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**HEALTHCARE CORE CURRICULUM**

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**Instructor Resources**

**Module Title: Healthcare Safety & Standard Precautions**

**Credit/Hours: .5 credits / 8 hours**

# **Module Description:**

This module focuses on the rules and standards related to regulatory policies required of healthcare facilities and personal safety standards and requirements to work in healthcare settings. Included are the principles and standards of infection control, Standard Precautions, healthcare facility safety policies, strategies to ensure personal and client/individual safety, and procedures to respond to emergencies.

# **Evaluation Method:**

This module will be graded on a Pass/Fail basis. Assignments/ Exams must be passed at 75 percent or greater. Retests on exams are determined by college and program policy.

# **Competencies:**

1. List the regulatory agencies and the requirements they set for safety standards for healthcare facilities, their employees, and clients/individuals.

2. Explain the current requirements of standard precautions and the procedures used at a variety of healthcare facilities to support those standards.

3. Describe the principles and standards of infection control.

4. Describe the methods healthcare facilities use to achieve physical, chemical, and

biological safety.

5. Identify the ways in which healthcare workers can demonstrate personal and client safety including the use of Safety Data Sheets (SDS) and safety signs and symbols and labels.

6. Explain the procedures used to respond to client/individual and healthcare facility emergencies (including fire safety) and natural disasters.

7. Using a problem-solving process applied to healthcare situations, describe the standards needed to ensure healthcare safety.

**HEALTHCARE SAFETY & STANDARD PRECAUTIONS**

**VOCABULARY LIST**

**Antibiotic:** A type of medicine used to treat infections caused by bacteria. It works by either killing the bacteria or stopping them from growing.

**Antiseptic:** Chemical agents that prevent or inhibit the growth of microorganisms.

**Asepsis:** Methods used to make the patient, worker, and the environment as pathogen-free as possible.

**Bacteria: M**icroscopic organisms that can be beneficial or harmful to humans. Some bacteria can cause infections, while others are helpful and necessary for things like digestion.

**Biohazard:** Any living organism or material from a living organism that is harmful or potentially harmful if it encounters a person.

**Bloodborne Pathogen Standard:** Federal regulations established in 1992 by the Occupational and Safety Health Administration (OSHA). Their purpose is to reduce the risk to employees of being exposed to infectious diseases through blood and other body fluids.

**Body Mechanics:** The way in which the body moves and maintains balance while making the most efficient use of all its parts.

**Centers for Disease Control and Prevention (CDC):** A branch of the U.S. Public Health Service that tracks the incidence and spread of disease in this country and worldwide. Based on the data, the CDC then makes recommendations (like Standard Precautions) to prevent the spread of disease.

**Chain of** **Infection:** Six elements that must be present for an infection to develop are:

1. Infectious Agent: The microorganism (like bacteria or viruses) that causes the infection.
2. Reservoir: The place where the microorganism lives and multiplies, such as a human body, animal, or environment.
3. Portal of Exit: The way the microorganism leaves the reservoir, such as through coughing, sneezing, or bodily fluids.
4. Mode of Transmission: How the microorganism spreads from one person to another. This can be through direct contact, air, water, or surfaces.
5. Portal of Entry: The way the microorganism enters a new host, like through cuts, the mouth, or respiratory tract.
6. Susceptible Host: A person who is at risk of getting the infection, often because their immune system is weak, or they have not been exposed before.

Breaking any link in this chain can help prevent the spread of infection.

**Communicable Disease:** A disease transmitted directly or indirectly from one individual to another.

**Contaminated:** Dirty or soiled; containing germs (microorganisms).

**Disinfectant:** Agents or methods that destroy most microorganisms on surfaces.

**Drug-Resistant Infections:** Infections that have become resistant to medications developed to treat them**.**

**Engineering Controls:** Any physical or mechanical devices that remove or reduce health hazards from the workplace. Example: self-capping needles, handwashing facilities.

**Environmental Safety:** The identification and correction of potential hazards that can cause accidents and injuries.

**Ergonomics:** The science of designing and arranging work environments, tools, and systems to fit the people who use them to optimize human well-being and performance.

