Section 1: Bloodborne Pathogens: Course Overview and Key Topics

Screen 1

Bloodborne Pathogens Training

Screen 2

The purpose of this module is to educate school staff members about exposure to bloodborne pathogens and the exposure control plans to prevent the spread of these diseases. Content was provided by health care professionals from Region 10 Education Service Center and adheres to guidelines provided by the Occupational Safety and Health Administration.

Screen 3

It is very important for you to know the dangers of bloodborne diseases. It is even more important for you to know how to protect yourself and others from catching or spreading the disease. Bloodborne pathogens, such as bacteria and viruses, are present in blood and body fluids and can cause disease in humans.

Bloodborne pathogens are spread primarily through four methods: direct contact, indirect contact, respiratory droplet transmission, and vector-borne transmission.

Direct contact means infected blood or body fluid from one person enters another person’s body at a correct entry site, such as infected blood splashing in the eye.

Indirect contact means a person’s skin touches an object that contains the blood or body fluid of an infected person, such as picking up soiled dressings contaminated with an infected person’s blood or body fluid.

Respiratory droplet transmission means a person inhales droplets from an infected person, such as through a cough or sneeze.

And finally, vector-borne transmission means a person’s skin is penetrated by an infectious source, such as an insect bite.
Before you begin working on a task where you might be exposed to bloodborne pathogens, you should be trained. Training must meet several requirements. It must explain your school's exposure control plan, and it must allow you to ask any questions you have about protecting yourself and others from bloodborne pathogens.

The key topics discussed in this course are: the Exposure Control Plan, methods used to control exposure to blood or body fluids, and the most common bloodborne diseases: Hepatitis B, Hepatitis C, and HIV.

There are several elements of school-specific training concerning bloodborne pathogens. This training must address where you can get a copy of the exposure control plan; school-specific procedures; locations and type of personal protective equipment; and procedures to follow in an emergency involving blood or other potentially infectious materials.

You have completed the course overview lesson. Please close this window and proceed to the next section in the course.
Exposure Control Plan—Parts of the Plan

Screen 1

All schools should develop and implement a bloodborne pathogen exposure control plan. Control plans are rules and procedures designed to reduce the risk of exposure. It is your responsibility to know where that plan is and to be familiar with it.

Screen 2

An exposure control plan should cover at least these areas: purpose of the plan; determining exposure and follow-up after an exposure; and compliance methods.

Screen 3

Disposal of contaminated objects, infection control, laundry procedures, and annual training.

Screen 4

Be sure your facility’s Exposure Control Plan meets OSHA’s criteria. OSHA developed a model template called the Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards. This template includes a guide for creating an exposure control plan.

Screen 5

The link to the Model Plans and Programs template is available in the additional resources folder in this course.

Screen 6

Several precautions, when used by everyone, can greatly reduce your chances of contracting a bloodborne disease. Types of precautions include engineering controls; workplace controls; personal protective equipment (which will be discussed in the next section); housekeeping controls; and the Hepatitis B vaccine.

Engineering, workplace and housekeeping controls include using biohazard bags to dispose of contaminated materials, such as gloves and bandages; marked
plastic bags for soiled clothing to be disposed of or cleaned; sharps disposal containers for items such as needles; biohazard warning labels on any container holding contaminated materials; and processes to clean and disinfect all equipment and work surfaces soiled by blood or body fluids. This solution should contain 1 ½ cups of liquid chlorine bleach to 1 gallon of water and, when applied, it should stand for at least 10 minutes. Soiled boots, leather shoes and other leather goods such as belts, should be scrubbed with soap, a brush, and hot water. Soiled uniforms should be cleaned according to the manufacturer’s instructions.

The Hepatitis B vaccination series should be made available to all employees who have potential occupational exposure within 10 working days of initial assignment, after appropriate training has been completed. However, employees may decide not to have the vaccination. The employer must make the vaccination available if an employee later decides to accept the vaccination.

Screen 7

You have completed this section. Please proceed to section 1.2: Precautions.
Section 1.2: Precautions

Screen 1

[Intro]

Screen 2

It is almost impossible to tell whether or not people carry a bloodborne disease simply by looking at them. They may not even know themselves. The first thing to consider is prevention. Your school is responsible for providing training, personal protective equipment, and the plan for dealing with exposures. You need to know what that exposure control plan is, where the personal protective equipment is located, and how to use it when needed.

Screen 3

To protect yourself and others, you should be concerned about everyone and all situations where blood and body fluids are involved.

Screen 4

Once an emergency is over, the custodial staff should immediately clean up any spills of blood or body fluids, and all contaminated materials need to be disposed of according to the plan.

