

Universal Precautions (OSHA)

Aids & Hepatitis B Prevention for Healthcare Workers

LESSON 1: BLOODBORNE INFECTIONS

Both AIDS & HEPATITIS B caused by pathogens found in the blood of those infected. There are many blood borne infections (such as syphilis and Hepatitis C), but AIDS and Hepatitis B are the two that you need to learn the most.

AIDS is caused by HIV, the human immunodeficiency virus. Hepatitis B is caused by HBV, the Hepatitis B virus. Both HIV and HBV are found not only in the blood, but also in body fluids that contain blood as well as in certain other body fluids. You can only get AIDS or HB if exposed to the virus - i.e. if the blood or body fluid from an infected person gets into your body.

AIDS

HIV affects the immune system of the infected person. By interfering with the immune system, the virus limits the ability of the body to fight infections. The virus may be in the body a long time before symptoms develop, but there are usually flu-like symptoms within a month. These symptoms include, fever, headache, swollen glands, sore throat, diarrhea, fatigue and rash.

Glands may remain swollen, but usually symptoms disappear within a few days and you may remain asymptomatic for months or even years. Eventually, however, nearly everyone infected with the virus will develop AIDS. It could take 10 years or more to develop.

Usually, person with AIDS: 1) have trouble fighting off infections that others rarely get or can fight off easily; 2) Lose weight, have frequent diarrhea or long lasting fever, 3) May have brain involvement with confusion, memory loss, depression or motor dysfunction; 4) May develop secondary infections, such as TB or an unusual kind of pneumonia 5) May develop Kaposi's Sarcoma or serious infection which eventually leads to death.

Although there are drugs, such AZT (zidovudine), which may delay the onset of symptoms, there is no cure and there is no vaccine to prevent HIV infection.

The risk of getting AIDS in the workplace is small. As of 5/93, only 3% of 5 million healthcare workers in the U.S. had been documented as infected with HIV through occupational exposure.

HEPATITIS B

Of those exposed to HBV, 1) 33% do not develop symptoms; 2) 33% experience only a mild flu-like illness that goes away; 3) 33% develop abdominal pain, nausea and fatigue. The skin and eyes may become yellow in color (jaundiced). The urine may become dark. Sometimes there is joint pain, rash and fever. A severe case of Hepatitis can lead to liver failure and death.

Six to ten percent of those infected with HBV become chronic carriers of the disease. They may or may not have an active infection, and they may have few or no symptoms, but they can still transmit the disease to others. Carriers are at risk for chronic active Hepatitis, a disease that affects the liver and can lead to serious illness and death. Carriers are also at risk for liver cancer. More than 2% of all individuals infected with HBV will die as a result.

There is an effective vaccine to prevent infection. There is also treatment that can be given after exposure to prevent HBV infection in those who have not been vaccinated. The occupational risk for HB is high.

About 9,000 healthcare workers in the U.S. get HB from occupational exposure each year. Four to five hundred are hospitalized, and about two hundred die as a result. In addition, there are almost one million carriers of HBV. These numbers are coming down because of the push to get healthcare workers immunized against HB.

LESSON 2: TRANSMISSION OF BLOODBORNE INFECTION

POTENTIAL SOURCES OF INFECTION

Potential sources of infection include:

- 1) blood
- 2) body fluids that contain blood (visible or invisible)
- 3) body fluids in situations where it is difficult or impossible to differentiate between body fluids
- 4) semen
- 5) vaginal secretions
- 6) amniotic fluid
- 7) cerebrospinal fluid
- 8) body tissue

Body fluids that DO NOT contain enough HIV or HBV to infect you are urine, feces, saliva, sputum, vomit, tears, sweat, and nasal secretions. HOWEVER, if any of those fluids contain blood, or mixed with other body fluids that are potentially infectious, they should also be considered potentially infectious.

