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CHAPTER

OVERVIEW

Welcome to the Save a Life Initiative: Bloodborne Pathogens Course. This course is intended to help you prepare to address the health concerns inherent in caring for others and the possible damage the microscopic world can inflict. Unlike traditional academic curricula, you will learn actionable ways to practice and prepare for the bacteria and pathogens you may encounter in your career. If you become exposed to bloodborne pathogens, you will have the knowledge to reduce the chances of disease transmission and to protect others, including co-workers and patients, from possible infection.

This course consists of the materials and information necessary to protect yourself and those around you from being exposed to blood or blood-containing items that you may come into contact with throughout the course of your job.

This training may be required as part of your training for bloodborne pathogens by your employer. In addition, such training is required annually by the Occupational and Safety Health Administration (OSHA). Your employer will provide you with additional training, which will be referred to as an Exposure Control Plan (ECP), on bloodborne pathogens as indicated by your role and responsibilities in your organization.

COURSE OBJECTIVES

- 1. Identify sources of bloodborne pathogens.
- 2. Understand the risks involved when caring for people where you may come into contact with blood.
- 3. Learn how to clean up blood and blood-containing fluids appropriately.
- 4. Understand the importance of personal protective equipment (PPE) for preventing transmission of bloodborne pathogens.
- 5. Explain how bloodborne pathogens are transmitted.
- 6. Learn how to avoid exposure to bloodborne pathogens from the use of sharps.
- 7. Learn how to respond if exposure does occur.
- 8. Create a core sense of responsibility among participants to prevent future incidence of exposure to bloodborne pathogens.

Upon completion of this course, you will be able to take an active role in reducing bloodborne pathogen transmission in the workplace. While the roles of different employees may have varying levels of patient contact, the potential for exposure to bloodborne pathogens is ever-present.



INTRODUCTION

This section discusses background information on bloodborne pathogens explains why training is necessary and takes a closer look at the importance of the Exposure Control Plan.

WHY IS TRAINING IN BLOODBORNE PATHOGENS REQUIRED?

A health care facility is made up of many more people than direct-care staff. Employees in a facility may include nurses, unit coordinators, quality-assurance personnel, administrative professionals, sanitation workers and more. Although many employees may not be directly involved with patients, the potential for exposure to pathogens is always present.

OSHA also mandates that all employees who work in an environment where exposure to bloodborne pathogens is likely must complete training to reduce and prevent bloodborne pathogen exposure.

WHAT IS AN EXPOSURE CONTROL PLAN?

An ECP is a plan that directs how employees respond to exposure to pathogens and typically includes the following:

- A briefing of personnel who may be exposed to pathogens directly.
- A list of all employee responsibilities that may result in exposure.
- Rules set to ensure compliance to OSHA and the requirements of other governing bodies, such as the Joint Commission. (The Joint Commission is a United States based organization that accredits more than 22,000 US health care organizations and programs).
- Rules regarding research or production of antibodies of deadly bloodborne pathogens, such as Hepatitis B and the Human Immunodeficiency Virus (HIV).
- Proactive vaccination protocols for Hepatitis B.
- Communication measures used to educate employees, such as this course.
- Recordkeeping policies for any such exposure.
- Policies for immediate actions after exposure.



WHAT EXACTLY ARE BLOODBORNE PATHOGENS?

Bloodborne pathogens are basically any germ or organism that resides in an infected person's bloodstream. These pathogens may be transmitted by any substance that may contain blood, including sneeze droplets, urine, feces, seminal fluid, and all other bodily fluids.

Most bloodborne pathogens do not cause immediate symptoms, but they can still be transmitted to other individuals. Furthermore, some bloodborne pathogens can result in death.

A CLOSER LOOK AT BLOODBORNE PATHOGENS:

Hepatitis B and C Viruses

The symptoms of Hepatitis B and C include jaundice (yellowing of the skin and whites of the eyes), fatigue, abdominal pain, nausea, vomiting, diarrhea, loss of appetite, and liver damage.

There is a vaccine available for Hepatitis B. If you have not been vaccinated previously, an employer is required to provide one if you may be exposed to Hepatitis B. It is part of a three-set series, and each dose must be spaced out by approximately one month.

