

Infection Control

Getting a Grip on Blood Borne
Pathogens, Exposure Control and
Hand Washing



Program Description

- *Infection Control: Getting a Grip on Blood Borne Pathogens, Exposure Control and Hand Washing* is a 1 hour mandatory training session that teaches the learner valuable information about infection control, bloodborne pathogens, methods of infection control – including proper handwashing, exposure control and how to handle biohazards.

Learning Objectives

- 1) Understand the causes of infections
- 2) List ways that infections are transmitted (i.e. blood borne pathogens)
- 3) List methods of infection control including proper hand washing
- 4) List common bloodborne pathogens
- 5) Understand exposure control
- 6) Understand post-exposure procedures
- 7) List common biohazards

Introduction

- Individuals living in long-term care facilities and other residential settings have a higher risk of developing infections
- Infection control programs and education are absolutely necessary in these types of settings
- There are a number of universal standards that must be employed to reduce risk of infection

Introduction

- The elderly are at increased risk for certain infections due to diminished efficiency of their immune systems
- Types of infections include urinary tract infections (UTIs), lower respiratory infections, outbreaks of gastrointestinal infections are fairly common
- Other infections to be concerned about: infected pressure ulcers, viral gastroenteritis, E. coli, MRSA, scabies, conjunctivitis, to name a few

Introduction

- Some of these infections are communicable, meaning that they can be spread from person-to-person
- This makes them particularly dangerous in a residential setting filled with people
- Some of these can spread like wild fire!
- It is vital to learn how to minimize the risk of spreading infections, protect your residents or patients, yourself, and anyone else from getting a communicable infection

1) Causes of Infections

- Microbes
 - a) There are many types
 - b) They can be classified as bacteria, viruses, fungi, or parasites
 - c) Some are harmless
 - d) Some are even helpful
 - e) Some cause disease
- Pathogens
 - a) The kinds of microbes that cause disease
 - b) They require certain conditions to grow and multiple
 - c) Warm, moist and dark environments
 - d) Some need oxygen and some don't
 - e) Keep residents and the environment clean and dry
 - f) Keep the environment well lighted

2) Ways Infections are Transmitted

1) Airborne transmission

- When infections are spread through the air
- Particles of saliva or sputum
- TB, measles and chicken pox

2) Direct transmission

- Uninfected person touches an infected person or objects
- Pink eye

3) Oral-fecal transmission

- Pathogen lives in person's digestive tract and leaves the body through feces
- Person's hands may become contaminated and then touch food or water
- Once food or water is consumed, infection may spread

4) Bloodborne transmission

- Continued...

Bloodborne Transmission & Pathogens

- Blood or body fluids from an infected person must come in contact with the bloodstream of another person who is not infected
- Common ways this can happen at work:
 - a) Needlesticks
 - b) Cuts from contaminated broken glass
 - c) Direct contact between blood and broken skin, mucous membranes or eyes
- Body fluids most likely to contain bloodborne pathogens:
 - a) Blood
 - b) Semen
 - c) Vaginal secretions
 - d) Wound drainage
 - e) Cerebrospinal fluid
 - f) Amniotic fluid
 - g) Breast milk

Bloodborne Transmission & Pathogens

- Infections that are transmitted:
 - 1) Hepatitis B
 - 2) Hepatitis C
 - 3) Hepatitis D
 - 4) HIV
 - 5) AIDS

3) Methods of Infection Control

- Medical Asepsis – techniques that are used to physically remove or destroy pathogens
- Using soap and water, antiseptics, disinfectants, or heat
- Goal: remove pathogens from surfaces, equipment, and the hands of health care employees
- 4 methods of medical asepsis: sanitation, antisepsis, disinfection, sterilization

4 Methods of Medical Asepsis:

- **Sanitation** – basic measure such as handwashing, cleaning eating utensils, using soap and water, clean linens and clothing
- **Antisepsis** – using mild chemicals like rubbing alcohol and iodine to kill microbes or stop them from growing on the skin
- **Disinfection** – using strong chemicals like bleach to kill microbes on surfaces such as bedside tables and bed pans
- **Sterilization** – using pressurized steam or very strong chemicals to kill microbes on equipment such as surgical instruments

Universal Precautions

- A standard approach to infection control
- All human blood and certain body fluids are treated as though they carry bloodborne pathogens
- Here are some important methods of UP:
 - 1) Engineering and work practice
 - 2) Personal protective equipment
 - 3) Housekeeping
 - 4) Regulated waste
 - 5) Laundry
 - 6) Hazard communication

Engineering and Work Practice

- The facility must always keep and maintain safety equipment (puncture-resistant sharps containers)
- Regular handwashing
- Never break, recap or resheath used needles
- Do not eat, drink, smoke, apply makeup, or handle contact lenses in areas of exposure risk
- Never store food in refrigerators or freezers where blood or other potentially infectious materials are stored

Engineering and Work Practice

- Work with blood in ways that minimize splashing, spraying, and aerosolization
- Put blood and other infectious materials in leakproof containers
- The facility must ensure that potentially contaminated equipment or materials is examined and disinfected before it is serviced or shipped