MODES OF TRANSMISSION

Primary modes of transmission OUTSIDE THE WORK PLACE include:

- 1) sexual contact
- 2) sharing needles by drug users
- 3) receiving blood transfusions, although blood screening programs have almost eliminated this risk
- 4) pregnant mother to unborn baby
- 5) nursing mother to baby via breast milk for HIV, not HBV

The three major modes of transmission IN THE WORKPLACE are:

- 1) Puncture wounds from contaminated needles or other sharps. Seven to thirty percent of puncture wounds with HBV contaminated needles will transmit infection. Because the HIV is more fragile, only five percent of HIV contaminated needles cause infection.
- 2) Puncture wounds from surgical instruments or contaminated broken glass can also result in infection.
- 3) Casual or environmental contact, such as shaking hands, using telephones, toilet seats, and drinking fountains will not result in infection. Donating blood is also a safe activity.

LESSON 3: EXPOSURE CONTROL

HEPATITIS B VACCINE

Since the occupational exposure risk is high for health care workers, one of the most important things you can do to prevent HB infection is to be immunized before exposure. The Centers for Disease Control (CDC) also recommends immunizations after you come into contact with blood or other potentially infectious body fluids on the job.

The HB vaccine is safe and effective for 92-96% of those vaccinated. It is administered in three injections given over a six-month period. Blood test can determine if the vaccination has been effective and if a booster injection is needed.

The vaccination is made available at no cost to you. You are not required to accept the vaccination and cannot discriminate against you if you choose not to have it. However, keep in mind that it is an important way to control the spread of Hep B infection.

UNIVERSAL PRECAUTIONS

Following these precautionary measures is a way of preventing the transmission of blood borne infections. It is based on the concept that control measures should be taken with all patients because there is no way to be sure who is infected and who is not. Many patients will be unaware that they are carriers of the blood borne disease and testing may not determine if they are infectious at the time of treatment. You can observe universal precautions by the doing the following:

- 1) Treat all human blood and body fluids as if they are known to be infectious for HBV or HIV.
- 2) Treat all used needles or other sharps as if they are contaminated and able to infect you if you are punctured.

POST-EXPOSURE RESPONSE

Puncture Wounds or Broken Skin Mucous Membrane Contact

1. Wash the exposed area immediately. This may help prevent the pathogens from entering your body.
2. File an exposure incident report with the facility or agencies for which you are working, and consult a physician. A post-exposure confidential evaluation and follow-up will be provided free of charge.

This will include:

- A) Documentation of the incident
- B) Testing of the source individual's blood (whenever feasible and legal)
- C) Blood testing to determine if you have been infected (for HIV, that infection may not show up in the blood for 6-12 weeks or long; for HBV, a test can tell whether you have been infected and whether you have a naturally acquired immunity).
- D) Post-exposure prophylaxis for HIV treatment with AXT is sometimes used; for HBV in those who have not been vaccinated, treatment with injections of hyper immune globulin should be started within 24 hours. Exposure to HBV is also treated with infections of the HBV vaccine.
- E) Medical counseling about your risk of infection, as well as, your risk of infecting others.

REMEMBER: It is possible for just one exposure incident to infect you.

LESSON 4: USING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Gloves

Protective gloves should be worn to prevent broken skin transmission of blood borne infections.

Examination Gloves

Non-sterile vinyl or latex exam gloves are used for procedures that do not require sterile gloves, such as drawing blood or removing a dressing. They should be discarded after use with each patient.

Sterile Gloves

Sterile latex gloves are used for invasive procedures, such as surgery, where the hands will likely be in direct contact with blood or blood-contaminated body fluids. There is generally no need for sterile gloves for use in therapy sessions.

Utility Gloves

General-purpose utility gloves are recommended for cleaning procedures, such as decontaminating treatment areas between patients. They are more tear and puncture resistant than exam gloves. Utility gloves may be decontaminated and reused, but discard them if they have holes, or crack, peel, or fade. Also, remember that even heavy utility gloves cannot protect you from a needle stick injury.

Guidelines for Using Protective Gloves

Wash your hands before and after using the gloves. Remove all hand jewelry to prevent tearing of gloves.

Select gloves that are the correct size. Wearing gloves that may be too large can make you clumsy and lead to an exposure incident. When donning gloves, make sure they are free of holes and tears.

Remember to change gloves as soon as is practical if they become contaminated or have holes or tears. Be sure to wash hands before re-gloving.

