

BLOODBORNE PATHOGENS

Online Training for Transylvania County School Employees

Transylvania County Schools requires new employees to receive training for Blood Borne Pathogens. If you are a new employee taking this training for the first time, please complete the test online and arrange to meet with school nurse if you have questions.

This training module is designed to provide a basic understanding of blood borne pathogens, common modes of their transmission, methods of prevention, and other pertinent information. This program is designed to meet the requirements of the Occupational Exposure to Blood Borne Pathogens (OSHA's) Blood Borne Pathogen Standard, [1910.1030](#). For additional information related to blood borne pathogens, please refer to the Transylvania County Schools Blood Borne Pathogen Exposure Control Plan. A copy of this plan should be available in each school. If this plan is not readily available, please let your school nurse know and a copy will be provided.

Bloodborne Diseases

Bloodborne pathogens (BBP) are microorganisms such as viruses or bacteria that are carried in blood and can cause disease in people. There are many different bloodborne pathogens including malaria, syphilis, and brucellosis, but *Hepatitis B (HBV)*, *Hepatitis C (HCV)*, and the *Human Immunodeficiency Virus (HIV)* are the focus of this training due to the prevalence, severity, and 'transmit ability' of these infections.

Your risk for contracting one of these viruses at school is low, most likely because the contact with blood is infrequent. However, when the need arises, you must be prepared to deal with blood safely.

Hepatitis B (HBV)

Hepatitis B is a highly infectious virus that infects the liver. While there are several different types of Hepatitis, Hepatitis B is transmitted primarily through "blood to blood" contact. Hepatitis B initially causes inflammation of the liver, but it can lead to more serious conditions such as cirrhosis and liver cancer.

While most people infected with HBV recover and clear the infection, some become chronically infected. There is no "cure" or specific treatment for HBV, but many people who contract the disease will develop antibodies, which help them get over the infection and protect them from getting it again. It is important to note, however, that there are different kinds of hepatitis, so infection with HBV will not stop someone from getting another type.

The HBV poses a greater risk for you at school than HCV, & HIV since it is transmitted more easily. The Hepatitis B virus is very durable, and it can survive in dried blood for up to seven days.

Symptoms:

The symptoms of HBV are very much like a mild "flu". Initially there is a sense of fatigue, possible stomach pain, loss of appetite, and even nausea. As the disease continues to develop, jaundice (a distinct yellowing of the skin and eyes), and a darkened urine will often occur. However, people who are infected with HBV will often show no symptoms for some time. After exposure it can take **1-9 months** before symptoms become noticeable. Loss of appetite and stomach pain, for example, commonly appears within 1-3 months, but can occur as soon as 2 weeks or as long as 6-9 months after infection.

Human Immunodeficiency Virus (HIV)

HIV attacks the immune system causing it to break down. The clinical picture of HIV infection varies widely from person to person. **AIDS**, or acquired immune deficiency syndrome, is caused by human immunodeficiency virus, or HIV. Once a person has been infected with HIV, it may be many years before AIDS actually develops. HIV attacks the body's immune system, weakening it so that it cannot fight other deadly diseases. AIDS is a fatal disease, and while treatment for it is improving, there is no known cure.

Estimates on the number of people infected with HIV vary, but some estimates suggest that an average of 35,000 people are infected every year in the US (in 2000, 45,000 new infections were reported). It is believed that as of 2000, 920,000 persons were living with HIV/AIDS in the United States. These numbers could be higher, as many people who are infected with HIV may be completely unaware of it.

The HIV virus is very fragile and will not survive very long outside of the human body. HIV is very susceptible to common disinfectants. It is primarily of concern to employees providing first aid or medical care in situations involving fresh blood or other potentially infectious materials. It is estimated that the chances of contracting HIV in a workplace environment are only 0.4%. However, because it is such a devastating disease, all precautions must be taken to avoid exposure.

AIDS infection essentially occurs in three broad stages. The **first stage** happens when a person is actually infected with HIV. After the initial infection, a person may show few or no signs of illness for many years. Eventually, in the **second stage**, an individual may begin to suffer swollen lymph glands or other lesser diseases, which begin to take advantage of the body's weakened immune system. The second stage is believed to eventually lead to AIDS, the **third and final stage**, in all cases. In this stage, the body becomes completely unable to fight off life-threatening diseases and infections.

