



Bloodborne Pathogen Training for School Staff

January 2016

The information contained in this presentation represents a compilation of best practice standards and policies that are consistent with the Ohio Revised Code and Occupational Safety & Health Administration (OSHA) regulations. It is important to note that each local board of education has the authority to develop school policies and procedures specific to its school district. The information in this resource is not meant to supersede local school board policies. Further, the inclusion of information, addresses or websites for particular items does not reflect their significance, nor is it intended to endorse any views expressed or products or services offered.



Training objectives

Provide a basic understanding of:

- Bloodborne pathogens (BBPs)
- Common modes of transmission of BBPs
- Methods to prevent transmission of BBPs
- Information to help school staff maintain compliance with the BBPs standard



Why do I need this training?

Schools are responsible for identifying and educating staff who could be “reasonably anticipated,” as a result of performing their job duties, to be in contact with BBPs.

It is extremely important that you understand and can access your school’s Exposure Control Plan!



When do I need the training?

- At the time of initial assignment to tasks where occupational exposure to BBPs may take place
- At least annually thereafter
 - Annual training for all employees shall be provided within one year of their previous training
- Any time changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure
 - The additional training may be limited to addressing the new exposures created

Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.



Regulatory authority

Occupational Safety & Health Administration (OSHA)

- Federal agency
- Covers private sector employees including private schools

Ohio Public Employee Risk Reduction Program (PERRP)

- Ohio Bureau of Workers' Compensation
- Covers public sector employees including public schools in state, county & local districts

These prescribe safeguards to protect workers against the health hazards from exposure to blood & other potentially infectious materials. *Standards in schools apply only to staff, not students.*



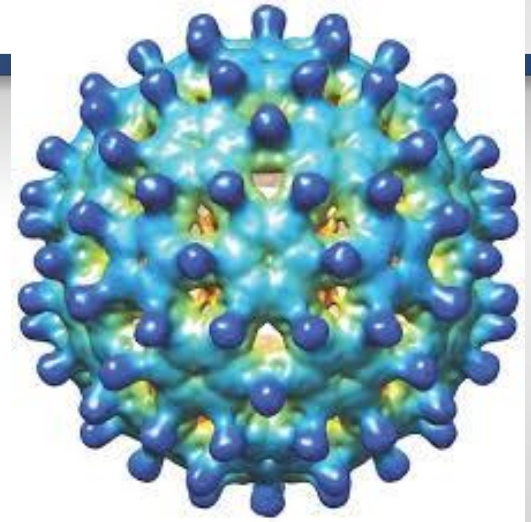
What are bloodborne pathogens (BBPs)?

- Pathogenic microorganisms that are present in human blood and can cause disease in humans
- The most common BBPs are:
 - Hepatitis B virus (HBV)
 - Hepatitis C virus (HCV)
 - Human immunodeficiency virus (HIV)



Hepatitis B virus (HBV)

- Causes inflammation of the liver
- Is the most infectious BBP
- Can survive outside the body for up to a week



Vaccination for HBV is available and very effective.

HBV epidemiology – acute 2013

- Estimated new cases in the U.S. - 19,800 (11,300-48,500)
- Highest rates
 - Persons aged 30–39 years
 - Males (rate is approximately 1.7 times higher than that for females)
 - Non-Hispanic Blacks
- Lowest rates
 - Children and adolescents aged <19 years
 - Asians/Pacific Islanders



HBV epidemiology – chronic 2013

- Estimated number of cases in the U.S. - 700,000- 1.4 million
- Cause of death with HBV as an underlying or contributing cause – 1,873



HBV symptoms

- Fever
- Fatigue
- Loss of appetite
- Nausea
- Vomiting
- Abdominal pain
- Dark urine
- Clay-colored bowel movements (pale stools)
- Joint pain
- Jaundice (A condition in which the skin and the whites of the eyes turn yellow in color)



Some people have no symptoms at all!

Transmission

HBV is transmitted through activities that involve percutaneous (i.e., puncture through the skin) or mucosal contact with infectious blood or body fluids, including:

- Sex with an infected partner
- Injection drug use that involves sharing needles, syringes or drug-preparation equipment
- Birth to an infected mother
- Contact with blood or open sores of an infected person
- Needle sticks or sharp instrument exposures
- Sharing items such as razors or toothbrushes with an infected person

HBV is not spread through food or water, sharing eating utensils, breastfeeding, hugging, kissing, hand holding, coughing or sneezing.