When removing gloves, avoid skin contact with the outside of the gloves by removing the first glove and holding it in the second glove's hand. Then grasp the second glove by the inside of the cuff and pull it all inside out.

FACE MASKS & PROTECTIVE EYEWEAR

These items should be worn whenever there is a chance that blood or other risky material will splash, splatter or spray. You should use your best judgment in determining when it is necessary to wear this equipment.

Face masks cover the nose and the mouth. They are disposable and should be discarded after use with each patient. They should also be replaced if they become wet.

Protective eyewear shields the eyes. Regular eyeglasses ARE NOT enough because the eye protection must also shield the eyes from the side. In addition, a face shield, which extends below the chin, is sometimes used. Eyewear is generally not disposable.

To remove a facemask and eyewear, remember to:

- 1) wash your hands first
- 2) handle the face mask by the ties or strings and discard it in the appropriate container
- 3) handle the eyewear by the arms and decontaminate it before working with the next patient
- 4)

Protective Clothing

Protective clothing with long sleeves (such as disposable gown) should be worn when splashes of infectious material are anticipated. Use your best judgment in splashing the equipment.

Remove soiled clothing as soon as it is practical. Do not touch the outside of the clothing. Keep it away from your body and roll it up so that the contaminated side is in the center. Disposable gowns must be discarded after use with each patient. Be sure to wash hands after disposing of a contaminated gown.

LESSON 5: WORK PRACTICE CONTROLS

Handling Sharps

Therapists do not normally come into contact with sharps. However, when they are encountered, care must be taken to handle them carefully to avoid puncture wounds. Used disposable needles must be discarded in containers that are clearly marked, puncture resistant, and leak proof on the sides and bottom. DO NOT recap needles unless necessary.

DECONTAMINATING PROCEDURES

Blood Spills

Proper decontamination of blood spills can protect you and others. Always wear gloves, first wipe the spill with a towel and dispose of the towel. Apply a germicide or 50/50 mixture of bleach and water until surface is glistening wet. Keep it moist for 5-10 minutes. Then allow the surface to air dry completely.

Patient Care Area

Standard cleaning and decontamination procedures apply to patient care areas. You should wear gloves and use cleaning products that are EPA approved.

DISPOSING WASTE

Items contaminated with copious amounts of infectious material (waste that is wet or dripping, or oozes fluid when pressure is applied) should be handled and disposed of carefully. They must be placed in containers that prevent leakage, are color-coded red or clearly labeled "biohazard" and are closeable. Laws may require that these materials be collected separately from other trash. If a waste container is damaged or if the outside is contaminated, place it carefully inside another qualified container in order to protect others who may handle it. Check with the facility to determine where and how to dispose of this waste.

LESSON 6: MULTI-DRUG RESISTANT ORGANISMS

- 1) GISA
- 2) TB
- 3) MRSA
- 4) VRE

Healthcare workers should utilize standard precautions if a patient is infected with an organism that does not respond to typical drug therapies and contact MD/RN to determine if the organisms are infectious and to receive instructions as to the proper Personal Protective Equipment (PPE) to use. All employees must comply with OSHA requirements and CPT's policies and procedures regarding Exposure Plan.

HANDWASHING Home Care

PURPOSE:

To prevent transmission of contagious or virulent infections.

POLICY:

Associates will be expected to maintain an acceptable level of personal hygiene as it relates to the prevention of infection. Clothes will be clean, fingernails will be groomed, jewelry will be kept to a minimum, and long hair will be secured and clear from area of care procedures. All associates will keep natural nail tips less than ¼ inch long and not wear artificial fingernails or extenders.

