recommended PPE; practice proper hand hygiene, etc.
Chemical and dust hazards	Toxic or irritating materials	Detergents, solvents, disinfectants, sterilizing agents, waste anesthetic gases, hazardous drugs, mercury	File an SDS for each hazardous chemical used; wear proper PPE; practice good hygiene
Work organization hazards	Factors that create or increase emotional stress or strain	Working with terminally ill patients, patient deaths, overwork, understaffing, tight schedules, equipment malfunctions	Encourage participation in staff meetings, debriefings, discussion, relaxation exercises, meditation
Physical hazards	Agents with the ability to cause physical harm	Radiation, high exposure to sunlight/UV rays, extreme temperatures, constant loud noise	Avoid radiation exposure; limit UV exposure; reduce volume on audio devices
Ergonomic hazards	Factors that cause or increase the risk of accident, injury, strain, or discomfort	Frequent lifting, poor posture, vibration, improperly adjusted workstations or chairs, frequent repetitive movements	Avoid improper lifting, use lifting devices when possible; exercise regularly.
Safety hazards	Unsafe conditions that can cause illness, injury, or even death	Spills, tripping hazards, moving machinery, electrical hazards, confined spaces	Use all equipment properly; use PPE, report deaths, serious injuries, or illnesses involving medical equipment

Fire Safety: Prevention

Prevention is the best defense against fire

To help prevent fires related to the common cause of smoking:

- Follow your facility's smoking policy
- Smoke only in designated areas.
- Instruct visitors and authorized patients to smoke only in designated areas.

To help prevent fires related to the common cause of electrical malfunction:

- Remove damaged or faulty equipment from service.
- Submit malfunctioning equipment for repair.
- Inspect all equipment prior to use.

To help prevent fires related to the common cause of equipment misuse:

Do not use any piece of equipment before being trained.

Fire Safety: Safeguards in the Event of Fire

Even with the best efforts at prevention, fires sometimes occur.

Therefore, your facility should have fire safety features.

These features should include:

- Fire alarm systems
- Fire extinguishers
- Automatic sprinklers in buildings taller than 75 feet
- Emergency exit routes and doors
- Smoke and fire doors and partitions
- A fire plan

Be familiar with the location and use of each of these.

Healthcare facilities are required to have a fire watch or building evacuation if their sprinkler system is out of service for more than ten hours.

Fire Safety: Response

When you hear the fire alarm in your facility, you may now know if it is a drill or true fire. Treat the alarm as if it were a true emergency. Respond using the **RACE** protocol:

R: Remove or Rescue - Rescue or remove all patients from the immediate area of the fire

A: Alarm or Alert - Give the alarm or alert by:

- Calling out for help
- Using a manual pull station
- Phoning the fire department

C: Confirm or Contain – Confine or contain the fire by closing the door to the room where the fire started.

E: Extinguish or Evacuate – If the fire is small enough to put out with a single portable extinguisher, attempts to extinguish. Use the PASS protocol. Otherwise, prepare to evacuate patients to a safe area.

Electrical Safety

Most equipment in the healthcare setting is electric. This means there is risk of electric shock.

Electric Shock can cause:

- Burns
- Muscle spasms
- Ventricular fibrillation
- Respiratory arrest
- Death

Electrical Safety: Preventing Accidents continued...

To help prevent electrical accidents in your facility:

- Remove and report electrical hazards Remove electrical equipment from service if it:
 - Malfunctions
 - Shows signs of damage
 - Shows signs of unusual heating
 - Produces a burning smell when used
 - Shocks staff or patients

Report the hazard according to facility protocol. Submit the equipment for repair.

- Use electrical equipment properly Use equipment safely
 - Learn how to use equipment before using it
 - Do not use damaged equipment
 - Do not use equipment on which liquid has been spilled
 - Do no operate electrical equipment with wet hands or when standing in water
 - Do not stack anything on or behind electrical equipment
 - Turn equipment off before plugging in or unplugging.