Screen 5

When cleaning up blood or body fluids use the appropriate personal protective equipment and procedures for disposal of potentially infectious materials.

Screen 6

If you are responsible for cleaning up body fluids, and it is not possible to wash your hands immediately, use antiseptic wipes, and then wash your hands properly as soon as possible.
Even contaminated school laundry should be disposed of according to the plan and only touched with disposable gloves.

In most emergencies, keeping a cool head is important for everyone's safety. Consider all of the potential risks and make sure the right precautions are taken when you act. Think first and gather what you need.

You have completed this section. Please proceed to section 1.3: Personal Protective Equipment.
Section 1.3: Personal Protective Equipment

Screen 1

[Intro]

Screen 2

The importance of personal protective equipment (PPE) cannot be overemphasized. The three most common pieces of equipment are gloves, face masks, and CPR mouthpieces. Other types of protective equipment include eyewear and a gown.

Screen 3

The first and most commonly used PPE is a pair of disposable gloves. To ensure that they are always used, the PPE packets containing disposable gloves should be visible and easy to get to from any location in school. People without gloves should not make contact with bodily fluids.

Before donning a pair of disposable gloves, make sure there are no tears in each glove by blowing into the glove as if you are trying to blow up a balloon. Be sure to cover any cuts, scrapes, or sores you may have with a bandage. Remove jewelry, including rings to prevent tears in the gloves.

Change gloves before providing care to a different victim.

Remove disposable gloves without contacting the soiled part of the gloves and dispose of them in a proper container.

Here are the steps to removing soiled gloves safely:

1) Pinch the first glove at the wrist and pull down, touching only the outside of the glove
2) Ball up the removed glove in the palm of your gloved hand
3) Slide an ungloved finger inside the other glove, touching only the inside with your ungloved finger
4) Peel the second glove off inside out, trapping it in your palm
5) Discard the balled up gloves into a designated receptacle for hazardous waste materials

A video of this can be found in the resources section of the course.
https://www.youtube.com/watch?v=S4gyNAsPCbU
Emergencies can sometimes require the need to perform CPR (cardiopulmonary resuscitation). If you are trained in CPR, you may be able to save someone’s life. Protective mouthpieces ensure that you do not contract a disease while trying to save someone else. You should use one whenever CPR is needed.

If there is any chance that an incident or an activity could lead to the possibility of infectious fluids splashing on you, you should wear protective eyewear and mask.

In the case of a bloody nose, for instance, an upset child may be accidentally spreading blood or other body fluids. This is an example of when eye and face protection might be needed. If the injured persons are able, have them hold pressure on the bleeding area themselves. This can reduce your contact with potentially dangerous body fluids.

Always look for ways to minimize your risk of exposure.

For your own safety and the safety of others, you need to know where the personal protective equipment is located and how to use it before an accident or injury occurs.

You have completed this section. Please proceed to section 1.4: In Case of Exposure.
Section 1.4: In Case of Exposure

Screen 1

[Intro]

Screen 2

If you are exposed to bodily fluids, don’t wait! Wash the contaminated area immediately.

Screen 3

Thoroughly wash your hands and other areas immediately after providing care with soap and water. Use alcohol-based hand sanitizer where hand-washing facilities are not available if your hands are not visibly soiled.

If splashed with blood or potentially infectious material around the mouth or nose, flush the area with water. If splashed in or around the eyes, irrigate with clean water, saline or sterile irrigants for 20 minutes.

Even after careful removal of disposable gloves, wash your hands carefully. Even if the virus did not find a small cut or scrape in your skin, you could still pass it on to someone else.

Screen 4

If you are exposed to contaminated blood or body fluids, you should immediately follow the exposure plan at your school. After following the plan, report the incident to the appropriate person identified in your school’s exposure control plan immediately. Additionally, report the incident to emergency medical services (EMS) personnel who take over care.

In your report, write down the date, time and circumstances of the exposure, any actions taken after the exposure, and any other information required by your employer.
Screen 5

With your consent, your employer will provide a confidential medical evaluation, blood tests, and treatment if necessary, as well as follow-up counseling.

Screen 6

You have completed the unit on Exposure Control Plan.

Screen 7

Please proceed to Quiz 1: Exposure Control Plan.
Part 2: Hepatitis B Virus (HBV)

Screen 1

[Intro]

Screen 2

The purpose of this module is to educate staff members in schools about exposure to Hepatitis B. Content was provided by health care professionals from Region 10 Education Service Center and adheres to guidelines provided by the Occupational Safety and Health Administration.