Symptoms:

Symptoms of HIV infection can vary, but often include weakness, fever, sore throat, nausea, headaches, diarrhea, a white coating on the tongue, weight loss, and swollen lymph glands.

Hepatitis C Virus (HCV)

Hepatitis C Virus (HCV) also causes a serious liver disease with symptoms similar to Hepatitis B infection. However these two diseases have important differences. HCV represents the most common *chronic* bloodborne pathogen in the United States. The CDC reports that 75-85% of those infected with HCV become chronically infected compared to HBV with only 10% chronically infected. Up to 80% of people infected with HCV have no symptoms compared to about 50% of those infected with HBV. According to the CDC, 70% of people infected with HCV develop chronic liver disease; 10-20% develop cirrhosis of the liver; 1-5% die from complications (liver cancer or cirrhosis).

Is it serious?

As many as 85% never fully recover and carry the virus the rest of their life. Approximately 25,000 become infected in the United States each year with around 4,000 of the infections being symptomatic. Symptoms include jaundice, fatigue, dark urine, abdominal pain, loss of appetite, nausea.

HCV can be prevented with proper precautions. There is currently no cure and no vaccine for HCV. Newly approved antiviral drugs have been effective in some people. HCV cannot reproduce outside the body. Transmission occurs when blood or body fluids from an infected person enters the body of a person who is not infected. The risk for contracting HCV in the school setting is very low. However, consideration of HCV is important due to the seriousness of the infection.

If you believe you have been exposed to HBV, HIV, or HCV, especially if you have experienced any of the signs or symptoms of these diseases, you should consult your physician or doctor as soon as possible.

Modes of Transmission

Bloodborne pathogens such as HBV, HIV, and HCV are spread most easily through direct contact with infected human **blood** and **other potentially infectious body fluids** such as:

- Semen
- Vaginal secretions
- Any body fluid that is visibly contaminated with blood.

At work you can be exposed to BBP if:

- Blood or other potentially infectious body fluids contact your broken skin (open sores, cuts, abrasions, acne) or the mucous membranes of your eyes, nose or mouth.
- A contaminated sharp object punctures your skin.

You cannot become infected with these viruses through casual contact, coughing, sneezing, a kiss on the cheek, a hug or from drinking fountains or food. Feces, urine, vomit, nasal secretions, sputum, sweat, tears and saliva are not included as being potentially infectious unless they contain visible blood.

How to Protect Yourself from Exposure

PPE, Work Practices & Engineering Controls

The Transylvania County School System has an [Exposure Control Plan](#) (click link to review). It details risks and protective measures for BBP related to each specific job title within the school system. The protective measures that apply to everyone are the use of gloves and good hand washing. It is extremely

important to use personal protective equipment and work practice controls to protect yourself from bloodborne pathogens.

"Universal Precautions" is the name used to describe a prevention strategy in which all blood and potentially infectious materials are treated as if they are, in fact, infectious, regardless of the perceived status of the source individual. In other words, whether or not you think the blood/body fluid is infected with bloodborne pathogens, *you treat it as if it is*. This approach is used in all situations where exposure to blood or potentially infectious materials is possible.

Personal Protective Equipment

Probably the first thing to do in any situation where you may be exposed to bloodborne pathogens is to ensure you are wearing the appropriate personal protective equipment (PPE). Wearing gloves is a simple precaution you can take in order to prevent blood or potentially infectious body fluids from coming in contact with your skin.

When you are faced with a bleeding student or co-worker, take a minute to collect yourself. Be calm and reassure the victim. If you are in a situation where a student or co-worker requires basic first aid measures, take the extra time to put gloves on. If possible, you may hand the student a cloth to control bleeding themselves until you can obtain the personal protective equipment that is needed per situation. If the student is unable to do this, there should still be ample time to apply gloves prior to any added harm coming as a result of the extra time it takes to glove up!

Extra gloves are available in each school's office.

To protect yourself, it is essential to have a barrier between you and the potentially infectious material.