**Exposure Control Plan:** A plan written by each office or facility which is designed to eliminate or minimize employee exposure to blood-borne pathogens or other potentially infectious materials (OPIM). The elements of the plan must include 1) exposure determination, 2) compliance methods, and 3) post-exposure evaluation and follow-up procedures. This plan must be made available for review by all staff and annually updated.

**Flammable:** Easily set on fire.

**Fungus:** Organisms different from plants, animals, and bacteria. They include microorganisms such as yeasts and molds, as well as visible things like mushrooms.

**Hazard:** Any substance or material that can cause injury or damage.

**Hepatitis B Virus (HBV):** A disease that affects the liver, caused by a virus. It can spread through contact with infected blood or body fluids, which is a risk for healthcare workers. There’s a vaccine that can protect people from the virus.

**Hepatitis C Virus (HCV):** A viral infection that affects the liver, caused by the hepatitis C virus (HCV). It can lead to serious liver problems, including chronic liver disease, cirrhosis, and liver cancer.

**Human Immunodeficiency Virus (HIV):** A virus that attacks and weakens the immune system, specifically targeting CD4 cells (T cells), which are crucial for immune function. If left untreated, HIV can lead to acquired immunodeficiency syndrome (AIDS), a condition in which the immune system becomes severely damaged, making the body vulnerable to opportunistic infections and certain cancers.

**Incident Report:** A written document that is filled out when an unexpected situation occurs that can cause harm to a patient, employee, or any other person.

**Infection Control:** To prevent the spread of infectious diseases.

**Infectious Disease:** Any disease caused by the growth of pathogens.

**Immune Response:** A specific defense used by the body to fight infection and disease by producing antibodies.

**Isolation:** Separation of a client from others to protect the client from environmental irritants or to prevent the spread of infection from the client to others.

**Joint Commission on the Accreditation of Healthcare Organizations (JCAHO):** An organization that evaluates and accredits healthcare facilities in the United States to ensure they meet high standards of quality and safety in patient care. Accreditation by The Joint Commission is a mark of excellence.

**Medical Asepsis (clean technique):** Practices to prevent the spread of infection such as hand hygiene and disinfecting equipment.

**Microorganisms** (Microbes): Microscopic organisms that include bacteria, viruses, and fungi. Some microorganisms can cause diseases, while others are beneficial.

**Microscopic:** So small it can only be seen with a microscope.

**The National Institutes of Health (NIH):** A part of the U.S. Department of Health and Human Services and is the nation's primary medical research agency. It provides leadership and financial support for biomedical and health research through grants and contracts. NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability.

**Occupational Exposure:** Actual contact or anticipated contact with blood or body fluids or any OPIMs that occur during the performance of an employee’s duties.

**Occupational Safety and Health Administration (OSHA):** A government agency established in 1970. Its function is to establish minimum health and safety standards for the workplace and to enforce those standards.

**P.A.S.S**.: Proper sequence of operation of a fire extinguisher

P – **P**ull the pin

A – **A**im the nozzle at the *base of the fire*

S – **S**queeze the handle

S – **S**weep back and forth at the *base of the fire*

**Pathogen:** Disease producing microorganism (germ).

**Personal Protective Equipment (PPE):** Materials or devices used to protect an individual from harm or hazard. Ex: gloves, mask, face shield, goggles, and gowns.

**R.A.C.E.:** Procedure to follow when a fire occurs

R – **R**emove the patient

A – **A**ctivate the alarm

C – **C**ontain the fire

E – **E**xtinguish the fire *or* **E**vacuate the area

**Safety Data Sheet (SDS):** Detailed documents that provide safety information about a chemical to ensure safe handling, use, and instructions for first aid treatment in case of exposure.

**Standard Operating Procedure (SOP):** A detailed, written set of instructions to guide individuals in performing routine tasks or processes consistently and effectively. SOPs are crucial for maintaining high standards of care, ensuring patient safety, and complying with regulations. They provide a structured approach to performing tasks and procedures consistently across healthcare settings.

