

OSHA/TB/BBP – Short Course

Objectives

Upon conclusion of this course the learner will be able to:

- ◆ Identify the ways to prevent the spread of infection
- ◆ Understand and demonstrate the handling and disposal of biohazards waste
- ◆ Understand how and when to use personal protective equipment
- ◆ Identify safe work practice controls
- ◆ Discuss airborne transmission and the necessary precautions
- ◆ Understand purpose of the Hepatitis B vaccine
- ◆ Explain an exposure incident and how it is managed
- ◆ Provide instruction and demonstration in proper hand washing, cleaning, of contaminated surfaces and equipment, and handling contaminated linen
- ◆ Identify practices in the home to prevent the spread of infection and illness in people receiving and giving care
- ◆ Explain OSHA guidelines and standards
- ◆ Exposure to bloodborne pathogens

Occupational Safety and Health Administration (OSHA) enforces safety standards for work places. OSHA standards were designed to eliminate or minimize employees' exposure to human blood and other potentially infectious materials (OPIM).

Hand-washing with soap and running water for 15 to 20 seconds is one of the most effective means to prevent the spread of infections.

Universal, or standard, precautions are the practice of treating all patients as if they were infected with blood-borne diseases and taking appropriate protective measures. This practice is mandated by the Center for Disease Control (CDC) and by OSHA.

Standard precautions apply to:

- ◆ Blood (visible or invisible)
- ◆ All body fluids: secretions and excretions, whether blood is visible or not
- ◆ Non-intact skin and mucous membranes

Airborne (carried along movement of air) precautions are designed to reduce the risk of airborne transmission of infectious agents. Airborne transmission occurs by dissemination of either airborne droplets or dust particles containing the infectious agents. Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by a susceptible host.

Tuberculosis is an infectious, inflammatory, communicable disease that commonly attacks the lungs. TB may also occur in any part of the body. The disease is caused by the bacteria *Mycobacterium Tuberculosis*.

TB can either be dormant or active. People with dormant TB have no symptoms, are not infectious and may not develop an active TB infection. The only dormant TB germs can be detected in a healthy person is by a positive TB skin test, or chest X-ray.

Active TB is contagious. Symptoms of active TB include:

- ◆ Fatigue
- ◆ Fever
- ◆ Persistent cough
- ◆ Weight loss
- ◆ Night sweats
- ◆ Hemoptysis (bloody sputum)

Tuberculosis can be treated. Patients with active TB need education about the management and treatment of the disease.

General guidelines to reduce the risk of exposure to TB may include:

- ◆ Requesting that all employees cover coughs and sneezes with a tissue to help eliminate airborne pathogens
- ◆ Using ventilation systems to circulate fresh air and help reduce the spread of airborne pathogens
- ◆ Using tuberculocidal disinfectants to eliminate TB germs on work surfaces
- ◆ Requiring TB tests at the time of hiring, and providing routine testing for TB

Treatment of TB

TB infections can be treated. Depending on the likelihood that the TB infection will develop in the disease, sometimes the person is not treated; especially if there is little risk of the disease developing. Factors that influence this decision include the person's age, overall health, lifestyle, and occupation. TB disease is treatable by taking prescribed antibiotics, generally for 6 to 12 months. If taken incorrectly, or if the full round of treatment is not complete, the TB germs may become resistant to treatment.

Hepatitis B is caused by the hepatitis B virus (HBV). It has been found in all body secretions, blood, and semen. HBV infections are a major cause of liver damage, cirrhosis, and liver cancer. This infection can be either chronic (long-lasting) or acute (short). A person can have Hepatitis B for decades without any symptoms. The best protection from infection is to get vaccinated: the vaccine is administered in three doses. Routine Hepatitis B vaccinations have caused a decline in new HBV infections. Currently, only a Hepatitis B vaccine is available.

HBV is spread in the following ways:

- ◆ By injection (needle sticks or puncture wounds)
- ◆ Through mucous membranes
- ◆ Through sexual activity
- ◆ From infected mother to the newborn at birth
- ◆ Cuts, skin abrasions, and other openings in the skin

HBV is not transmitted in food or water, fecal matter, through air, or through casual contact with an infected person.

Symptoms are usually flu-like and may include:

- ◆ Loss of appetite
- ◆ Nausea
- ◆ Fatigue
- ◆ Muscle and joint ache

Other potentially infectious materials (OPIM) may include:

- ◆ Saliva containing blood
- ◆ Semen
- ◆ Breast milk
- ◆ Vaginal secretions
- ◆ Amniotic fluid (fluid within the womb)
- ◆ Cerebrospinal fluid (fluid that surrounds the spinal cord and brain)
- ◆ Synovial fluid (fluid in the joints)
- ◆ Pleural fluid (fluid between the lining of the lungs)
- ◆ Peritoneal fluid (the fluid contained in the abdomen)
- ◆ Pericardial fluid (the fluid surrounding the heart)
- ◆ Tissue or organ cultures or cell structures containing HBV

Hepatitis C virus lives in the blood. HCV does not always cause serious health problems, but it may cause liver damage, cirrhosis of the liver. HCV is spread mostly through drug injections with contaminated needles, unclean tattoo, or body piercing tools; or from sharing toothbrushes or razors.

Personal protective equipment (PPE) consists of gloves, gowns, shoe covers, facemasks, aprons, eye shields or goggles, and caps. Your employer is required to provide you with appropriate PPE, and train you how to use this equipment. A 1:10 bleach solution is effective in killing infectious pathogens in the home.

An exposure incident occurs when there is specific eye, mouth, mucous membranes, non-intact skin – contact with a potentially infectious material that result from the performance of an employee's duties. An exposure incident report must be filled out with the date, time of exposure, and other pertinent information. The person is eligible to receive post-exposure medical evaluation and treatment.

Biohazardous containers are red, and have the biohazard emblem. Any material contaminated with blood or other body fluids must be placed in the biohazardous-labeled bag or container.

A sharps container must be used for safe disposal of used, sharp objects. Sharps containers must be leak proof, resistant to puncture, able to be securely closed and be labeled with the biohazard warning emblem.