HBV vaccine

The HBV vaccine series must be offered at no cost to all staff who are at risk of an occupational exposure to blood or other potentially infectious materials (OPIM)

- Staff considered at risk should be notified by the district
- Vaccination is a series of three intramuscular injections over six months, with relatively few side effects



HBV vaccine must be:

- Made available to the employee at a reasonable time and place
- Performed by or under the supervision of a licensed physician or another licensed healthcare professional
- Provided according to current recommendations of the U.S. Public Health Service

If any laboratory testing is done, the employer shall ensure that the tests are conducted by an accredited laboratory at no cost to the employee.



School districts are required to offer the vaccine, but staff are not required to accept the vaccination.

- HBV vaccination shall be made available to all employees who have occupational exposure after the required BBP training and within 10 working days of initial assignment unless the employee has:
 - Previously received the complete HBV vaccination series
 - Antibody testing has revealed that the employee is immune
 - The vaccine is contraindicated for medical reasons
- Employees are not required to participate in an antibody prescreening program to receive the vaccination series
- If routine boosters are later recommended by the U.S. Public Health Service, the employer shall provide them to employees



What if an employee refuses the HBV vaccine?

- Any employee who declines the vaccine must sign a declination statement
- If the employee initially declines HBV vaccination but at a later date while still covered under the standard decides to accept the vaccination, the employer shall make available HBV vaccination at that time



Hepatitis C virus (HCV)

- Causes inflammation of the liver
- Can lead to chronic liver disease and death
- Can survive outside the body at room temperature, on environmental surfaces, for up to 3 weeks



There is no vaccine available for HCV.



HCV epidemiology – acute 2013

- Estimated new cases in the U.S. - 29,700 (23,500-101,400)
- Highest rates
 - Persons aged 20–29 years
 - American Indians/Alaska Natives
- Lowest rates
 - persons aged ≥ 60 years
 - Asians/Pacific Islanders
- Males and females have similar rates



HCV epidemiology – chronic 2013

- Estimated number of cases in the U.S. - 2.7- 3.9 million
- Cause of death with HCV as an underlying or contributing factor – 19,368
 - Current information indicates that these represent a fraction of deaths attributable in whole or in part to chronic HCV
- Infection is most prevalent among those born during 1945–1965, the majority of whom were likely infected during the 1970s and 1980s when rates were highest



HCV symptoms - acute

- Fever
- Fatigue
- Dark urine
- Clay-colored stool
- Abdominal pain
- Loss of appetite
- Nausea
- Vomiting
- Joint pain
- Jaundice



Persons with newly acquired HCV infection usually are asymptomatic or have mild symptoms.

HCV symptoms - chronic

- Chronic liver disease
 - Can range from mild to severe, including cirrhosis and liver cancer
 - Usually insidious, progressing slowly without any signs or symptoms for several decades
- HCV infection is often not recognized until asymptomatic persons are identified as HCV-positive when screened for blood donation or when elevated alanine aminotransferase (ALT, a liver enzyme) levels are detected during routine examinations



Most persons with chronic HCV infection are asymptomatic.

Transmission

HCV is transmitted primarily through large or repeated percutaneous (i.e., passage through the skin) exposures to infectious blood, such as through:

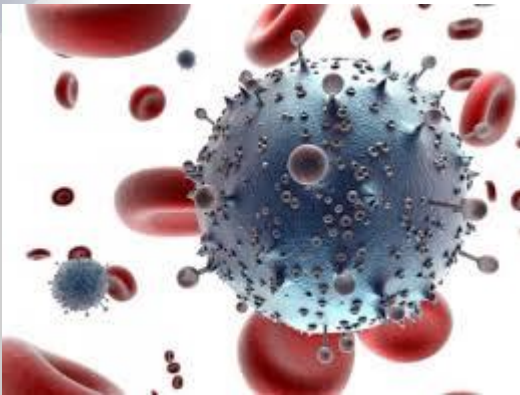
- Injection drug use (currently the most common means of HCV transmission in the U.S.)
- Receipt of donated blood, blood products, and organs (once a common means of transmission but now rare in the U.S. since blood screening became available in 1992)
- Needlestick injuries in health care settings
- Birth to an HCV-infected mother

HCV is not spread by sharing eating utensils, breastfeeding, hugging, kissing, holding hands, coughing or sneezing. It is also not spread through food or water.