Personal Protective Equipment (PPE)

- Your facility must provide at no cost to you, appropriate personal protective equipment
- This includes gloves, gowns, lab coats, masks or face shields, eye protection, mouthpieces, resuscitation bags, pocket masks, and other types of ventilation devices – all in your size

Gloves

- You must wear gloves anytime your hands come into contact with blood or other potentially infectious materials, when inserting or removing IV catheters, when handling items or surfaces soiled with blood or other potentially infectious materials
- Use new, disposable, single-use gloves as soon as you can, especially after the old ones are contaminated or damaged
- Gloves cannot be washed or disinfected for reuse
- Utility gloves, on the other hand, may be disinfected , unless they are cracked, peeling, torn, discolored, punctured, or too damaged to use

Eye Masks and Face Shields

- You must wear masks and eye protection whenever there is risk of your eyes, nose, or mouth becoming infected by blood or infected materials
- Wear protective clothing whenever there is a change of infection
- Remove your personal protective equipment before leaving the work area or as soon as you can
- Place all of the items in the appropriate area or container for storage, washing, decontamination or disposal

Housekeeping

- Every surface and all equipment must be cleaned properly and regularly
- They must also be disinfected
- Bins, trash cans, and other containers that are regularly used have an opportunity to become infected with blood or other infectious materials
- These must be inspected and decontaminated regularly

Regulated Waste (Contaminated Sharps, Etc.)

- Regulated waste must be disposed of in closable, leak-proof containers that are color coded or labeled
- Containers must be closed before removal
- If the outside of the container is contaminated, it must be placed in another container or bag that is color coded or labeled
- All regular waste must be disposed of according to federal, state and local regulations

Needles and Other Disposable Sharp Instruments

- Must be disposed of in closable, puncture-resistant disposable containers that are leak-proof, labeled or color coded
- Containers must be accessible to all employees
- They must be located where they are used more frequently
- The containers must be maintained uprights, routinely replaced, and not allowed to overfill
- Containers must be closed before removal to prevent spillage during handling, storage, and moving

Laundry

- Handle and move contaminated laundry as little as possible
- Contaminated laundry must be placed in labeled or color coded bags or containers
- If the laundry leaks, put it in leak-proof bags
- You must wear protective gloves and other appropriate personal protective equipment to prevent occupational exposure while handling or sorting through contaminated laundry

Hazard Communication

- Warning labels must be put on containers of infectious waste, refrigerators or freezers containing blood or other potentially infectious materials, and other containers storing blood or hazardous materials
- Labels must be fluorescent orange or orange-red with lettering or symbols in a contrasting color
- They may be a part of the string, wire, or adhesive that prevents their loss or accidental removal

Hazard Communication

- Red bags or containers can be substituted for using labels
- Containers of blood, blood components or blood products with labels that identify their contents and that have been released for distribution are exempted from the labeling requirements

Handwashing

- The single, most important method of preventing the spread of infection!
- While you are taking care of your residents or patients, you may be collecting transient flora on your hands
- These are microbes that can easily be transferred to the next person, yourself, your family and so on
- Transient flora are removed by proper handwashing

Handwashing: Points to Remember

- Always wash your hands
 - 1) When you arrive to your facility
 - 2) Before entering a resident's room
 - 3) Before you enter a clean supply room
 - 4) Before you gather linens from the linen cart
 - 5) Before handling food trays
 - 6) Before you go on break and when you leave your shift
 - 7) Before you eat, drink or smoke
 - 7) Before and after inserting contact lenses
 - 8) After you use the bathroom
 - 9) After coughing, sneezing or blowing your nose
 - 10) After you touch anything that may be contaminated
 - 11) After picking something off the floor
 - 12) After removing disposable gloves
 - 13) After touching your hair or makeup

Handwashing

- Microbes can get trapped under long fingernails in jewelry like bracelets and rings
- It is best not to wear them to work
- Keep your fingernails short and unpolished
- Frequent handwashing can make your hands dry and cracked
- Use lotion or hand cream regularly after handwashing

Using Alcohol-Based Hand Rubs

- These can be used instead of washing your hands
 - They are quicker to use than washing your hands
 - They are gentler on the skin than soap and water
 - They need no water so you can use them anywhere
- Demonstration:
 - 1) Apply in palm of hand
 - 2) Rub hands together, covering front and back of hands and fingers
 - 3) Keep rubbing until skin is dry

Handling of Infectious Waste

- These are standard precautions
 - 1) Infectious wastes include blood, blood-soiled articles, soiled dressings, fecal soiled items, disposable sharps
 - 2) All sharps must be handled as infectious waste, put into approved sharps containers and sent for incineration
 - 3) Liquid blood, excretions and secretions shall be flushed into the sewer system
 - 4) Disposable items which are contaminated with excretions or secretions from infected residents must be placed in red, sealed bags – records of Regulated Waste removal will be kept on file for 3 years
 - 5) Items soiled with visible blood or feces must be placed in red plastic bags or containers