Screen 3

Hepatitis B Virus

Screen 4

Every day some of those around us, especially children, will have a cut, scrape, or bloody nose. That blood and other body fluids may carry disease.

Screen 5

These diseases, or pathogens, can be spread by contact with blood or other body fluids. The three most common pathogens are the Hepatitis B Virus, Hepatitis C Virus, and Human Immunodeficiency Virus. In this module we will learn the dangers, preventions, and treatment of the Hepatitis B Virus.

Screen 6

Every year in the U.S., Hepatitis B infects over 100,000 people. Many who catch the virus don’t even know they have it until they begin to develop problems in their liver.
The Hepatitis B Virus can cause liver scarring (cirrhosis) or liver cancer, and about one in five people who contract the disease will die.

The good news is that the number of new Hepatitis B infections has dropped by nearly two-thirds since 1980.

The bad news is that there are still 1.25 million Americans with the disease.

The Hepatitis B Virus is usually found in blood, saliva, and semen, and it can stay alive on many surfaces for up to 30 days. Hepatitis B can also be passed from a mother to her unborn child and by unprotected sexual contact.

Some people infected with Hepatitis B will show no symptoms. Others may experience fatigue, joint pain, nausea or vomiting, and loss of appetite.

In the beginning, the signs are similar to the flu but as the disease progresses, the skin and the white of the eye may turn yellowish, a condition called jaundice. In the late stages of liver disease, extreme fatigue sets in and is often accompanied by urine the color of dark tea.

As with any other disease, certain groups of people have a higher chance of catching the disease than others. People with an added risk for Hepatitis B are: people with a sexually transmitted disease; those living in the house of a person with Hepatitis B; children of immigrants from areas with a higher rate of Hepatitis B; hemodialysis patients; health-care workers; and those who work with the developmentally disabled.
Certain behaviors can increase the risk of becoming infected with the Hepatitis B Virus. These risky behaviors include: having multiple sex partners; practicing unprotected sex; men having sex with other men; and intravenous recreational drug use.

Prevention is the key to reducing the number of Hepatitis B cases. There is a vaccine for Hepatitis B that provides protection from the virus. The school is required to provide vaccines for those employees who are at greatest risk for exposure as a result of their work assignment.

For the best protection against Hepatitis B, three vaccinations are required. The injections are usually given over a six-month period. Even when a longer time has expired, the series of vaccinations can be finished without having to start over. In fact, the vaccination is so important that it should be started immediately, even if you have already been exposed.

In addition to avoiding the risk of contracting Hepatitis B, you should clean contaminated areas; use personal protective equipment; and practice good handwashing.

If you are exposed to Hepatitis B, there are actions you should take to protect yourself. These actions include: report to your supervisor; see a physician for the Hepatitis B immune globulin treatment; rest; eat a well-balanced diet; avoid alcohol and other drugs; and have your liver function checked at least once a year.

If you have Hepatitis B, your family will most likely be exposed. The vaccinations are not likely to cure you, but they will help prevent spreading the disease to your family members. Even pregnant women can safely be given the shots, if necessary. Remember, the most important thing we can do is to protect our loved ones and ourselves.
You have completed the Hepatitis B lesson. Please close this window and proceed to the Hepatitis B quiz.
PART 3: HEPATITIS C Virus (HCV)

Screen 1

[Intro]

Screen 2

The purpose of this lesson is to educate school staff members about exposure to Hepatitis C. Content was provided by health care professionals from Region 10 Education Service Center and adheres to guidelines provided by the Occupational Safety and Health Administration.

Screen 3

Every day some of those around us, especially children, will have a cut, scrape or bloody nose. That blood and other body fluids may carry disease. This lesson is to help you understand how to keep yourself and others safe from dangerous illnesses that could be carried in blood or other body fluids. This lesson focuses on Hepatitis C Virus (HCV).

Screen 4

In this lesson, we will discuss why HCV is dangerous, how to prevent infection, and how to treat the Hepatitis C Virus.

Screen 5

Over four million Americans have been infected with Hepatitis C.

Screen 6

Hepatitis C was not identified until 1989. Before then, doctors recognized the symptoms as being like Hepatitis A and B but not the same. Currently, about 9,000 people die from this disease each year.
The graph provided by the US Center for Disease Control shows the incidence of acute Hepatitis C in the United States from 1982–2013. As shown, the number of cases are started to rise again after falling significantly from the early 1990s.

Death from Hepatitis C usually takes 15 to 20 years, so the number of people who die from the disease is expected to triple by 2020.