EQUIPMENT

- Hand cleaning agent (liquid soap)
- Paper Towels
- Water
- Alcohol-based waterless agent

Waterless Antiseptic Agent:

- Apply product to palm of one hand and rub hands together, covering all surfaces of hand and fingers, until hands are dry
- An adequate volume of an alcohol-based product should take 15-25 seconds for hands to dry
- Use only 7-8 times and then you must wash with soap and water

Soap and Water:

- Stand away from the sink so clothing is not touching the sink
- Utilizing bag supplies, arrange soap and paper towel near the sink
- Wet hands, wrists and work in lather
- Wash hands wrist for at least fifteen seconds using friction (you must count one one thousand, two one thousand...)
- Rinse hands and wrists, being careful not to shake excessive water off hands, and not to touch sink with hands
- Dry each hand thoroughly with a paper towel
- Turn off water facet using paper towel on faucets, dispose of paper towel

HAND HYGIENE

Hand hygiene is required:

- After exposure to body fluids or excretions
- After exposure to mucous membranes
- After exposure to non-intact skin
- If moving from a contaminated body site to a clean body site
- Before donning gloves and after removal of gloves

INFECTION CONTROL

Hand washing technique is a standard

Operating policy that must be done

Every visit.

Review procedure and perform self-assessment and sign

INFECTION CONTROL

HAND WASHING SKILLED NURSING FACILITY (SNF)

PURPOSE:

Appropriate hand hygiene is essential in preventing the spread of infectious organisms in healthcare settings.

DEFINITIONS: Antimicrobial soap:	Soap containing antiseptic agent.
Antiseptic hand wash:	Washing hands with water and soap or other detergents containing an antiseptic agent.
Antiseptic hand rub:	Applying a waterless antiseptic agent to all surfaces of the hands to reduce the number of microorganisms present
Hand antiseptis:	Refers to either antiseptic hand wash or antiseptic hand rub
Hand hygiene:	A general term that applies to either handwashing, antiseptic hand wash, or antiseptic hand rub.
Handwashing:	Washing hands with plain (i.e., non-antimicrobial) soap and water
Plain soap:	Refers to products that do not contain antimicrobial agents, or contain very low concentrations of antimicrobial agents that are effective only as preservatives.
Visibly soiled hands:	Hands showing visible dirt or visibly contaminated with blood, fecal material, urine, etc.
Waterless antiseptic agent:	An antiseptic agent that does not require use of water. After applying such and agent, the individual rubs hand together until the agent has dried.

1. Hand hygiene must be performed after touching blood, body fluids, secretions, excretions, and contaminated items. Specific examples include but are not limited to:

- a) Before performing invasive procedures (i.e. catheterization, starting IV's).
- b) Before contact with particularly susceptible residents (open wounds, etc.).
- c) Before touching medication or food to be given to a resident.
- d) Before and after touching wounds of any kind.
- e) Before and after providing personal cares for a resident.
- f) After removing gloves.
- g) After touching any item or surface that may have been contaminated with blood or body fluids, excretions or secretions (i.e. measuring graduate, commode).
- h) After caring for a resident with an active infection.
- i) Between contacts with different residents.
- j) After going to the bathroom, nose blowing, covering a sneeze and coughing.
- k) Before eating and before going home at the end of the shift.

2. Alcohol-based hand rub (ABHR) is the preferred method for hand hygiene. Soap and water are recommended in specific circumstances, including when hands are visibly soiled or during outbreaks of *C. difficile* or norovirus.

3. *C. difficile* bacteria are killed by ABHR, but *C. difficile* spores are not inactivated by ABHR.

4. If your hands are not visibly soiled, use an alcohol-based hand rub for routine hand antisepsis before and after direct contact with residents; and after removing gloves.

5. Alcohol-based hand rub recommendations exclude food preparation areas, where food handlers must wash their hands with soap and water.

6. Use of soap and water:

- a) When hands are visibly dirty;
- b) After known or suspected exposure to *Clostridium difficile* if facility is experiencing an outbreak or higher endemic rates;
- c) After known or suspected exposure to patients with infectious diarrhea during norovirus outbreaks;
- d) Before eating;
- e) After using the restroom;

f) If exposure to *Bacillus anthracis* is suspected or proven;

7. For everything else use an alcohol-based hand rub (ABHR).

PROCEDURE:

1. Handwashing with plain or antimicrobial soap:

- a) Push up long sleeves
- b) Wet hands with running water.
- c) Apply handwashing agent and thoroughly disperse over hands.
- d) Wash hands and wrists using friction for 20 seconds on all surfaces including under fingernail.
- e) Rinse thoroughly with arms extended downward.
- f) Pat dry thoroughly with paper towel.
- g) If the sink has hand controls, use a paper towel to shut off the faucet.