**Standard Precautions:** Practices used to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in healthcare settings. These practices are recommendations of CDC and are incorporated into OSHA’s Blood-borne Pathogen Standards.

**Sterile Field:** A designated area thoroughly cleaned and maintained to prevent microorganisms. It is crucial in medical and surgical environments to reduce the risk of infection and ensure the safety of patients during procedures.

**Sterilization:** Agents or methods that destroy all microorganisms, including viruses and spores.

**Surgical Asepsis (sterile technique):** Procedures to eliminate pathogens from objects and areas.

**Transmission-Based Precautions (TBP)/Isolation Precautions:** A set of infection control practices used in healthcare settings to prevent the spread of infectious agents. These precautions are applied based on how an infection is transmitted and are used in addition to standard precautions, which are applied to all patients.

**Airborne:** The germ is in the air and inhaled by the host.

**Contact:** Person to person touch by contaminated hands or indirectly by contaminated items.

**Droplet:** No direct contact but occurs within 3 feet of a person and is spread by a sneeze, cough, talking.

**Virus:** Microorganism that can only reproduce inside the cells of a living host.

**World Health Organization (WHO):** A specialized agency of the United Nations responsible for international public health. Established in 1948, WHO is dedicated to promoting health, keeping the world safe, and serving the vulnerable. Its mission includes coordinating international health activities, setting health standards, and providing leadership on global health issues.