Electrical Safety: Preventing Accidents

To help prevent electrical accidents in your facility:

 Maintain, test, and inspect equipment – All medical equipment should be inspected and tested on a regular basis

Electrical Safety: Hazards

Other best practices for preventing electrical accidents in your facility are:

Use of power cords and outlets properly

- Do not use outlets or cords with exposed wiring
- Report damaged outlets or cords
- A hot outlet can be an indication of unsafe wiring. Unplug cords from the outlet.
 Report the hazard
- Do not bend, stretch, or kink power cords
- Do no jerk cords from outlets. Pull on the plug
- Do not staple, tack or nail power cords to walls or floors. Use tape, if necessary
- Do not rest equipment on power cords
- Use only power cords with three-prong plugs. Never use adapters, two-prong plugs, or broken three-prong plugs.

Electrical Safety: Hazards continued...

- Use circuits safely
 - Do not overload circuits
 - Label each circuit breaker
 - Breaker boxes should be accessible at all times
- Protect patients from electrical shock
 - Place electrical equipment at a distance from patients
 - Maintain patient areas. Keep floors dry at all times
 - Do not touch patient and electrical equipment at the same time.

Ergonomics

- The term "ergonomics" comes from two Greek words:
 - Ergon, meaning work
 - Nomos, meaning natural laws

Ergonomics means designing work to fit the "natural laws" of the human body.

Good ergonomic practices can lead to fewer work-related injuries.

Ergonomics

Ergonomics best practices are:

- Avoid fixed or awkward postures
- Avoid lifting without using proper devices or equipment
- Avoid highly, repetitive tasks
- Provide support for your limbs
- Use proper posture and body mechanics when sitting, standing, or lifting
- Avoid reaching, twisting, and bending for tools. Keep tools close to you.
- Use supportive equipment (e.g. wrist supports for keyboards)
- Respond promptly to aches and pains. This can help you take care of slight injuries before they become severe.

Back Safety

Healthcare is a high-risk setting for back pain and injury. Injury may be prevented through:

- Proper care of the spine
- Proper posture
- Regular exercise
- Use of lifting devices

On the following screens, let's take a closer look at each of the above

Back Safety: Proper Care of the Spine

Take proper care of the spine while:

Sleeping

- Sleeping on the back is best for back health
- Sleeping on the side is next best
- Sleeping on the stomach is least healthy for the back.

Standing

- Wear good, comfortable shoes.
- Stand up straight
- Keep the knees flexed
- If you must stand for long periods of time, put one foot on a footrest. Alternated feet every few minutes.

Sitting

- Form 90-degree angles at the knees and the hips.
- When the hands are on a desk or keyboard, also form 90-degree angles at the elbows. The wrists should be kept straight.

Back Safety: Proper Care of the Spine

Take proper care of the spine while:

- Lifting a static load vertically
 - Bend at the hips and knees
 - Keep the head up
 - Maintain the three natural curves of the spine
 - Hold the load close to the body
 - Lift with the muscles of the legs.
- Lifting or transferring a patient
 - Avoid manual lifting
 - Use motorized lifts or other assistive devices

Back Safety: Proper Posture

To stand with proper posture, imagine a cord dropped through the center of your head to your feet. If the spine is properly aligned, the cord should pass through the center of the body, in the right-to-left plane. In the front-to-back plane of the body, the cord should pass through:

- The ear
- The front of the shoulder
- The center of the hip
- The area behind the kneecap
- The ankle

To practice good posture, imagine the cord attached to the crown of our head. As the cord pulls up:

- It holds the head high
- It pulls the three natural curves of the spine into alignment

Back Safety: Regular Exercise

Regular exercise can help prevent back injury

Exercise should include:

Aerobic exercise

> Do aerobic exercise at least three times a week. This contributes to the overall fitness and increases blood flow to the spine.

Stretching exercise

> Stretches are gradual, gentle exercise that lengthen important muscles. This increase the ability of muscles to use their full range of motion. Stretch seven days a week.

Strengthening exercise

Strengthening exercises help build muscle mass by forcing the muscles to work against weight or resistance. Do strengthening exercises four to five times a week.

Slips, Trips, and Falls: Prevention

Slips, trips, and falls in the workplace cause injuries and deaths every year.