If you have started the series and failed to complete it, your employer may send you for a blood draw to verify the presence of Hepatitis B antibodies.

HIV

The symptoms of HIV infection can mirror many of the symptoms of the flu. However, general symptoms may include fatigue, appetite changes, unexplained fever, and swollen glands. Moreover, HIV infection increases the risk of contracting other diseases and developing acquired immune deficiency syndrome (AIDS).

Contact Does Not Always Equal Illness

The information about bloodborne pathogens can be disheartening, but exposure does not mean you become infected. Following proper protocols can help reduce your risk of infection.

HOW TO REACT TO BLOODBORNE PATHOGENS IN THE WORKPLACE

Exposure to bloodborne pathogens in the workplace can literally happen anywhere, including bathrooms, patient rooms, hallways, and laboratories. These steps can teach you how to respond (Figure 1).

- Protect Yourself.
- 2. Act Immediately.
- 3. Clean the area.
- 4. Tell your supervisor.



Figure 1





PROTECT YOURSELF FROM BLOODBORNE PATHOGENS

Bloodborne pathogens cannot survive for extended periods outside of the body, but they can survive in bodily fluids for days or weeks. Although infection is not imminent, bloodborne pathogens can enter the body from any mucous membrane, including minor scrapes or cuts. Therefore, protecting yourself is the first step toward preventing transmission.

WHAT DOES IT MEAN TO PROTECT YOURSELF?

Protecting yourself includes understanding bloodborne pathogens, where they may be, taking standard, universal precautions, following handwashing protocols and thinking about your actions in advance.

ALWAYS THINK ABOUT YOUR ENVIRONMENT TOO

An environment can be unsafe. Other employees, family members or other events must always be considered before you begin dealing with possible bloodborne pathogen exposure.

Imagine a car accident victim who has suffered severe wounds. Make sure the scene of the accident is safe before you proceed.





Figure 2

FOLLOW UNIVERSAL PRECAUTIONS

Universal precautions are simple. They dictate that until proven otherwise, any bodily fluid may contain the bloodborne pathogens that could kill you.

In other words, wear appropriate personal protective equipment (PPE) as needed to prevent exposure, which includes the following:

- Gloves (Figure 2a).
- Goggles (Figure 2b).
- Face shield (Figure 2c).
- Mask (Figure 2d).
- Waterproof gown (Figure 2e).
- CPR mouth shields, "mouthguard" (Figure 2f).

WHAT TYPE OF PPE IS NEEDED?

The type of PPE depends on the unique circumstances of each case. If blood is likely to come into contact with your clothing, wear a waterproof, disposable gown. Always wear gloves, and if splashing or coughing is likely, a face shield or mask may be needed.

REMEMBER POSSIBLE ALLERGIES TO LATEX

Some people may be allergic to materials used in the manufacture of PPE. For example, a person may be allergic to latex gloves. If a person is unable to provide allergy information, default to the use of non-latex gloves to be safe.



PROTECT YOURSELF FROM BLOODBORNE PATHOGENS





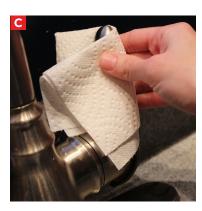


Figure 3

FOLLOW HANDWASHING PROTOCOLS

- 1. Turn on the faucet to warm water. You want the water to be warm but avoid scalding, painful temperatures. If the towel dispenser is not automatic, make sure you can access the towel without touching the towel with dirty hands. For example, the small wheel on the side may need to be turned.
- 2. Wet your hands thoroughly.
- 3. Apply soap, and work your hands into a lather vigorously. Clean all surfaces of the hands, including two inches up your wrists (*Figure 3a*).
- 4. Wash under your fingernails by making a scratching motion from side to side in the palm of your opposing hand.
- 5. Rinse from the wrists toward the fingertips. Avoid touching the basin of the sink or any other surface while rinsing.
- 6. Towel off. Throw the used paper towel away (Figure 3b).
- 7. Use a new dry towel to turn off the water as the old wet towel could be a vehicle for pathogens to get back onto your hands (*Figure 3c*). Throw away.
- 8. Use a new towel to open the door.