| **Module Competency** | **Unit Competency** | **Recommended Content** | **Instructor Notes**  Suggested discussions and resources |
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| 1. List the regulatory agencies and the requirements they set for safety standards for healthcare facilities, their employees, and clients. | 1. Identify selected safety terminology relevant to healthcare. | 1A. Terminology and Definitions | Review the attached Vocabulary List for Healthcare Safety and Standard Precautions module. |
|  | 1. Identify the CDC and list its safety requirements as they pertain to the healthcare environment. | 1B. Regulatory Agencies:   1. CDC (Centers for Disease Control and Prevention)  * Studies the causes and distribution of diseases. * Formulates safety guidelines to help prevent and control the spread of infectious diseases. * Identifies Standard Precautions which apply to every client in the healthcare environment * Identifies Transmission-Based Precautions   1. Airborne  2. Droplet  3. Contact |  |
|  | 1C. Identify OSHA and the Department of Health (Example: MN Department of Health or MDH), and list safety regulations as they pertain to the healthcare environment. | 1C. Identify OSHA and MDH  OSHA - (Occupational Safety and Health Administration)   1. OSHA identifies Occupational Exposure to Bloodborne Pathogens Standard   Hazard Communication Rule: “Right to Know” MDH (Minnesota Department of Health)   1. Informs workers when working with hazardous/ infectious materials and provides for the availability of infection control measures if necessary. 2. MDH supervises the compliance of facilities with health regulations*.* | Review: [Right to Know Law](https://www.revisor.mn.gov/statutes/cite/182.65)  (Minnesota Statute 182.655) |
|  | 1D. Identify the Joint Commission and describe its role in regulating safety in the healthcare environment. | 1D. Joint Commission  Role of the Joint Commission   1. Private, a non-profit organization whose purpose is to encourage the attainment of high standards of institutional medical care. 2. Establishes guidelines for operation 3. Conducts inspections |  |
|  | 1E. Identify the OSHA Bloodborne Pathogens Standard and list its requirements. | 1E. OSHA Bloodborne Pathogens Standard   1. occupational exposure 2. non-intact skin 3. exposure incident   Exposure control plan (Control methods)   1. engineering controls 2. work practice controls 3. PPE 4. HBV vaccine |  |
| 1. Explain the current requirements of standard precautions and the procedures used at a variety of healthcare facilities to support those standards. | 2A. Explain the purpose of standard precautions and when they are applied. | 2A. Standard Precautions   1. Basic infection control practices for all healthcare facilities in the United States and any industry which could affect the health of citizens. 2. Developed by the Center for Disease Control (CDC) in Atlanta, Georgia. 3. Designed to reduce the risk of transmission of blood borne pathogens. 4. Used for ALL clients 5. Used if client or caregiver has non-intact or broken skin 6. Used when there is exposure or potential exposure to body fluids:    * Blood    * Urine    * Stool    * Saliva    * vaginal secretions    * Contact with mucous membranes    * Emesis    * Remember: perspiration is not a body fluid 7. Common /blood borne pathogens    * HIV    * HBV    * HCV |  |
|  | 2B. List common pathogens. | 2B. The pathogen is an organism capable of causing disease.   1. Bacteria    * Streptococcus    * Staphylococcus    * Mycobacterium Tuberculosis (TB) 2. Fungus    * Candida Albicans    * Tinea Corporis    * Tinea Capitus    * Tinea Pedis 3. Virus  * Common Cold * Covid 19 * Influenza * Herpes Simplex * Herpes Zoster * Hepatitis A, B&C * HIV, AIDS   Drug-Resistant Organisms   1. MRSA (Methicillin Resistant Staph Aureus) 2. CMV Cytomegalovirus 3. Vancomycin Resistant Enterococci (VRE) 4. Clostridium difficile (c-diff)   Food Borne Illnesses  Sexually Transmitted Diseases (STDs)  Measles, Mumps, Rubella (MMR) |  |
|  | 2C. Discuss hand hygiene, use of personal protective equipment (PPE). | 2C. Guidelines/Practices Include:   1. Hand hygiene  * Includes handwashing with soap and water and using hand sanitizer * Perform hand hygiene frequently * Follow facility policy regarding when handwashing is required and when hand sanitizer is acceptable * Wash hands before and after contact with a client or items in their environment  1. Gloves:  * Wear them when touching body fluids or items contaminated with body fluids. * Change gloves and perform hand hygiene between tasks * Remove gloves and perform hand hygiene before touching clean items  1. Mask, Eye Protection, Face Shield to be worn when there is a risk of splashes of body fluid 2. Gown  * Wear to protect skin * Wear to protect clothing when there is a risk of contracting body fluid  1. Shoe Covers  * To protect shoes * To prevent the transfer of pathogens * Worn to prevent germs from shoes entering an environment such as a surgical suite or clean room. |  |