Rules to follow:

- Always wear personal protective equipment in exposure situations.
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to bloodborne pathogens.
- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.

Red Biohazard bags are available in each school. As long as there are 20cc's or less of blood, the contaminated item can be thrown in a regular trash bag. If more than 20cc's (dripping or saturated), a red trash bag should be used.

Gloves



If you know you have cuts or sores on your hands, you should cover these with a bandage or similar protection as an additional precaution before putting on gloves.

You should have a pair of gloves in your workspace at all times. If you do not please see your building supervisor immediately to get a pair. You should always inspect your gloves for tears or punctures before putting them on. **If a glove is damaged, don't use it!** When taking contaminated gloves off, do so carefully. Make sure you don't touch the outside of the gloves with any bare skin, and be sure to dispose of them in a proper container so that no one else will come in contact with them, either.

Always check your gloves for damage before using them



Normal clothing that becomes contaminated with blood should be removed as soon as possible because fluids can seep through the cloth to come into contact with skin. Contaminated laundry should be handled as little as possible, and it should be placed in an appropriately labeled bag or container until it is decontaminated, disposed of, or laundered.

Remember to use universal precautions and treat all blood or potentially infectious body fluids as if they are contaminated. Avoid contact whenever possible, and whenever it's not, wear personal protective equipment. If you find yourself in a situation where you have to come in contact with blood or other body fluids and you don't have any standard personal protective equipment handy, you can improvise. Use a towel, plastic bag, or some other barrier to help avoid direct contact.

Hygiene Practices



Handwashing is one of the most important (and easiest) practices used to prevent transmission of bloodborne pathogens. Hands or other exposed skin should be thoroughly washed as soon as possible following an exposure incident. Use of antibacterial soap is not required but soft regular hand soap is best. Avoid harsh, abrasive soaps, as these may open fragile scabs or other sores.

Hands should also be washed immediately (or as soon as feasible) after removal of gloves or other personal protective equipment.

Because handwashing is so important, you should familiarize yourself with the location of the handwashing facilities nearest to you. If you are working in an area without access to such facilities, you may use an antiseptic cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. If these alternative methods are used, hands should be washed with soap and running water as soon as possible.

If you are working in an area where there is reasonable likelihood of exposure, **you should never:**

- **Eat**
- **Drink**
- **Smoke**
- **Apply cosmetics or lip balm**
- **Handle contact lenses**

No food or drink should be kept in refrigerators, freezers, shelves, cabinets, or on counter tops where blood or potentially infectious materials are present.



Decontamination and Sterilization

All surfaces, tools, equipment and other objects that come in contact with blood or potentially infectious materials must be decontaminated and sterilized as soon as possible. Reusable trash containers must be cleaned on a regular basis and after contamination. Gloves must always be worn for cleaning spills of blood and/or other potentially infectious materials. **Equipment and tools must be cleaned and decontaminated before servicing or being put back to use.**

Decontamination should be accomplished by using

- A fresh mixture of bleach and water in a 1:10 ratio. (1 part bleach and 9 parts water) This is adequate to sterilize or disinfect items contaminated with blood or other potentially infectious material. Fresh solutions should be made every 24 hours. Bleach is available in each school's office.
- [Lysol or some other EPA-registered tuberculocidal disinfectant](#). Check the label of all disinfectants to make sure they meet this requirement. Keep in mind that aerosol disinfectants should be used away from students to avoid any potential allergy or asthma triggers.

If you are cleaning up a spill of blood, you can carefully cover the spill with paper towels or rags, then gently pour the 10% solution of bleach over the towels or rags, and leave it for *at least 10 minutes*. This will help ensure that any bloodborne pathogens are killed before you actually begin cleaning or wiping the material up. By covering the spill with paper towels or rags, you decrease the chances of causing a splash when you pour the bleach on it.

If you are decontaminating equipment or other objects upon which someone has been cut, you should leave the disinfectant in place for *at least 10 minutes* before continuing the cleaning process.

Of course, any materials you use to clean up a spill of blood or potentially infectious materials must be decontaminated immediately, as well. This would include mops, sponges, re-usable gloves, buckets, pails, etc.