THINK BEFORE YOU DRINK

When it's break time, it can be tempting to head straight for your drink or snack. However, you should always wash your hands before ever touching something that will come into contact with your mouth. This includes food, tobacco, vaporizers, drinks, and makeup.

LEARN TO IDENTIFY BIOHAZARD SYMBOLS

Biohazard symbols indicate what type of pathogens may be present in an area. A biohazard symbol tends to have bright orange or red-orange backgrounds with letters indicating biohazard (Figure 4).

Never discard biohazardous waste in ordinary trash cans.

Your workplace has specific rules regarding where biohazards may be discarded, so check with your supervisor or ECP for guidance.



Figure 4





ACT WHEN YOU COMF

Coming into contact with blood includes blood on your PPE and/or yourself. Even with following all the previous proactive measures to prevent exposure, you may experience times where your skin or other bodily surfaces do come into contact with them. This section will teach you how to respond to such an event.

IMMEDIATE ACTION IS ESSENTIAL FOR DIRECT EXPOSURE TO MUCOUS MEMBRANES

- 1. Take gloves off.
- 2. Wash hands and any exposed skin.
- 3. Rinse mucous membranes with copious amounts of water.
- 4. Report the incident.
- 5. Follow through with employer protocols.









Figure 5

HOW DO YOU REMOVE GLOVES PROPERLY?

Removing gloves is not as simple as it sounds. Follow these steps to remove gloves without touching the dirty side to your skin.

- 1. Grip the outside of one glove near the wrist (Figure 5a).
- 2. Pull upward slightly until the glove comes off smoothly (inside out).
- 3. Cup the old glove in the hand with the remaining glove still on. Using your clean hand, slide your fingers beneath the surface of the glove near the wrist (Figure 5b).
- 4. Peel the glove towards your fingers, encasing the first glove in it (Figure 5c).
- 5. Dispose of the contaminated gloves properly, such as in a biohazard bag or in a plastic bag to seal the hazard until placement in an appropriate biohazard container.
- 6. Wash your hands.



WHAT ABOUT THE DISPOSAL **OF SHARPS?**

Sharps are another source of possible exposure to bloodborne pathogens. Sharps include needles, lancets, or any object that is used to pierce the skin.

Sharps should always be disposed of in a puncture-resistant sharps container (Figure 6). These will have the biohazard symbol and indicate "sharps" somewhere on the container.

WHO CAN COME INTO **CONTACT WITH SHARPS?**

Disposal workers, sanitation and janitorial employees and everyone who is present where that container goes can come into contact with sharps after they are used. In addition, staff members should discard sharps in an appropriate container immediately after use, reducing the chances of sticking themselves or another person in the process.

RECAPPING NEEDLES IS NOT ACCEPTABLE!

Never try to recap sharps. Most have a recapping proof design, and if you do recap sharps, your facility could be fined for doing so.







CLEAN UP **THE MESS**

Bodily fluids, including blood, can result in messes in your facility. Sheets may contain blood or blood-containing items after they come into contact with a patient. In some cases, the level of bleeding may result in significant quantities of blood. Follow this section to learn how to clean up the mess properly.

KNOW WHAT TO DO.

Your facility will have a policy for addressing large areas of blood or blood-containing fluids. This may include placing blood-containing sheets in specialized cleaning bins. Your employer will have a policy for what steps you do and do not need to take for cleaning up blood or bodily fluids. That policy supersedes this information.

CLEAN UP THE AREA IMMEDIATELY.

- 1. Put on PPE.
- 2. Use absorbents, such as solidifiers, to absorb most of the fluid. This may also include using a towel to soak up the fluid.
- 3. Use approved disinfectant cleaners. Some cleaners may not be allowed in your facility. Follow your organization's protocols, and use the appropriate, approved disinfectant for sanitizing the area.
- 4. Dispose of cleaning materials appropriately.



REPORT EXPOSURE TO BLOOD OR **BLOOD-CONTAINING** FLUIDS IMMEDIATELY.



If blood or bodily fluids from another person do come into contact with your skin or mucous membranes, you must act immediately. Reporting the incident to your supervisor is the only way to address the possible health consequences from exposure.