Human immunodeficiency virus (HIV)

- Attacks the immune system & can cause the disease known as AIDS



HIV epidemiology

- About 50,000 people get infected with HIV each year
 - In 2010, there were around 47,500 new HIV infections in the U.S.
- About 1.2 million people in the U.S. were living with HIV at the end of 2012
 - Of those people, about 12.8% do not know they are infected
- About 13,712 people diagnosed with AIDS in the U.S. died in 2012
 - HIV disease remains a significant cause of death for certain populations
 - To date, an estimated 658,507 people diagnosed with AIDS in the U.S. have died



HIV symptoms

- Acute infection:
 - Flu-like symptoms (fever, chills, rash, night sweats, muscle aches, sore throat, fatigue, swollen lymph nodes, or mouth ulcers) lasting a few weeks
- Clinical latency (HIV inactivity or dormancy):
 - Often no symptoms

A person with HIV may carry the virus without developing symptoms for 10 years or more.



HIV symptoms

AIDS:

- Chills
- Fever
- Sweats
- Swollen lymph glands
- Weakness
- Weight loss
- Opportunistic infections



HIV transmission

In the U.S., HIV is spread mainly by:

- Having sex with someone who has HIV
 - Anal sex is the highest-risk sexual behavior
 - Vaginal sex is the second highest-risk sexual behavior
 - Having multiple sex partners or having other sexually transmitted infections can increase the risk of infection through sex
- Sharing needles, syringes, rinse water, or other equipment (works) used to prepare injection drugs with someone who has HIV



HIV is not transmitted through casual contact, insects, air or water. Contact with saliva, sweat, urine, feces or tears has never been found to transmit HIV. Transmission through blood transfusions is rare.

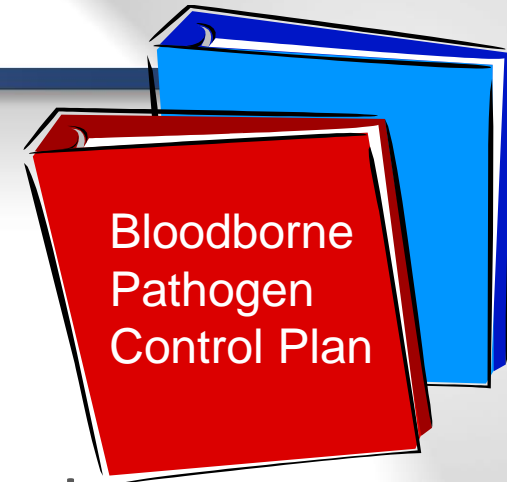
Other ways BBPs can enter your body

BBPs can be transmitted when there is direct contact with blood or OPIM of an infected person such as:

- Blood entering open cuts, wounds or skin abrasions
- Blood splashing into the eyes, nose or mouth (mucous membranes)



Exposure Control Plan



Written plan to eliminate or minimize employee exposure to BBPs must include:

- Staff at risk
- Jobs and tasks at risk
- Vaccination program
- Engineering and work practice controls
- Use of personal protective equipment
- Post exposure incident procedure

The plan must be accessible!



Potential risk of exposure

Jobs:

- School nurses
- Coaches & athletic trainers
- Custodians
- Secretaries

Tasks:

- Illness/injury care
- Caring for sports injuries
- Cleaning up bloody waste
- Performing first aid



Engineering & work practice controls

Methods that eliminate or minimize the chance of an exposure to BBPs including:

- Universal precautions
- Hand washing
- Sharps containers

When occupational exposure risk remains, personal protective equipment (PPE) must be used.



Universal precautions

An approach to infection control where all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV and other BBPs.

- Assist in the prevention of contact with blood and OPIM
- Provide the first line of defense against the risks of exposure to BBPs



Universal precautions

Apply when:

- There is a possibility of coming in contact with:
 - Blood
 - OPIM

Do not apply:

- To the following unless blood is visible:
 - Feces
 - Urine
 - Sweat
 - Nasal secretions
 - Vomit
 - Sputum
 - Tears



Handwashing

Wash hands before:

- Eating
- Assisting with personal hygiene



Wash hands after:

- Any contact with blood, OPIM or soiled objects
- Using the toilet
- Assisting with personal hygiene
- Removal of gloves or other PPE

This is the single most important technique for preventing the spread of infectious diseases.



