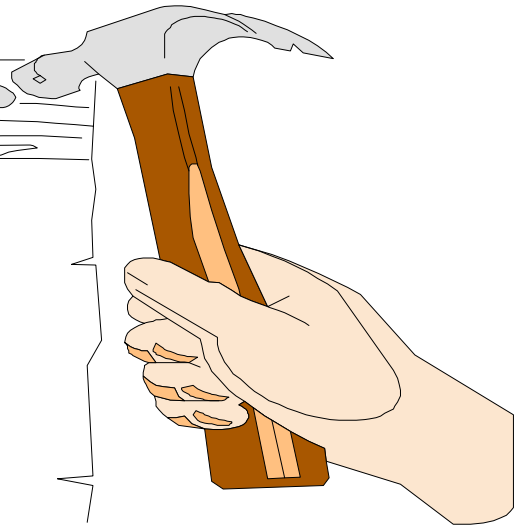


T E A C H T O O L S

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#19 - Bloodborne Pathogens

provided by:

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Bloodborne Pathogens

Meeting Objectives –

To explain the risks of exposure to human blood and body fluids as well as the protective procedures and precautions that must be followed by workers in health care, emergency response and other jobs with risk potential. The result should be better understanding of bloodborne pathogens, and greater precautions on and off the job by all workers.

Suggested Materials to Have on Hand –

- Protective gloves
- Protective eyewear
- Disposal container
- Biohazard symbol

Introduction/Overview –

Safety regulations are concerned with the health and safety of all workers. Some on-the-job hazards, such as machinery or certain hazardous substances, are more common in industrial plants. Workplaces such as laboratories or hospitals have different kinds of potential hazards, and there are special regulations to protect those workers from risk also.

Today, we're going to talk about one of those regulations, the Bloodborne Pathogens Standard, which includes information and precautions you should understand, especially if you have to respond to an emergency on or off the job.

General Hazards –

Bloodborne pathogens are microorganisms in blood or other body fluids that can cause disease in people. The following are of particular concern:

One is the human immunodeficiency virus (HIV), which causes AIDS. As you know, AIDS is usually a fatal illness. However, people can carry HIV for years without any symptoms; often, they're not even aware that they have it.

The big problem with AIDS is that it attacks the human immune system. Once people actually develop AIDS, their immune systems can't fight off disease. When people die from AIDS, they usually actually die from a disease their bodies couldn't recover from, such as pneumonia or certain types of cancer.

The regulations are also concerned about another bloodborne pathogen that's much more common than AIDS. That's the Hepatitis B virus (HBV). Hepatitis B affects the liver, and is fatal in a small number of cases. People who carry HBV can pass it on to others. And once you carry HBV, you're at much greater risk for possibly fatal liver ailments such as cirrhosis of the liver and primary liver cancer.

The chances of your coming in contact with these viruses on the job are really slim. Even people whose jobs cause them to come into regular contact with blood or other body fluids rarely become infected. But because HIV and HBV are so serious, employers and employees agree that it's important for affected workers to make every effort to prevent risky exposure to human blood or other body fluids.

Regulations –

The bloodborne pathogens standard (1910.1030) took effect in March of 1992. At that time it was predicted that the standard would prevent more than 200 deaths and 9,200 bloodborne infections each year—mainly from HIV, or Hepatitis B.

The requirements of the Bloodborne Pathogens Standard are similar in many ways to the Hazard Communication Standard and other rules designed to prevent exposure to hazardous substances. For instance, employers covered by the Bloodborne Pathogens standard have to:

- Develop a written Exposure Control Plan. (In Fiscal Year 1994, there was a total of 657 violations concerning the Exposure Control Plan.)
- Use engineering and work practice controls to eliminate or reduce employee exposure.
- Develop and follow a written cleaning and decontamination schedule that reduces the chance of accidental exposure to blood.
- Make free Hepatitis B vaccinations available to employees likely to be exposed to the virus.

Employee training is, of course, an important part of the Bloodborne Pathogens Standard. As with other regulations designed to prevent or limit exposure to hazards, this one requires employers to provide training that gives employees the knowledge to understand the risks and how to protect themselves. Employers must also provide employees with personal protective clothing and equipment that will help them work safely. In addition, employers have to maintain medical and training records on employees at risk of exposure.

The regulation also requires biohazard warning labels and signs on containers, including waste containers, that could hold contaminated materials.

The Bloodborne Pathogens Standard covers employees who could reasonably expect to come into contact with human blood or other potentially infectious materials in the course of doing their jobs. Most such employees are employed in health care—in hospitals, nursing homes, doctors' offices, etc.

But those aren't the only occupations where exposure is possible. The regulation also covers emergency responders: paramedics, emergency medical technicians, fire and rescue and law enforcement personnel. In the course of performing their jobs, they could be exposed to open wounds and to contaminated emergency medical items like needles or bandages.

Emergency responders also often work in dangerous, unpredictable, and uncontrollable situations, so it's particularly important for them to understand the risks and to be prepared and equipped to take proper precautions.

Other industries that are most likely to be affected by the Bloodborne Pathogens Standard include jobs in funeral parlors, laundries, maintenance, medical equipment repair, and work in correctional facilities.

Identifying Hazards –

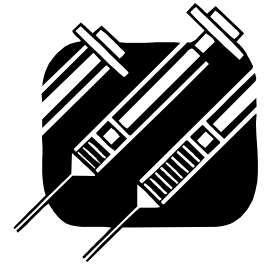
Bloodborne pathogens can be transmitted through human blood and various other body fluids. But let's look first at how HIV and HBV are not transmitted.