- 1. Why Is Immediate Reporting Necessary? Exposure to bloodborne pathogens cannot be reversed, but you can help prevent the progression or incubation of an infection. For example, antiretroviral medications must be started within hours of exposure to HIV to give you the best chance for avoiding infection.
- Are Results of Exposure Available Immediately? Upon exposure, your employer will likely draw a baseline set of blood work immediately. However, this only shows what you have been exposed to previously. Results of any possible infections from a new exposure may not be possible for several days or weeks. Retesting at intervals after exposure may be necessary for billing/insurance purposes.
- What Is an OSHA Form 300? This form is required by OSHA to document and track the incidence of workplace injuries and "possible" illnesses caused by a person's duties and responsibilities on the job. Although some employers may continue using paper-based versions of this report, electronic reporting may be used as well. Follow the policy of your employer in reporting the incident.
- Will an Employer Provide Care For Your Exposure? Unfortunately, every facility is different, and only your employer can provide information on what is and is not covered for your unique circumstances. Your employer may offer financial coverage for your exposure, and you may be asked to submit to a medical evaluation or submit relevant medical information after an incident. However, this information is kept confidential.

WHO IS SUBJECT TO OSHA REGULATIONS?

These regulations affect anyone who has a reasonable likelihood that they will come into contact with blood or bodily fluids while working. Determining reasonable likelihood is as simple as being in the same room, hallway or general vicinity as an ill person in the facility.



WHAT'S NEXT?

Keep any records or certificates you receive to prove you have completed training, which will need to be repeated one-year following your completion of this course as well.

Bloodborne pathogens can be deadly, and not understanding them will lead to infection. Protect yourself by committing this information to memory now, and spend your time enjoying your job, not fearing exposure.

Schedule and begin your on-site training, if required by your facility, to complete the mandated bloodborne pathogens training for your workplace.





ADDITIONAL OOLS

MEDICODE





With MediCode, you no longer will have to carry a set of expandable cards with you at all times while at work. You will never have to waste valuable time in an emergency situation searching through multiple algorithms until you find the right one. All of the algorithms are now accessible from the palm of your hand, and you will be selecting your desired algorithm by memory in no time. Choose between multiple viewing options and easily share algorithms with co-workers and friends through email and social media.

To improve functionality and speed in obtaining your desired algorithm as quickly as possible in an emergency, they have been divided between BLS, ACLS, PALS, and CPR. All are accessible from the home screen. The individual algorithms included in this app are:

- Basic Life Support (BLS)
- Advanced Cardiac Life Support (ACLS)
- Pediatric Advanced Life Support (PALS)
- Cardiopulmonary Resuscitation (CPR) AED, and First Aid



CERTALERT+



CertAlert+ is the perfect app to minimize a potential area of stress and distraction in your life. With CertAlert+, you will have all your licenses and certifications in one place anytime you need them. We will keep track and remind you when your expiration date approaches, and we will help you with your registration whenever possible.



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- Take photos (front and back) of certification cards and licenses for simple reference.
- · Record all expiration dates and store with ease.
- Choose when you want to be reminded of your approaching expiration dates.
- Send all license or certification information directly to your email after exporting from the app.
- Quick access to easily register for online certification and recertification courses.