It is estimated that for every 20 people who have the disease, only one is diagnosed and knows he or she has it. This lack of awareness allows the disease to progress in those already infected and permits unintentional transmission to others.

If one hundred people are diagnosed with Hepatitis C, it is estimated that 80 will be ill the rest of their lives.

Approximately 3 out of 100 people diagnosed with Hepatitis C will die. Those who die usually have liver cancer or cirrhosis, which is scarring and breakdown of the liver.

Only 15% of people will fully recover.

According to the University of Washington, from the onset of HCV infection, cirrhosis of the liver occurs at approximately 20–25 years and death occurs at approximately 25-30 years.
Your liver acts as a filter to clean drugs, alcohol, and other toxins from your body. It helps your immune system fight disease, and even aids in digestion. Hepatitis C causes the liver to swell and these important functions to break down. When the liver can no longer do its job, only a transplant can prevent death.

The virus is so small that 500,000 of them, fitted end-to-end, will only be one inch long. What makes them really dangerous is that they mutate rapidly. Even if your immune system learns to kill the virus you were infected with, its mutated offspring will re-infect you faster than your system can adapt.

The Hepatitis C Virus is usually found in blood, saliva, and semen, and it can stay alive on many surfaces for up to 7 days. Hepatitis C can also be passed from a mother to her unborn child and by unprotected sexual contact. Hepatitis C is especially dangerous because so few of the people with the disease know they have it. Since they believe they are well, they don't take the precautions necessary to prevent spreading the disease. In fact, most people who have the disease have been spreading it for years before they discover it is in them.

Like any other disease, Hepatitis C appears more frequently in certain groups of people. People with an added risk from Hepatitis C are: people who engage in risky behaviors; people who received blood or an organ transplant before 1992; people who have received long-term hemodialysis; hemophiliacs; healthcare workers after needle sticks or fluid splash to the eye; children born to Hepatitis C-positive women; people serving in the military; and people with liver disease.

The highest risk groups are people with hemophilia and injecting drug users.

One in ten people with the disease don't even belong to a high risk group. When the symptoms do appear, they could be any or all of these: fatigue, joint pain, nausea or vomiting, loss of appetite, temperature, abdominal pain, and diarrhea.
Liver damage may be followed by yellowing of the skin and the white of the eye, a condition called jaundice. In the late stages of liver disease, extreme fatigue sets in and is often accompanied by urine the color of dark tea.

Risky behaviors that increase the threat of Hepatitis C virus are multiple sex partners, unprotected sex, and sharing needles.

Prevention is the key to reducing the number of Hepatitis C cases. Remember these rules: Do not participate in risky behaviors, clean contaminated areas, use personal protective equipment, and wash your hands thoroughly after a possible exposure.

There are new treatments for Hepatitis C, but they are very expensive and have many dangerous side-effects. So, if you fit into one of the high-risk groups, you should be checked for the disease and practice prevention.

Prevention is the key!

You have completed Unit 3: Hepatitis C lesson.

Please close this window and proceed to Quiz 3: Hepatitis C.
Part 4: Human Immunodeficiency Virus (HIV)

Screen 1

[Intro]

Screen 2

The purpose of this module is to educate school staff members about exposure to Human Immunodeficiency Virus, or HIV for short. Content was provided by health care professionals from Region 10 Education Service Center and adheres to guidelines provided by the Occupational Safety and Health Administration.

Screen 3

Every day someone around us, especially a child, has a cut, scrape or bloody nose. Bloodborne pathogens or diseases can be spread if you come in contact with blood or other bodily fluids. One of the most common bloodborne pathogens is Human Immunodeficiency Virus or HIV. In this module, we will learn the dangers, prevention methods, and risky behaviors associated with HIV.

Screen 4

HIV attacks the body's immune system, specifically the CD4 cells (T cells) therefore, HIV slowly reduces the body's ability to fight diseases. Unlike some other viruses, the human body can't get rid of HIV completely. So once you have HIV, you have it for life.

Screen 5

The symptoms often start like the flu and progress to fever, weight loss, appetite loss, diarrhea, night sweats, exhaustion, and swollen lymph glands.

Screen 6

HIV can remain quietly in the body for as long as 10 years before symptoms begin to show.
As HIV progresses, it often leads to Acquired Immunodeficiency Syndrome, commonly referred to as AIDS.

Not all HIV-infected individuals will have AIDS. However, for those who do here some of the main symptoms of AIDS: Encephalitis, meningitis, retinitis, pneumonia, tuberculosis, tumors, esophagitis, and chronic diarrhea.