OSHA (Occupational Safety and Health Administration) Bloodborne Standard

- 1) Glove usage
- 2) Waterproof gowns
- 3) Face masks, shields, eye goggles
- 4) Sharps containers
- 5) 1 part bleach to 10 parts water or approved viricidal cleaning agent must be used for spills of blood and body fluids
- 6) Handwashing

4) Common Bloodborne Pathogens

- Use Universal Precautions when there is a potential risk of...
- HIV
- AIDS
- Hepatitis B
- Hepatitis C
- Hepatitis D
- Let's look at each of these potentially dangerous bloodborne pathogens more closely

HIV and AIDS

- **HIV**

- a) Human immunodeficiency syndrome
- b) Causes AIDS
- c) Invades T-cells that protect the body from infection
- d) Uses the T-cell to multiply until the body can no longer protect itself

- **AIDS**

- Acquired immunodeficiency syndrome
- Attacks the immune system
- The body has a difficult time fighting infection
- No cure

Hepatitis B, Hepatitis C, and Hepatitis D

- **Hepatitis B**

- a) Infects the liver
- b) More common than HIV
- c) There is a higher risk on the job
- d) There is a free vaccine, given in a series of doses (3 shots over 6 months)

- **Hepatitis C**

- a) Causes inflammation of the liver
- b) Can be chronic and severe

- **Hepatitis D**

- a) Found in people who are already infected with Hepatitis B
- b) Vaccine for Hepatitis B protects from D

5) Exposure Control

- All employees have the potential for occupational exposure to infectious materials
- You need to be educated, trained and ready in accordance with OSHA Final Rule on Occupational Exposure to Bloodborne Pathogens
- You also need to stick to your facility's policies regarding exposure control

5) Exposure Control – Some Definitions

- **Occupational Exposure**
– reasonable anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials may result from your job duties
- **Exposure incident** – a specific eye, mouth, other mucous membrane, non-intact skin or parenteral contact with blood or other potentially infectious materials that result from your job duties

5) Exposure Control – Some Definitions

- **Blood** – human blood, human blood components and products made from human blood
- **Contaminated** – items in direct or indirect contact with a patient or potentially hazardous materials; all items in contact with blood and other body fluids
- **Other Potentially Infectious Materials** – human body fluids such as semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva and any body fluid contaminated by blood

Exposure Determination

- All employees working in all departments of the facility are at risk for exposure
- All employees are offered Hepatitis B vaccine free of charge

6) Post Exposure Procedures

- 1) Wash area immediately with soap and water
- 2) Percutaneous wounds should be allowed to bleed
- 3) Mucus membranes should be flushed immediately for 15-20 minutes with tap water or at eyewash station
- 4) Call 911 if injury is life-threatening
- 5) Notify supervisor immediately
- 6) Review Bloodborne Pathogen Post-Exposure Procedure
- 7) Fill out incident report and a post exposure evaluation and follow up report
- 8) In case of occupational exposure, employee will need to be evaluated by a healthcare professional - ER or clinic

6) Post Exposure Procedures

- 9) Send copies of Post Exposure Evaluation and Follow Up Report and Healthcare Worker's Written Opinion with the employee for evaluation
- 10) Employee should advise physician that the Written Opinion must be provided to employer and employee within 15 days of the evaluation

6) Post Exposure Procedures

- **An evaluation and follow up will be provided**
- An employee who experiences an exposure incident shall report it immediately to nurse supervisor or designee
- Administration shall make available a confidential medical evaluation and follow up for free
- **Sharps Injury Log** – maintained for the recording of percutaneous injuries from contaminated sharps
- **The log contains at minimum:**
 - a) Type and brand of device involved in incident
 - b) Department where it occurred
 - c) Explanation of how it occurred

6) Post Exposure Procedures: The Incident Report

- Include the following information:
 - a) Route of exposure
 - b) Circumstances related to incident
 - c) Type and brand of device being used
 - d) If this was a safety device, was it being used properly?

6) Post Exposure Procedures

- Complete the Bloodborne Pathogens Post-Exposure Evaluation and Follow Up form
 - a) Have employee give as much info as possible about exposure
 - b) Provide as much information as you can about the source and employee
 - c) Instruct the employee to take action as indicated in the form
 - d) Initiate the form immediately and complete as labs and treatment regimens are available
 - e) Keep the form with labs and related medical reports in the employee's medical record

6) Post Exposure Procedures: Follow Up Care and Counseling

- For Hepatitis and HIV
- Advise the employee to report and seek medical evaluation for any acute illnesses occurring during the follow up period
- The facility is responsible for keeping all employee records confidential according to The Worker's Compensation Office
- The administrator and medical director will review all exposure incidents

Final Words and Making a Commitment

- Wow that was an incredible amount of information on Infection Control!
- I am worn out!
- But, this topic is so vital for you to know about
- We hope that your memory is refreshed and that maybe you have learned something new
- Please protect the ones you care for and yourself
- Now to make a commitment

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