Let's look at tips for preventing:

> Slips

- Keep floors clean and dry
- Increase the friction of floors with abrasive coatings, non-skid strips, or rubber mats
- Secure rugs with skid-resistant backing
- Choose slip-resistant shoes. Look for:
 - > soft rubber soles
 - A large amount of surface area in contact with the floor (no high heels!)
 - Patterned soles that increase friction
- Post Safety signs around slip hazards (key sidewalks, wet floors, etc.)

Let's look at tips for preventing:

- > Trips
 - Keep floors clear and uncluttered
 - Repair uneven flooring or post safety signs
 - Use proper lighting (not too bright and not too dim)
- Falls Most falls in the work place are fool-level falls. In a fool-level fall, a person slips or trips on a walking or standing surface. This results in a short fall. Fall-to-below carry a higher risk of injury.
 - Danger zones for falls-to-below are:
 - Stairs
 - Keep staircases clean and well lit.
 - Staircases should have sturdy handrails or both sides.
 - Maintain your center of balance when stepping.
 - Ladders
 - Use a ladder of the height you need.
 - Lock the ladder into position before climbing the ladder.
 - Climb straight up. Do not lean to either side.
 - Hold onto the side rails with both hands while climbing up or down.

Slips, Trips, and Falls: Minimizing Risk

When conditions are hazardous (icy sidewalks, wet floors), avoid slipping and falling by walking like a duck:

- Keep your feet flat and slightly spread apart.
- Point your toes slightly outward
- Take slow, short steps. Keep your center of balance under you.
- Make wide turns at corners.
- ➤ Keep your arms at your sides. This gives additional balance. It also keeps your arms available for support if you fall.

Hazard Communication

Under its Hazard Communication Standard, OSHA requires all employers to develop written hazard communication programs.

To protect workers from exposure to hazardous chemicals, the following groups of people have duties related to communicating information about hazardous materials:

- Manufacturers
- > Employers
- > Employees

^{*}Note: GHS is the Globally Harmonized System of Classification and Labeling Chemicals adopted by the United Nations. OSHA's Hazard Communication Standard is aligned with the GHS. As of June 2015, all facilities that use hazardous materials use this system.

Hazard Communication

Manufacturers of hazardous chemicals must:

- Research, create, and distribute a Safety Data Sheet (SDS), which lists the specific hazards of this chemical
- > Label all container of hazardous materials.

OSHA's Hazard Communication Standard specifies the information that has to be on the safety data sheet, but does not requires any specific format. OSHA has, however, developed and recommended a 16-section format.

Identification	Physical and Chemical Properties
Hazard(s) identification	Stability and reactivity
Composition	Toxicology information
First aid measures	Ecological information
Fire-fighting measures	Disposal considerations
Accidental release measures	Transport information
Handling & storage	Regulatory information
Personal protection	Other information

Hazard Communication

Employers whose employees work with hazardous chemical must:

- Maintain a file of SDS for all hazardous chemicals used by works.
- Inspect incoming chemical to verify proper labeling. If a chemical is transferred to an unlabeled container at the facility, the new container must be labeled appropriately.
- Train employees in the use of hazardous chemicals

Employees

Employees who work with hazardous chemical must:

- Know which hazardous chemicals are used in their work area.
- Know where SDSs are located in their unit.
- Know how to read an SDS
- Read all relevant SDSs before starting a job that may require the use of a hazardous chemical.
- Read product labels carefully. Follow all instructions. Heed all warnings
- Attend all required hazardous chemical training sessions.



Security and Workplace Violence

Workplace violence is any violence in a work setting

To help keep your workplace safe from violence:

- Recognize aggressive behavior and warning signs of potential violence
- Respond appropriately to the level of aggressive behavior (see graphic)
- Report all unsafe situations immediately.

Reporting Incidents

A breach in safety is referred to as an incident. An incident happens when: normal procedures are not followed, safety is compromised and/or injury (or near injury) occurs.

Common examples of incidents have been mentioned in this lesson:

- Equipment malfunction
- Back Injury
- Slip, trip, or fall
- Exposure to hazardous chemicals
- Workplace violence
- All incidents should be reported immediately. Check with your supervisor if you are not familiar with facility procedures for reporting incidents.