Once HIV has turned into AIDS, the immune system is not strong enough to protect the body. When a person doesn't have a healthy immune system, many common illnesses can become killers.

The number of new cases of HIV infections in the world peaked in 1996 and 1997 at about 3,400,000 cases. In 2014, the number of new cases has reduced to approximately 2,000,000 cases.

People living with HIV are in all parts of the world. East and Southern Africa contain the highest population of HIV-infected persons.

HIV can be transmitted through body fluids such as blood, semen, vaginal secretions, and breast milk. HIV is not carried in saliva.

HIV contamination can also occur through small cuts, abrasions, unprotected sex, and recreational drug use involving needles. Needle sticks are the most common form of exposure for health-care workers, but HIV can also be contracted from the exchange of many body fluids.

Some groups of people have a higher risk of exposure to HIV. These people include: health-care workers, people who have a sexually transmitted disease,
people with suppressed immune systems due to chemotherapy or steroids, and homosexual men.

Screen 14

Some behavior can actually increase your chances of catching HIV. Seventy percent of all new cases of HIV occur in men. According to the CDC, 42 percent of the new cases are found in men having sex with other men. Other risky behaviors include: sex with multiple partners, unprotected sex, and using recreational drugs involving needles.

Screen 15

Currently, the only way to avoid this disease is to not get involved in risky behavior and practice good personal protection when exposed to blood or body fluids.

Screen 16

No effective vaccine or cure for HIV currently exists, but with proper treatment and medical care, HIV can be controlled.

Screen 17

Prevention is the key! Avoid risky behaviors and use the recommended bloodborne pathogens personal protection techniques as taught in this course.

Screen 18

You have completed the HIV lesson. Please close this window and proceed to the next section in the course.
Part 5: Applying the Rules in a School District

Screen 1

Bloodborne Pathogens: Applying the Rules in School Settings

Screen 2

[Intro w Region 10]

Screen 3

Why do we need rules?

Screen 4

The legislation was designed to provide protection to governmental employees from occupational exposure to bloodborne pathogens, just as the Occupational Safety and Health Administration (or better known as OSHA) protects employees in the private sector.

Screen 5

So are schools under the direction of OSHA now?

Screen 6

No. When OSHA was federally enacted, each state as a unit, could opt out of complying with OSHA. Texas opted out. These new rules are a result of STATE legislation that is intended to be analogous to OSHA and federal rule.

Screen 7

House Bill 2085, Texas Department of Health Rules, is now part of the Health and Safety Code. The specific chapters and subchapters affected are displayed on the screen.
Who must receive training?

The exposure control plan adopted as the minimum standard to implement code 81.304 of the Health and Safety Code indicates that all employees must receive training.

A sample training agenda includes the exposure control plan, Hepatitis C, and HIV.

What should be included in the training and annual refresher training?

How that is accomplished and what is included in the training is meant to be flexible to allow for the wide variety of practice settings in the state.

At a minimum, all employees need to know where the Exposure Control Plan can be found; where they can access gloves and other personal protective equipment; and what to do if they come into contact with blood or body fluids.

The Texas Department of Health’s minimum standard Exposure Control Plan contains a list of required elements to cover during employee training. This is found on page 9 of the plan.

What about Record Keeping?
Identify the department within the district that maintains the employee training records. This will probably be the human resources department.

For face-to-face training, have employees sign and date when they attend training and annual refresher training.

Employees can submit their certificates of completion to their supervisors if the course was taken online.

Tell me more about reporting.

The following questions and procedures should be addressed:

- What mechanisms are in place for reporting communicable diseases?
- What mechanisms are in place for reporting occupational exposure?
- What are the staff responsibilities and how are employees notified?

What else should be addressed?

- How do I maintain a “sharps injury log” and
- How do I report incidents to the Texas Department of Health?
- Who is the chief administrative officer for each facility and who shall report the injury?

Who do I report to?
The district designee shall report the injury to the local health authority or the regional director of the Texas Department of Health regional office in which the facility is located. The Texas Department of Health form is available on the website or as a paper document.

What is a needleless system?

These systems do not utilize exposed needles. These are primarily designed for intravenous use. Districts who actually utilize medical needles on a regular basis need to review code 96.301. This is a recommendation, not a requirement.

What if my district does not have a health care professional?

If your district does not have a health care professional, you can receive assistance from a health advisory council, a local county or city health department, and a public health regional office.

In addition to the previous entities, a school district’s insurance carrier—specifically their risk management division, the Texas Department of Health, and finally the education service center located in your region.

You have completed the Applying Rules lesson.

Please close this window and proceed to Quiz 5: Applying the Rules.