BLOODBORNE PATHOGENS REVIEW QUESTIONS

- 1. What is an exposure control plan?
 - a. A plan that directs employees how to respond to exposure to radiation.
 - b. A plan that directs employees how to respond to exposure to too much sunlight.
 - c. A plan that directs employees how to respond to exposure to pathogens.
 - d. A set of optional guidelines to prevent the transmission of bloodborne pathogens.
- 2. Which is not an example of a bloodborne pathogen?
 - a. HIV
 - b. Hepatitis B
 - c. Hepatitis C
 - d. All of the above are bloodborne pathogens
- 3. After cleaning up some blood, you have just removed your gloves. What is the next immediate action to take?
 - a. Wash your hands
 - b. Go back to work
 - c. Go get something to eat
 - d. Go to the break room for some water
- 4. What is the best way to protect yourself from bloodborne illness?
 - a. Use waterless hand sanitizer to wash hands
 - b. Use personal protective equipment
 - c. Not receiving the Hepatitis B vaccination
 - d. Use cloth gloves
- 5. How should you wash your hands after exposure to blood or body fluids?
 - a. With waterless hand sanitizer
 - b. With warm water
 - c. There's no need to if you were wearing gloves
 - d. With soap and large amounts of warm water
- 6. When cleaning up an area that may have been exposed to a bloodborne pathogen, you should:
 - a. Use personal protective equipment
 - b. Use absorbent material to soak up the fluid
 - c. Disinfect the area
 - d. All of the above
- 7. What are bloodborne pathogens?
 - a. Normal body tissues present in blood.
 - b. Tiny organisms that can only be transmitted when sneezing.
 - c. Harmful bacteria and viruses found in blood and body fluids.
 - d. Bacteria that rarely make people sick.

- 8. Which is the correct order for responding to a bloodborne pathogen exposure?
 - I. Act Immediately II. Tell Your Supervisor III. Protect Yourself IV. Clean the Area
 - a. III, I, IV, II
 - b. I, II, III, IV
 - c. I, III, II, IV
 - d. II, III, IV, I
- What is the best motto to remember for universal precautions?
 - a. Any possible infection will always result in bleeding.
 - b. Anyone with a bloodborne infection will transmit it to someone else.
 - c. Blood and feces are the only reasons you would need to follow universal precautions.
 - d. Any blood or bodily fluid should be treated as containing the deadliest type of pathogen.
- 10. How long can bloodborne pathogens survive outside of the body, and how do you know it is safe to touch dried blood or bodily fluids?
 - a. Two hours; dried blood can be touched without gloves after two weeks for the purposes of exposure control.
 - b. Depends on the specific pathogen; any type of dried blood or bodily fluids should always be considered hazardous for the purposes of exposure control.
 - c. Up to two weeks; any dried blood or bodily fluid-containing items should always be considered hazardous for the purposes of exposure control.
 - d. Indefinitely; any type of dried blood can be immediately touched without personal protective equipment.

ANSWERS

- - A plan that directs employees how to respond to exposure to pathogens
- 2. D
 - All of the above are bloodborne pathogens
- - Wash your hands
- - Use personal protective equipment
- - With soap and large amounts of warm water
- 6. D
 - All of the above
- - Harmful bacteria and viruses found in blood and body fluids.
- 8. A
 - III. Protect Yourself, I. Act Immediately, IV. Clean the Area, II. Tell Your Supervisor
- - Any blood or bodily fluid should be treated as containing the deadliest type of pathogen.
- 10. B
 - Depends on the specific pathogen; any type of dried blood or bodily fluids should always be considered hazardous for the purposes of exposure control.



Who is the Disque Foundation?

The Disque Foundation was created for the sole purpose of empowering others to save lives! We do this by providing advanced healthcare education to underserved populations of the U.S. and the world through technology.

To fulfill this mission, we have created the Save a Life Initiative. We offer the world's first free life support training courses online through our partnership with SaveaLife.com (Save a Life Certifications by NHCPS). Saving lives means giving others the chance to make a difference in the world. Our goal is to empower 10 million people with the ability to save a life by 2025.









How can I help?

Through the help of committed supporters like yourself, the Disque Foundation will have the ability to grow and expand our cause across the globe. Please help us by making a tax-deductible gift to the Disque Foundation. A donation of any size will help support our mission and your generous contribution will go directly to strengthening our efforts to empower others to save lives.

Donations can be made at **DisqueFoundation.org** or by mailing a check to:

Disque Foundation Donations Department 1609 W 100 S. Brownstown, IN 47220



Learn more at DisqueFoundation.org

SaveaLife



The idea behind the Save a Life Initiative is simple - take the same advanced life-saving training we developed for health care providers, and give it to the underserved, at home and abroad. We work in conjunction with SaveaLife.com to fulfill its mission of advancing health care education to the underserved through advanced technology. When we put the knowledge, skills, and ability to perform CPR and other proven techniques in people's hands around the world, the power to save lives is possible.

Presented by the:

SaveaLife VINITIATIVE