Lesson 3: Emergency Preparedness

This lesson covers:

- Disaster events
- Emergency Operations Plan

Types of Disaster Events

Healthcare organizations must be prepare to respond to a variety of disaster events, both natural and man-made.

These disasters and threats include:

- Natural disasters
- > Technological disasters
- Industrial disasters
- Major transportation accidents
- > Terrorism
- Nuclear, biological, and chemical events

To prepare, each facility must:

- Identify events that could occur
- Determine the probability that each event will occur
- Develop strategies for dealing with each event.

Emergency Operations Plan

Facilities document how they will deal with disaster in an Emergency Operations Plan (EOP)

A Good EOP should address each phase of disaster management:

- Mitigation
- Preparedness
- Response
- Recovery

It also should include plans for:

- Communication
- Resources and assets
- Safety and security
- Utilities
- Clinical activities

Beyond Emergency Operations Plans

A written plan alone is not enough to ensure an effective response.

Staff must be:

- Educated on the procedures in the plan
- > Trained and drilled to response to disaster according to the plan

Make sure that YOU are ready to respond to disaster:

- Know the disaster events that pose a risk for your facility
- Participate in all emergency response training and drills

Planning and training are essential. Accrediting organizations require hospitals to consider input from all level of staff in order to more accurately identify deficiencies and improve staff coordination and compliance.

Lesson 4: Infection Control

This lesson covers:

- Healthcare-associated infection (HAI)
- Hand hygiene
- Antibiotic resistance
- Airborne pathogens
- Bloodborne pathogens
- Personal responsibility

Healthcare-Associated Infection: Impact

Healthcare-associated infection (HAI) is an infection that develops after contact with the healthcare system.

HAI can be very costly, in terms of:

- > Patient life and health
- Healthcare dollars

HAI: Cause

HAI may be caused by bacteria, viruses, fungi, or parasites.

These "germs" may come from:

- > Environmental sources (dust, etc.)
- Patients
- > Staff members
- Hospital visitors

HAI: Prevention

Preventing HAI is an important focus of accrediting organizations.

Accrediting organizations require accredited hospitals to implement evidence-based practices to prevent HAI. These practices must focus on:

- Central line associated bloodstream infections
- Infections due to multidrug-resistant organism
- Surgical site infections
- Catheter-associated urinary tract infections (CAUTI)

HAI: Best Practices

Best practices for preventing HAI are related to:

- Hand Hygiene
- Environmental hygiene
- Antibiotic use
- Airborne pathogens
- Bloodborne pathogens
- Personal responsibility

Hand Hygiene: When and What

The single most important factor for preventing the spread of infection is proper hand hygiene.

Hands should be washed or decontaminated before and after each direct patient contact. Hand hygiene should also occur after gloves are removed.

Current guidelines from the Centers for Disease Control and Prevention (CDC) recommend the use of:

- Soap and water for washing visibly soiled hands
- Alcohol-based hand rubs for routine decontamination of hands between patient contacts, when hands are not visibly soiled.

Follow CDC or World Health Organization (WHO) guidelines for hand hygiene.

Hand Hygiene: How

Do you know how to appropriately use soap and water or an alcohol-rub for hand hygiene?

Soap and Water

When using soap and water to wash hands:

- 1. Wet hands with warm water. Use warm, but not hot, water. Hot water can contribute to skin irritation. Wetting the hands before applying soap reduces the likelihood of skin irritation.
- 2. Apply soap. Use enough soap to give a good lather.
- 3. Rub hands together vigorously for at least 20-25 seconds.
- 4. Lather all surfaces of the hands and fingers. Do this away from the running water so that you do not wash the lather away. Remember to scrub between fingers and under your nails.
- 5. Rinse hand with water. Keep arms angled downward in the sink, so that water from your hands goes down the sink, not down your elbows.
- 6. Dry with a disposable towel.
- 7. Use the towel to turn off the faucet.
- 8. Dispose of the towel in an appropriate bin.

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Hand Hygiene: How

Do you know how to appropriately use soap and water or an alcohol-rub for hand hygiene?