|  | 2D. List compliance measures for Bloodborne Pathogens Standards. | 2D. Compliance measures   * 1. Engineering & work practice controls * PPE & its availability * Needles and sharps should go in designated sharps containers and NOT the trash to avoid the transfer of pathogens.   1. HBV vaccine: must be offered to healthcare staff by employer  1. Guidelines for specific situations    * Exposure to Fluids    * Spills of Fluids 2. Waste Management  * Biohazard bags/labels * Sharps * Contaminated patient care supplies * Linens and Trash: Handle and dispose of it in a way that avoids the transfer of pathogens. |  |
|  | 2E. Identify types of Transmission-based/Isolation Precautions and describe why isolation is used in a healthcare facility. | 2E. Transmission-based/Isolation procedures are implemented with people who have easily transmitted diseases.  Rules to be followed are based on the method of transmission of the pathogen.   1. Purpose of isolation precautions:  * To protect the client * To protect the public & healthcare workers  1. Types: of isolation  * Contact Isolation: Person to person touch by contaminated hands or indirectly by contaminated items * Droplet Isolation: No direct contact but occurs within three (3) feet of a person and spread is by a sneeze, cough, or talking. * Airborne Isolation: The germ is in the air and inhaled by the host  1. Isolation Procedures  * Restriction to a room * Special procedures for disposal of linen or trash * Keeping special equipment in the room like thermometers |  |
|  | 2F. Identify concerns and needs of clients in isolation. | 2F. Clients in isolation may feel:   1. Lonely 2. Unclean/untouchable 3. Uncertain of the need for isolation   Clients in isolation may need:   1. Evidence of acceptance by those who enter the room 2. Additional checks or visits to determine their needs. |  |
| 1. Describe principals and standards of infection control. | 3A. Explain the purpose of standard precautions and when they are to be applied. | 3A. Infection Control  Practices that prevent the growth and spread of disease-producing microorganisms (pathogens or germs).   * 1. Chain of Infection: Exposure to Agent or pathogen:   2. Infectious agent (pathogen)   Infection Cycle   1. Reservoir Host 2. Portal of Exit 3. Transmission (direct or indirect contact) 4. Portals of Entry 5. Susceptible Host   Ways microorganisms enter the body   1. mouth 2. nose 3. eyes 4. urinary tract 5. cuts or injury; through broken skin 6. vagina 7. rectum 8. The contaminated material may enter through tubes in the body    * indwelling urinary catheters    * IV (Intravenous) tubing    * Tube Feedings   Conditions which affect the growth of pathogens   1. Temperature (Most microorganisms grow and thrive at temperatures between 400 to 1100 F) 2. Moisture 3. Air (If necessary for pathogen growth) 4. Darkness (Direct sunlight can kill some germs; Most pathogens grow in dark areas) 5. The food source is available for the pathogen to multiply 6. Body Secretions 7. Food/nutritional intake of the individual   Body discharge in trach or on equipment |  |
|  | 3B. List guidelines that reduce the spread of infection. | 3B. Practice Infection Control   1. Handwashing 2. Waterless hand sanitizer 3. Application of Standard Precautions 4. Aseptic Practices (Medical Asepsis)  * housekeeping * handle/ dispose of soiled materials: separate clean and dirty items.  1. keep linen away from clothing 2. never place linen on the floor; If linen falls on the floor place it in a soiled linen hamper   Biological waste disposal   1. Use of gloves 2. Antiseptics 3. Disinfectants, Methods of supplies and equipment 4. Sterilization Methods   Correct handling of food  Maintain workers own good health   1. A well-balanced diet, rest, exercise, good mental health 2. Do not go to work if ill and teach visitors to stay away from the facility if ill. | Learn vocabulary pertaining to competency  Refer to Vocabulary List for the module regarding different types of pathogens and types of bacteria. |
|  | 3C. Discuss proper handwashing and gloving. | 3C. Demonstrate proper handwashing and describe the principles of the procedure steps.  Principles and Technique for Handwashing   1. most effective way to prevent the spread of disease 2. should be done when beginning work and when leaving work 3. should be done before and after any care is given to a client 4. should be done before and after handling any food 5. should be done after using the bathroom, combing hair, using a facial tissue, eating, drinking or smoking 6. should be done after working with anything soiled 7. friction or rigorous rubbing removes germs   Principles and Technique for Application/Removal for Clean Gloves   1. Skin to Skin 2. Glove to Glove |  |