2. Using alcohol antiseptic hand rub:

- a) Apply approximately a dime size (ABHR) or enough to cover all surfaces of your hands.
- b) Spread thoroughly over hands, including under fingernails.
- c) Rub your hands together until they are dry.
- d) Follow manufacturer's instructions for number of uses before soap and water wash is necessary.

References:

1. IDPH memo February 5, 2019
2. CDC guidelines on hand hygiene
2. Centers for Disease Control and Prevention (2002)
3. OSHA. *Occupational Exposure to Blood borne Pathogens*. 1991.
4. WHO. World Health Organization.
5. SHEA. Society for Healthcare Epidemiology of America. 2014

These guidelines are not meant to be exclusive or exhaustive. Guidelines are meant to leave room for the exercise of professional judgment based on individual circumstances.

INFECTION CONTROL

EQUIPMENT CLEANING SKILLED NURSING FACILITY (SNF) POLICY

Objective: To minimize contamination of equipment and the spread of infectious disease to patients.

Policy: All equipment is to be cleaned with disinfectant before and following each patient contact. A standard 1:10 bleach solution can be used when a facility approved cleaner is not accessible. Standard decontamination procedures apply to patient care areas.

Process:

- Prior to use of any equipment Any and all surfaces that patient will contact are to be wiped down with facility approved cleaner.
- Allow equipment to air dry.
- Use gloves if necessary.
- Once patient is done using that equipment, wipe down all patient contact areas with approved cleaner.
- No equipment should be used by another patient until it has been cleaned.

INFECTION CONTROL COMPETENCY BAG TECHNIQUE (Home Care)

OBJECTIVE:

To minimize contamination of equipment and the spread of infectious disease to patients.

POLICY:

Clinical personnel will comply with the basic principles and asepsis and bag technique in caring for patients and in the use of equipment in home care settings.

DEFINITION:

'Single Use' side of bag – storage products used one time

'Reusable' side of bag – products cleaned and used from patient to patient, i.e. stethoscope, goniometer, blood pressure cuff

Initial Annual Other

PROCEDURE:

- 1) Soap, hand gel, paper towels, barriers in outside pouch of bag
- 2) **Never** place bag on the floor or a soft cushioned chair (exception: use of bag on wheels)
- 3) Place bag on a firm surface always using a barrier shield
- 4) Wash hands
- 5) Unzip bag and remove supplies for visit
- 6) Place supplies on the barrier
- 7) Zip bag
- 8) Wash hands before re-entry of bag during the course of the visit
- 9) Disinfect all re-usable equipment with Sani-cloths
- 10) Wash hands
- 11) Unzip bag
- 12) Place equipment back into the proper side of the bag
- 13) If unable to clean equipment, place in a plastic bag for transport and cleaning later
- 14) Bag is organized correctly according to clean and dirty side as referenced below
- 15) Zip bag
- 16) Bag is stored in a car in clean storage, out of sight
- 17) Bag is brought indoors at end of the workday in time of extreme heat or cold and place on a barrier

BAG CRITERIA

- 1) Bag must be brought into the patient's home every visit. (See checklist for contents)
- 2) The bag will have separate open compartment for contaminated items that can not be cleaned. They must be put into a sealed bag before being put in this open compartment.
- 3) Barrier used should be a plastic bag or waxed paper, never newspaper.

AIM: Compliance with OSHA Regulation for blood-born pathogens and universal precautions.

- Disposable Gloves minimum of two pair
- CPR Mask
- Paper Towels
- Liquid Antiseptic Soap
- A bottle of bleach 1:10 solution
- Alcohol/Wipes

BAG CONTENTS

Reusable SIDE

Supplies

Goniometer

B.P. Cuff

Pen

Gait Belt

Single Use SIDE

Supplies

Soap

Paper Towels

Gloves

CPR Mask

Alcohol Wipes

Plastic Bag

Notes should be in manila folder and only referencing the patient you see.