Alcohol Rub

When using an alcohol rub:

- 1. Apply the rub to the palm of one hand. Use the volume of product recommended by the manufacturer. You should have enough to wet all surfaces of the hands.
- 2. Rub hands together until they are "dry". Be sure to rub over all surfaces of the hands and fingers.

Do not wash hands after using an alcohol rub. This step is not necessary, not is it recommended.

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^{*}Note: Rubbing the hands together until they are dry ensures that the flammable alcohol in the product has evaporated and is no longer a fire hazard.

Environmental Hygiene

For good environmental hygiene:

- Maintain a clean environment. There should be no visible dust or soiling
- Clean, disinfect, or sterilize medical equipment after each use.
- Safely dispose of clinical waste.
- Launder used and infected linens safely and effectively.
- Follow appropriate guidelines for kitchen and food hygiene.
- Maintain an adequate pest-control program.

Antibiotic Use: Antibiotic Resistance

Widespread use of antibiotic began in the 1940s. Penicillin and other antibiotics were hailed as miracle drugs. They were able to cure previously untreatable bacterial illnesses.

However, bacteria are very adaptable. They have the ability to change genetically to resist the effects of antibiotics.

The more antibiotics are used, the more common resistant strains of bacteria become.

Antibiotic Use: Impact of Resistance

Antibiotic resistance is a significant health problem. It affects:

- ➤ Drug choice When an infection is resistant to the antibiotic of choice, other antibiotics must be used instead. These second-choice drugs are typically:
 - Less effective against the bacteria
 - More toxic to the patient
 - More expensive
- Patient Health Patients with resistant-infections tend to have:
 - Lengthier illness
 - Higher medical bills
 - Greater risk of death
- ➤ The Healthcare System
 - Antibiotic-resistant strains contribute significantly to HAI
 - More than 70% of all bacteria that cause HAI are found to be resistant to one or more commonly used antibiotics

Airborne Pathogens: Background

Airborne diseases are transmitted from person to person via tiny particles These particles:

- Are produced when an infected person sneezes, coughs, or talks
- Can remain suspended in the air for long periods of time
- Can travel long distances on air currents

Transmission occurs when a healthy person inhales an infectious particle.

Infection and disease symptoms then may occur.

Airborne Pathogens: Diseases

Important airborne (or potentially airborne) diseases include:

- Chickenpox and shingles
- Measles
- ➤ Tuberculosis (TB)
- > SARS
- > Smallpox

Airborne Pathogens: Precautions

Airborne precautions are used to prevent spread of airborne diseases in the healthcare setting.

Healthcare staff must wear personal respirators whenever they enter an airborne isolation room. This protects staff members from spread of the infection.

Staff who have not been trained in Airborne Precautions and respirator use should NOT enter airborne isolation rooms.

Bloodborne Pathogens

Bloodborne disease are spread from person to person when there is exposure to:

- > Infected blood
- Certain other body fluids and tissues

Important bloodborne diseases include:

- ➤ HIV Infection/AIDS
- > Hepatitis B
- Hepatitis C

Bloodborne Pathogens: Bloodborne Pathogens Standard

The Bloodborne Pathogens Standard helps protect workers from bloodborne diseases.

One of the key parts of the Bloodborne Pathogens Standard is the use of Standard Precautions.

Standard Precautions protect healthcare workers from exposure to patient:

- Blood
- Body Fluids, secretions, and excretions (except sweat)
- Non-intact skin
- Mucous membranes

Standard Precautions must be used in the care of all patients.

Personal Responsibility

As a healthcare worker, you have personal responsibilities for infection control in your facility.

Maintain immunity to vaccine-preventable diseases such as:

- Hepatitis B
- Measles
- Varicella (chickenpox)
- > Rubella
- Mumps
- Influenza

Report all unprotected exposures, such as accidental needlesticks.

Stay home from work when you are sick.

This is to confirm that I,	have read and understand
the information included in the Rapid Regulatory Comp	oliance: Non-Clinical: General
Safety, Fire Safety, Electrical Safety, Ergonomics, Back Sa	afety, Hazard Communication
Security & Workplace Violence, Reporting Incidents, En	nergency Preparedness,
Infection Control.	
Signature	Date