

BLOODBORNE PATHOGENS

Exposure to bloodborne pathogens is an ongoing concern for health care workers. *Bloodborne pathogens are disease causing microorganisms found in human blood as well as human blood components and products.* While there are a number of bloodborne pathogens, those caused by the Hepatitis B virus and human immunodeficiency virus pose the greatest threat to health care workers.

HIV-AIDS

The human immunodeficiency virus (**HIV**) is the newest of the bloodborne diseases. It is estimated that by the end of 1992 infected over 2 million people were infected with the HIV virus. Health care workers have a slightly higher risk of contracting the virus than the public. Symptoms may vary but include weakness, fever, sore throat, nausea, headaches, diarrhea, and other flu-like symptoms. However, *many people show no apparent symptoms for years after the infection. The general belief is that those who contract the HIV virus will ultimately develop Acquired Immunodeficiency Syndrome or AIDS.*

Currently, no vaccine exists to prevent the occurrence of HIV and there is no cure.

HEPATITIS B

Hepatitis B is a liver disease; and usually results in inflammation of the liver and can progress to many serious conditions such as cancer and cirrhosis. Each year 300,000 new cases of Hepatitis B occur. *It estimated that one out of every 500 healthy Americans is a carrier of the Hepatitis B virus.* A carrier is a person who has had Hepatitis B and no longer shows any symptoms. However, *the virus can remain in the body and is able to be transmitted to others.* Some of our consumers are carriers of the Hepatitis B virus.

After exposure, it can take 2 weeks to 6 months for Hepatitis B to develop. *Initial symptoms resemble those of a mild flu-like illness and therefore may go undiagnosed,* or may be very mild or absent. Symptoms include fatigue, nausea, loss of appetite, muscles or joint aches, vague abdominal pain, and sometimes, diarrhea. Some individuals will develop dark urine and light colored stools, followed by jaundice in which the skin and whites of the eyes appear yellow.

There is no medical cure for hepatitis B. Most people recover within 6-10 weeks but 10-20% may still have abnormal test results six months after onset of the illness. Between 6 to 10 people out of 100 who catch Hepatitis B, become chronic carriers. About one-fourth of these carriers develop chronic active Hepatitis which has the potential to progress to more serious liver diseases. Progression may be slow or rapid or it may continue unchanged, or subside spontaneously. There is a probability of death (1-2%).

Although there is no cure, **Recombivax HB**, a vaccine against Hepatitis B, can be available through our agency. It is a noninfectious vaccine cloned from the Hepatitis B surface antigen and grown in yeast cells, and is free of human blood products. Each batch of the vaccine is tested for safety. Two doses of vaccine by injection in the deltoid muscle of the upper arm one month apart, followed by a third dose five months after the second, are needed to achieve maximum immunity. *After three doses, the Hepatitis B vaccine is 85-95% effective in preventing Hepatitis B infection in those who have received the vaccine.* Protection for normal, healthy adults lasts at least seven years. In addition, vaccination begun immediately after exposure to the Hepatitis B virus can often prevent infection.

The incidence of side effects from the vaccine is very low. There has been no allergic reaction reported. The most common side effects have been mild soreness at the site of the injection, fever, and fatigue. Women who think they are pregnant should check with their physicians before receiving the vaccine.

UNIVERSAL PRECAUTIONS

The Center for Disease Control and the American Hospital Association have recommended that blood and body fluid precautions has to be used for all patients, and that all *patients be considered potentially infectious*. This practice is referred to as universal precautions.

Universal precautions for blood and body fluids is a set of guidelines designed to protect you from pathogens that might be transmitted through contact with blood or other body fluids. It involves the use of barriers such as gloves, gowns, masks; face shields, foot wear, and head protection, as well as the safe handling of needles and sharp objects.

Wear protective attire when being exposed to blood, body tissues, and some body fluids such as breast milk, semen, vaginal and cervical secretions, and cerebrospinal, peritoneal, pericardial, and amniotic fluids. Other body fluids, such as feces, nasal secretions, sputum, sweat, tears, urine, and vomits are included only when they contain visible blood. When these body fluids do not contain visible blood, they are not associated with the transmission of AIDS or Hepatitis B, but they may be associated with other types of infection.

In health care settings, bloodborne diseases most often enter the body through breaks in the skin or mucous membranes. These exposures most often occur through needle sticks; human bites, skin abrasions & cuts.

Blood is the single most important mode of transmission for bloodborne diseases. Whenever there is the potential to meet blood or body fluid, wear gloves. Latex and vinyl gloves are equally effective as barriers against infection. Use new disposable gloves for one person or task at a time. Gloves are not to be recycled. You should wear gloves when encountering broken skin or mucous membranes. If your hands are chapped, or if you have broken skin, wear double gloves.

- A mask is required whenever there is a possibility of splatter or airborne secretions, or an undiagnosed cough.
- A disposable face shield is required whenever there is a possibility of splatter to the eyes and face.
- A disposable apron or gown is required whenever there is a possibility of splatter to the clothes.
- Protective hair cover is required whenever there is a possibility of splatter to the hair.

After use, all protective garments are contaminated. Do not wear in other areas. You are required to remove them carefully to prevent exposure to the pathogens on the outside surfaces.