Needles shall be disposed of in labeled sharps containers only.

- Sharps containers shall be closable, puncture-resistant, leak-proof on sides and bottom, and must be labeled or color-coded.
- Sharps must be discarded immediately after use in a sharps container that is readily at hand. Do not walk used sharps down the hall or to another room to discard. The container should be in the same area where a sharp was used. Do NOT re-cap needles prior to discarding them, or for any other reason.
- When sharps containers are being moved from the area of use, the containers should be closed immediately before removal or replacement to prevent spillage or protrusion of contents during handling or transport.

Broken Glassware

- Broken glassware that has been visibly contaminated with blood must be sterilized with an approved disinfectant solution before it is disturbed or cleaned up.
 - Glassware that has been decontaminated may be disposed of in an appropriate sharps container: i.e., closable, puncture-resistant, leak-proof on sides and bottom, with appropriate labels. (Labels may be obtained from the school nurse or custodians.)
- Broken glassware will not be picked up directly with the hands. Sweep or brush the material into a dustpan.
 - Uncontaminated broken glassware may be disposed of in a closable, puncture resistant container such as a cardboard box or coffee can.

By using Universal Precautions and following these simple work practice controls, you can protect yourself and prevent transmission of bloodborne pathogens.

Exposure Procedures

If you are exposed, you should:

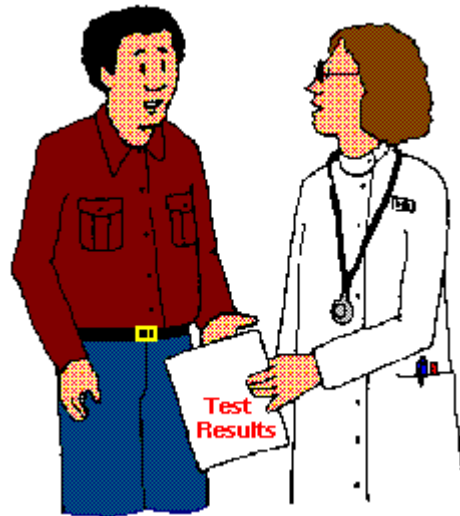
1. Wash the exposed area thoroughly with soap and running water. Use non-abrasive, antibacterial soap if possible.

If blood is splashed in the eye or mucous membrane, flush the affected area with running water for at least 15 minutes.

2. Report the exposure to the school principal and safe school director immediately for evaluation.
3. Following the report of an exposure incident Transylvania County Schools will make immediately available to the exposed employee a confidential medical evaluation and follow-up. Report to the local Emergency Room as soon as possible for evaluation. Preferably within two hours. If there is any uncertainty regarding exposure, you may call the Transylvania County Public Health Center for advice. You may request to be tested at the school system's expense, provided that the suspected exposure poses a significant risk of transmission as defined in the rules of the Commission for Health Services.

A confidential evaluation will include:

- Documentation of the route(s) of exposure and the circumstances under which the exposure incident occurred.
- Completion of an Incident Report: Employee Exposure to BBP
- Testing of the source individual's blood for HBV & HIV as soon as feasible and after consent is obtained. (Those results will be made available to the exposed employee.)
- Collection of your blood as soon as feasible and testing for presence of HBV & HIV after your consent is obtained.



- Administer post exposure prophylaxes, when medically indicated, as recommended by the US Public Health Service.

Apart from the circumstances surrounding the exposure itself, all other findings or diagnosis will remain entirely confidential.

Hepatitis B Vaccinations

The Hepatitis B Vaccine **prevents** HBV infection. It is offered, at no cost, to all employees who have occupational risk exposure. This vaccine is covered 100% by state health insurance through Blue Cross and Blue Shield. If you are new employee and have received the Hepatitis B Vaccinations please upload a copy of this with your quiz.

If you are exposed to blood or potentially infectious materials on the job, you may request a Hepatitis B vaccination at that time. If the vaccine is administered immediately after exposure it is extremely effective at preventing the disease.