START →



1. Wet hands



2. Soap
(20 seconds)



3. Scrub backs
of hands, wrists,
between fingers,
under fingernails.

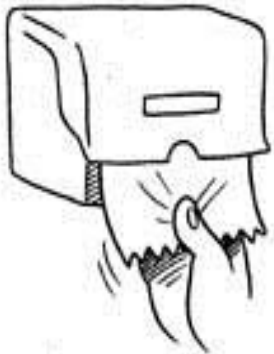


4. Rinse

HAND WASHING STEPS



6. Turn off
taps with
towel



5. Towel dry

Handwashing technique

- Use soap & water to wash hands when available
- Always use soap & water if hands are visibly soiled



Alcohol-based hand sanitizers

- Apply to palm of one hand
- Rub hands together
- Rub the product over all surfaces of hands and fingers until hands are dry



Remember: If hands are visibly soiled, wash with soap & water!

Personal Protective Equipment (PPE)

Specialized clothing or equipment that provides protection against infectious material that includes:

- Gloves
- Gowns
- Eye protection
- Resuscitation devices



PPE in the school

- Provided at no cost to staff
- Must be accessible
- Determined by the task being performed



PPE guidelines: gloves

- Wear gloves when contact with potentially infectious materials is anticipated
- Check gloves before use (no small holes, tears, cracks)
- Remove contaminated gloves before leaving the work area
- Wash hands after removing gloves
- Never reuse disposable gloves



Types of gloves than can be used include vinyl, latex, neoprene or utility gloves.

Glove removal demonstration



Step 1



Step 2



Step 3



Step 4



Step 5

Disposing of sharps

- All contaminated sharps are discarded as soon as feasible in a designated sharps container
- Containers will be found where sharps are used
- Disposal is regulated by the Ohio Environmental Protection Agency (EPA)



Signs and labels

- Check for the biohazard sign which warns that the container holds blood or OPIM
- Staff responsible for biohazard waste disposal will be informed of the district policy
- Waste such as bloody tissues can be disposed of in plastic-lined trash cans and do not need a biohazard label



Appropriate disinfectants

Some commercially available solutions will effectively disinfect surfaces and equipment.

- Appropriate disinfectants include:
 - Diluted bleach solution
 - EPA-registered tuberculocides
 - Sterilants registered by EPA
 - Products registered against HIV/HBV
 - Sterilants/ High Level Disinfectants cleared by the FDA

Store cleaners according to label instructions.



Household chlorine bleach:

- Use a 10% bleach solution (follow instructions on the container to get this dilution)
- Make a fresh solution every 24 hours



Cleaning up and decontamination

- Clean and decontaminate all equipment and environmental and working surfaces after contact with blood or OPIM
- Take your time and be careful
- Avoid splashing contaminated fluids
- Wear appropriate PPE



Cleaning up and decontamination

- Apply gloves
- Absorb spill
- Apply 10% bleach solution or approved disinfectant
- Let solution sit for appropriate time
 - Follow instructions on label



What is an exposure incident?

A specific incident, while providing job duties, that results in blood or OPIM “getting in” through:

- Non-intact skin
- Mucous membranes (eyes, nose, mouth)
- Parenteral route



What to do if an exposure occurs

- Immediately:
 - Wash the exposed area with soap & water
 - Flush splashes to nose, mouth or skin with water
 - Irrigate eyes with water or saline
- Report the incident according to your district Exposure Control Plan

The district will provide for additional medical evaluation and treatment, if needed, at no cost to the staff member.



BBP training

Must be completed:

- Annually
- Any time your job duties change and put you at higher risk of exposure

See you next year!



QUESTIONS ?



References/Resources

- School District Exposure Plan
- OSHA BBP Safety & Health Topics
<http://www.osha.gov/SLTC/bloodbornepathogens/index.html>
- OSHA BBP Standard:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051
- Ohio Public Employment Risk Reduction Program:
<https://www.bwc.ohio.gov/employer/programs/safety/SandHPERRP.asp>
- Centers for Disease Control and Prevention: <http://www.cdc.gov>
- Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hamborsky J, Kroger A, Wolfe S, eds. 13th ed. Washington D.C. Public Health Foundation, 2015.



References/Resources continued

- <http://www.cdc.gov/cleanhands/>
- <http://www.cdc.gov/hepatitis/index.htm>
- <http://www.cdc.gov/hiv/basics/index.html>



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