Procedures for Removal of Contaminated Protective Garment

1. Untie waist strings of the gown first (They are contaminated). Untie neck strings of gown. Remove gown without touching outside of gown. You can grasp the neckband or back neck of gown to pull off gown. Turn gown inside out and drop in designated biohazard container. (Neck strings or back of neck of gown is clean. Outside of the gown is contaminated.)
2. Grasp outside of one glove and turn inside out gently to remove. Slide a finger under the cuff of the other glove, and grasping the inside of the other glove, turn it inside out while removing gently. Dispose of gloves in designated staff biohazard container. (The outside of the glove is contaminated. You must remove gloves by turning them inside out. You touch only the inside of the glove to avoid coming into contact with pathogens.)
3. Untie mask and drop by strings into waste container. (Center of mask is contaminated.)
4. Wash your hands immediately.

Hand washing is the most important part of universal precautions. Good hand washing techniques is the best defense against acquiring any diseases. To wash your hands:

- Turn the faucet on using a paper towel. Use warm water whenever possible.
- Apply soap (preferably anti-bacterial) from dispenser.
- Work up a good lather.
- Interlace your fingers. Be sure the soap gets under your nails.
- Wash 2-3 inches above the wrist.
- Rinse well with your fingertips downward.
- Dry your hands with paper towels. Turn the faucet off using the paper towels.

Location & Removal of Designated Biohazard Container

This container should be in a common area. The container should be clearly marked BIOHAZARD. All contaminated items such as disposable gloves, gauze, sanitary napkins, dressings, Kleenex, Band-Aids, etc. must be disposed in this container only.

Remember the biohazard container should be disposed of at least once a day. Tie the bag shut then place tied bag inside regular trash container. This will create a double-bagged system. (The biohazard container lined with a plastic bag; the regular trash lined with a plastic bag. You tie the biohazard container bag shut then disposed of it in the regular trash bag therefore creating the double-bagged system.)

Task	Risk Analysis	P.P.E.	Work Practice Control
Dental Hygiene: Unless it is done in such a way that staff could not possibly be sprayed	Body Fluids	Gloves Goggles	Dispose of gloves and related material (gauze etc.) in designated biohazard container.
Personal hygiene cares and/or diapers changes where contact with urine and/or stool may occur, including care to the anal and/or perineal area. -	Body Fluids	Gloves	Dispose of gloves and related materials in designated biohazard container. Dispose of soiled laundry in designated laundry bag. Bring laundry bag to the laundry room for rinsing & washing with detergent containing bleach.
Any injection of medication or changing *sharps. *Needles, disposable razors, lancets.	Body Fluids	Gloves	Dispose of gloves in designated biohazard container. Disposal of sharps in designated sharps container (Empty & thick plastic detergent container). * See enclosed handout*
Care of person who is vomiting, including handling clothing which has visible body fluids	Body Fluids	Gloves	Dispose of soiled laundry in designated laundry bag. Bring laundry bag to the laundry room for rinsing & washing with detergent containing bleach.

Handling and cleaning of equipment which been contaminated with body secretions such as tracheostomy & colostomy cannulas.	Body Fluids	Glove Gown Mask	Dispose of gloves and related materials in designated biohazard container. Empty colostomy cannulas first followed with disposal.
Routine First Aid	Body Fluids	Gloves	Dispose of gloves in designated biohazard container.
Menses care, including the handling of used sanitary napkins and any hygiene to the perineal area.	Body Fluids	Gloves	Dispose of used soiled napkin and gloves in designated biohazard container. Dispose of laundry in designated laundry bag. * See enclosed handout*
Wound care, either first aid or routine dressing care.	Body Fluids	Gloves	Dispose of gloves and any related material (gauze, bandages, etc.) in designated biohazard container.
Diabetes testing	Body Fluids	Gloves	Dispose of gloves in designated biohazard container. Dispose of sharps in designated sharps container.
Any handling of clothing which has blood on it.	Body Fluids	Gloves	Dispose of gloves in designated biohazard container. Dispose of laundry in designated laundry bag.
Nail grooming (Fingernail clipper - 1 per client) <i>*Diabetic patients: Performed by licensed medical personnel only.</i>	Body Fluids	Gloves	Disinfect with alcohol wipes.

HIGHLIGHTS

Dressings, Band-Aids, or small items with blood or body fluids place in designated biohazard container then inserted in a regular trash bag. Remember always wear gloves to dispose of any waste.

Laundry contaminated with blood or body fluid handle as little as possible. Place in designated laundry bag for cleaning on site. If heavily soiled, rinse before washing & sanitize with detergents containing bleach and hot water is all that is necessary to decontaminate.

“Sharps”, i.e. disposable contaminated syringes, lancets and disposable razors used at the work place, dispose of them in a puncture resistant container (large, thick detergent containers). To avoid accidental needle sticks, do not bend or manipulate needles by hand. Do not recap any sharp items. Fingernail clippers are to be sanitized after each use (Do not share fingernail clippers.)

When cleaning an area which is contaminated:

- Wear proper personal protective equipment – especially gloves.
- Clean up contaminant with a paper towel.
- Disinfect the area with an approved cleaning solution. (Bleach solution: 1 part bleach/10 parts water)
- Dispose of personal protective equipment and contaminated materials in the designated biohazard container.
- Wash hands.

Should you receive a direct exposure, wash the area immediately. Report the incident to your supervisor he/or she will send you for the following:

**Occupational Health + Rehabilitation Inc.,
140 Carando Drive
Springfield, MA 01104
(413) 746-4006**

- A confidential medical examination and follow-up.
- Collection and testing of HBV and HIV status.
- Post exposure prophylaxis when indicated as recommended by the U.S. Public Health Service.

***(Note: Antiviral prophylaxis is effective within 24 hrs. of suspected exposure.)**

If you would like HBV vaccine, fill out enclosed form and call (413) 794-5860