| 1. Identify the ways in which healthcare workers can demonstrate personal and client safety use of Safety Data Sheets (SDS) and safety signs, symbols and labels. | 4A. Identify common safety issues/injuries and guidelines for prevention. | 4A. Injuries, Preventive Measures, and General Safety   1. Common Client Injuries 2. Common Employee Injuries 3. Preventive Measures   General Housekeeping Measures (rugs, carpeting, lighting, ventilation, restraints, etc.)  General Health of healthcare workers (infectious diseases & when to stay home) | Learn vocabulary pertaining to the competency  Refer to Vocabulary List for the module  Research Safety Data Sheets (SDS) websites |
|  | 4B. List the principles of body mechanics for personal safety. | 4B. Maintain normal posture and be mindful of body mechanics  Reduce OTJ injuries |  |
|  | 4C. List general guidelines to maintain good body mechanics. | Ergonomics: The science of designing and arranging work environments, tools, and systems to fit the people who use them to optimize human well-being and performance  4C. Guidelines for maintenance of good body mechanics   1. Erect body posture. 2. Bending at the knees. 3. Using large muscles for lifting. 4. Feet should be shoulder width apart. 5. Keep close to the load. 6. Raise the surface to your center of gravity*.* 7. Avoid Twisting, turn your whole body instead of twisting your back to prevent injury. 8. Use tools or equipment to help with lifting and moving when possible. | Learn vocabulary pertaining to the competency  Refer to Vocabulary List for the module |
|  | 4D. Identify correct techniques when lifting, pulling, pushing, and turning.  4E. Discuss safety equipment utilized in areas of healthcare. | 4D. Correct Techniques for:   1. Lifting 2. Pulling 3. Pushing 4. Turning   4E. Equipment:   1. Standing lift 2. Ceiling Lift 3. Full mechanical lift 4. Transfer Belt |  |
| 1. Explain the procedures used to respond to client and healthcare facility emergencies (including fire safety) and natural disasters. | 5A. List general guidelines for any emergency. | 5A. General Emergency Guideline   1. Know facility procedures and phone numbers 2. Know the location of emergency equipment and supplies 3. Remain calm 4. Perform emergency measures within the scope of training |  |
|  | 5B. Explain the general protocol/ procedure for a FIRST RESPONSE to: Medical emergency or  workplace injury. | 5B. “First Response” Protocol   1. Facility Policy 2. Know Job description   General Procedure  Medical emergency   1. Scene safety; primary survey of environment and victim 2. Contact EMS 3. Obtain assistance 4. Proceed as facility policy dictates   ABC awareness   1. A = Airway 2. B = Breathing 3. C= Circulation   Do not move the victim |  |
|  | 5C. The response to natural disasters. | 5 C. Workplace injury or natural disaster  Contact supervisor   1. Follow procedure manual (workplace) 2. Contact Red Cross if needed | Navigate Red Cross website |
| 1. Describe the methods healthcare facilities use to achieve physical, chemical, and biological safety. | 6 A. Explain physical hazards and list safe practice guidelines. | 6 A. A major cause of fires:   1. improper use of smoking materials 2. defects in the heating system 3. improper trash disposal 4. misuse of electrical equipment 5. spontaneous combustion   Safety practices  Fire Extinguisher   1. Most are dry chemical types and are suited to all types of fires. 2. Know location   How to proceed during a fire or alarm: RACE   1. **R**emove: Remove individuals in immediate danger 2. **A**lert: Alert all staff/ Activate Alarm 3. **C**onfine: Confine the fire 4. **E**xtinguish: Extinguish fire, if possible, follow facility procedure   How to use a fire extinguisher: PASS   1. **P**ull: Pull safety pin (Twist & pull) 2. **A**im: Aim nozzle at the base of fire 3. **S**queeze: Squeeze trigger handle 4. **S**weep: Sweep side to side at the base of a fire.   Sharps/Glassware equipment | Exercise in NFPA labeling, utilizing Several groups:  Describe Fire extinguishers and proper use. Note website use  information |
|  | 6 B. Explain chemical hazards and their labeling requirements. | 6 B. Chemical Hazards & Safety Guidelines  Hazard Types   1. Flammable 2. Toxic 3. Corrosive 4. Caustic 5. Carcinogenic 6. Mutagenic   Oxygen  SDS (Safety Data Sheets)   1. Chemical Hazard 2. National Fire Protection Association   Labeling:   1. The standards at all facilities throughout the United States. 2. Labeling (National Fire Protection Association)  * **RED**: flammability hazard * **BLUE**: health hazard * **YELLOW**: reactive hazard * **WHITE**: special hazard (like oxidizer, acid, alkali, corrosive, radiation) |  |
| 1. Using a problem-solving process applied to healthcare situations; describe the critical principles and standards needed to ensure healthcare safety. | 7 A. Discuss the problem-solving process as applied to healthcare safety utilizing a team approach. | 7 A. Utilizing a five-step problem-solving process:   1. Identify the problem 2. Gather information/data collection 3. Create Alternatives/Possible Solutions 4. Select and Act 5. Evaluate and Revise as needed   Concern in various situations   1. Personal safety 2. Worker safety 3. Client safety | Given a specific emergency scenario, the student(s) will identify the risks and safety issues and then explain the correct response steps and/or procedure. |