The Hepatitis B vaccination is given in a series of three shots. The second shot is given one month after the first, and the third shot follows five months after the second. This series gradually builds up the body's immunity to the Hepatitis B virus. There is no danger of contracting the disease from getting the shots, and, once vaccinated, a person does not need to receive the series again. There are booster shots available, however, and in some instances these may be recommended (for example, if there is an outbreak of Hepatitis B at a particular location).

All employees are encouraged to receive the vaccinations. However it is recommended for employees who hold at-risk positions with a potential risk of occupational exposure to blood or other potentially infectious materials. Such as:

Bus Drivers

E.C. Teachers/Assistants

Secretaries

Coaches/Trainers

P.E. Teachers/Assistants

Shop Teachers

Wrap around workers Custodians

Pre-K Teachers/Assistants

Hepatitis B is the **only** blood borne illness with a vaccination available for protection

**Local Education Agencies
EXPOSURE CONTROL PLAN**

Date: August 2, 1993

Revised: October 24, 2011

Name of Employer: Transylvania County Schools
Hereinafter referred to as "Employer"

Address: 225 Rosenwald Lane Brevard, NC 28712
Street City State Zip

Contact Person: Superintendent/designee

Phone Number: 828-884-6173

FAX Number: 828-884-9524

Exposure Determination

Definitions

For the purpose of this plan, **Occupational Exposure** means any reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's assigned work or duties.

Jobs and procedures are *based on risks incurred without use of personal protective equipment.*

Universal Precautions shall be observed to prevent contact with blood or other potentially infectious materials. In case of emergency or accidents, all blood and body fluids shall be handled as if infectious.

Identification of Job Classifications

All of the following employees in these classifications are considered to have occupational exposure:

1. Classroom teachers and assistants of developmentally disabled students (TMD classroom)
2. Bus drivers and bus monitors of TMD students
3. Director of Plant Operations
4. Secretary for Plant Operations
5. Classroom teachers and assistants of known Hepatitis A (HAV), Hepatitis B Virus (HBV) and/or Hepatitis C Virus (HCV) infected students
6. Coaches
7. Physical Education teachers
8. Athletic trainers

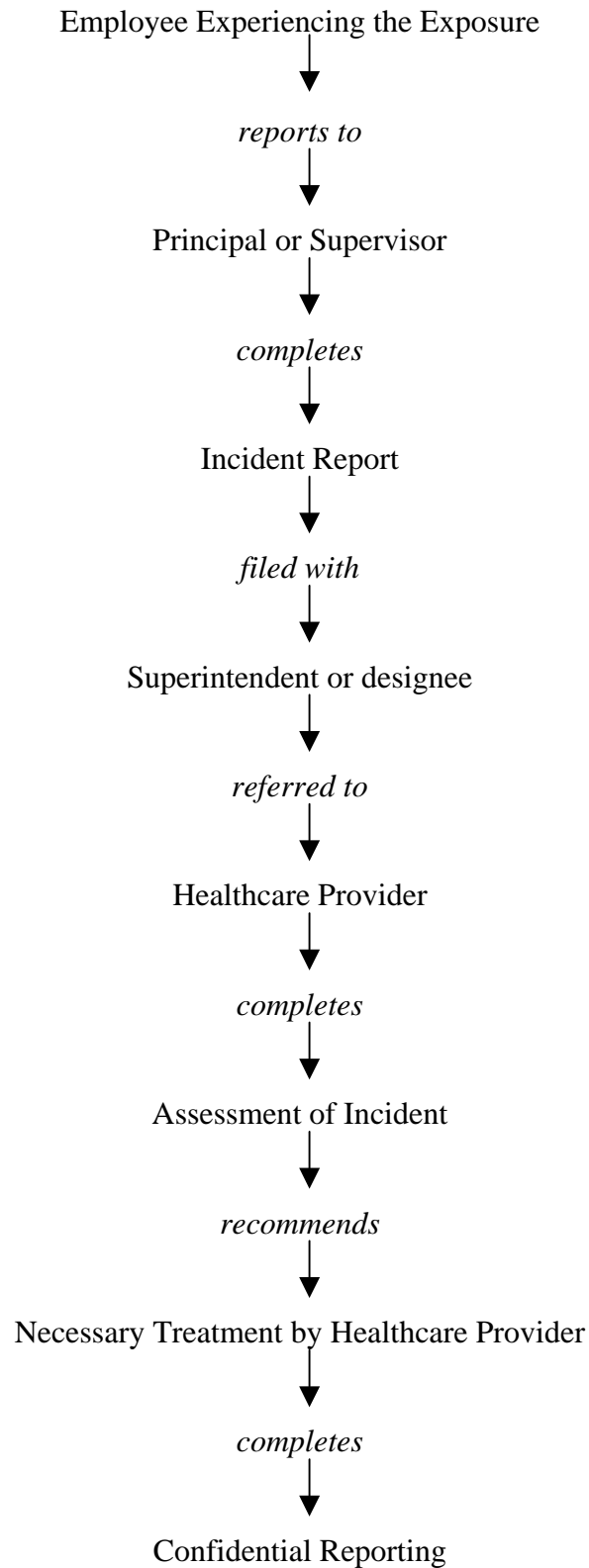
Some of the employees in these job classifications are considered to have occupational exposure:

1. Custodians (designated per school)
2. Principal or Assistant Principal whose job description deems that they are responsible for or may be considered at “reasonably anticipated occupational exposure” (or Principal Designee)
3. Health Occupations teachers (Allied Health Science teachers)

The following job classifications have been identified as having all employees at risk or some employees at risk due to exposure required by their job duties. This table outlines the tasks that put them at risk, and the protective barriers or engineering controls to be used.

Job Classifications at Risk	Tasks Causing Risks	Protective Barrier/ Engineering Control
Teachers and assistants of developmentally disabled students (TMD classroom)	Assisting with personal hygiene	Gloves, HBV vaccination; HAV vaccination recommended
Director of Plant Operations	Repairing sewage lines, close contact with exposed equipment	Gloves and protective equipment, HBV vaccination; HAV vaccination recommended
Secretary for Plant Operations	Close contact with exposed equipment	Gloves and protective equipment, HBV vaccination
Bus drivers and monitors of TMD students	Assisting with personal hygiene	Gloves, HBV vaccination
Athletic trainers	Providing first aid to bleeding athletes	Gloves, fluid clean-up kits, HBV vaccination; HAV vaccination recommended
Custodians	Designated to clean up body fluid spills	Gloves, fluid clean-up kits and materials, HBV vaccination
Principals and/or Assistant or Designee	Job description may be considered at occupational risk	Gloves, HBV vaccination
Health Occupations/Allied Health Science teachers	Assisting with personal hygiene	Gloves and protective equipment, HBV vaccination
Coaches	Providing first aid to bleeding athletes	Gloves, fluid clean-up kits and materials, HBV vaccination
Physical Education teachers	Providing first aid to bleeding athletes	Gloves, fluid clean-up kits and materials, HBV vaccination

Transylvania County Schools Post-Exposure Sequence of Events



CONFIDENTIAL

Employee Bloodborne Pathogen Exposure Incident Report

Date: _____

Employee's Name: _____

Address: _____

Phone Number: _____

Social Security Number: _____

Title: _____

Describe circumstances under which exposure incident occurred:

Route of exposure (percutaneous, skin, mucous membrane):

Hepatitis B history (date of vaccinations):

Antibody history: _____ Sufficient _____ Insufficient Date: _____

Type of body fluid to which you were exposed:

_____ Blood _____ Other (identify) _____

SOURCE OF EXPOSURE INFORMATION:

Name: _____

Address: _____

Phone Number: _____

HIV status/HAV status/HBV status/HCV status/ Known risk factors to HIV/HAV/HBV/HCV:

Personal Physician, Address and Phone Number: _____

Did anyone witness incident? _____ Name: _____

Were appropriate work practices and/or personal protective equipment in use at time of incident?

_____ Yes _____ No

Explain: _____

_____ Employee referred to physician of choice
(Employee must have Post-Exposure Form [GBEA-E: A-13] filled out by physician.)

Seen by physician: _____

Office: _____ Emergency Room: _____ Other: _____

_____ Employee declined to be seen by physician
(Employee must sign Refusal of Post-Exposure Medical Evaluation)

Signature of Employee _____ Date _____

Signature of Exposure Control Officer _____ Date _____