You can't tell by looking at a person if that person carries HIV or HBV. Often, they don't know it themselves. But that doesn't mean you should worry that everyone you see is a potential carrier. You can't contract either virus through casual contact. In other words, HIV and HBV are not transmitted by:

- Touching an infected person.
- Coughing or sneezing.
- Using the same equipment, materials, toilets, water fountains or showers as an infected person.

Now let's look at how the viruses are transmitted. The most common means are:

- Sexual contact.
- Shared drug needles.
- Being stuck by an infected needle or other sharp instrument.
- Direct contact between broken or chaffed skin and infected body fluids.



In addition, Hepatitis B can be transmitted through contact with caked, dried blood and surfaces that have been contaminated.

So, the first precautions to take to avoid exposure are practicing safe sex and not using illegal drugs—much less sharing needles. There are, however, other precautions you can take.

Protection Against Hazards –

There's one central approach that health care workers and others at risk are told to follow to avoid exposure to bloodborne pathogens. It's called universal precautions.

Universal precautions is a very simple concept. It means that workers are to treat all blood and other potentially infectious body fluids as if they are infected. It's the same kind of precaution you follow with any possibly hazardous substance. The point of universal precautions is to avoid direct contact with blood and body fluids. And that's good advice whether you work in health care, happen to help an injured person, or are simply visiting someone in the hospital.

There are a number of commonsense protections people take as part of following universal precautions. Some of them will sound familiar, because they're much like the ways we protect ourselves from dangerous exposure to any hazardous substance.

For instance, this standard—like many others—requires employers to provide employees with protective clothing. Protective clothing, as you know, acts as a barrier between employees and direct contact with hazardous materials—in this case, bloodborne pathogens.

Gloves are the most common form of PPE to prevent this type of exposure; you've probably noticed everyone wearing them at your doctor's or dentist's office. Depending on their jobs, employees may also be provided with masks and with goggles or glasses with solid side shields. Other PPE may include gowns, aprons or other clothing, surgical caps or hoods, and even shoe covers.

The standard's PPE requirements make sense for anyone who wants to avoid contact with blood and possible exposure to infection. If you want to help a bleeding person, wear disposable gloves if at all possible. And if gloves aren't available, use a handkerchief, towel, or other protection to avoid direct contact with blood.

If there's an accident that involves large quantities of blood, protective clothing and eyewear are also recommended.

It's also a good idea to treat PPE that's worn to prevent contact with blood the same way you would any protective gear. In other words:

- Check to make sure it's in good condition before putting it on.
- Remove it carefully to avoid contaminating yourself or anything around you.
- Dispose of it in proper containers. Towels, sheets, and other possibly infected linens also have to be placed in proper containers for disposal.
- Don't mix contaminated clothing or linens with other laundry.

Yet another familiar part of universal precautions is the instruction to wash any exposed skin with soap and water immediately after exposure to infectious materials. Thorough washing is also required as soon as gloves or other personal protective equipment is removed.

In addition, if the eyes, nose or mouth have come in contact with blood, employees are instructed to immediately flush the exposed parts with water.

Other hygiene instructions are also much like those we follow with hazardous substances. For example:

- Don't keep food or drink in work areas with exposure potential.
- Don't eat, drink, smoke, apply makeup or lip balm, or handle contact lenses in areas with exposure potential.
- Take care to minimize splashing or spattering of potentially infectious materials.
- Don't suction potentially infectious materials by mouth.
- Cover open cuts, rashes, and other broken skin.
- Don't touch anything that's contaminated, such as a bloody surface or clothing.

Safety Procedures –

One of the most common ways people get exposed to bloodborne pathogens on the job is by getting stuck by needles or other sharp instruments. The regulation designed to prevent that from happening clearly prohibits breaking or shearing contaminated needles or other "sharps." Employees are also told not to bend, recap, or remove sharps unless they've been specifically instructed to do so.

If you've been in a doctor's office lately, you've probably seen another required precaution with sharps. Once a needle or other sharp has been used, it must be disposed of in an assigned puncture-resistant, leakproof container. Different containers may be provided for reusable sharps.

The containers for needles and other sharps are often red in color and always have the biohazard symbol on them. Sometimes they also have the word "biohazard."

Workers must take a number of different precautions to avoid getting stuck by a needle or anything sharp that might be contaminated. For instance:

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- Dispose of sharps immediately after use.
 - Never reach by hand into a container holding sharps; use tongs or other equipment.
 - Keep containers for disposable sharps upright.
 - Place a used sharp carefully into the disposal container so it doesn't stick out.
 - Never clean up broken glass by hand; use tongs, a brush and pan, etc.

Housekeeping is another area where it's important to follow safety procedures to prevent exposure to bloodborne pathogens. Again, you'll probably find that the procedures sound familiar. For instance:

- Clean up all spills immediately.
- Clean and decontaminate all equipment and surfaces after contact with blood or other potentially infectious materials.
- Clean and decontaminate pails and other reusable containers regularly—immediately if they've contacted potentially infectious materials.

Emergency Response Precautions –

The regulation provides some added recommendations for people other than health care workers who might come in contact with blood.

Emergency responders, for example, are told to make sure their vehicles contain equipment that will help them to stay safe. Among the materials they should carry are:

- Pocket mouth-to-mouth resuscitation masks and mechanical respiratory assistance devices.
- Disposable airway equipment or resuscitation bags.
- A change of work clothes.
- Several changes of gloves.
- PPE such as masks, safety glasses, etc.
- Decontamination equipment and solutions.



The regulation also suggests safety practices for other types of workers. For instance, people who work in labs or mortuaries are told to follow universal precautions and to wear gloves and protective clothing. It's also very important for them to decontaminate all instruments and surfaces.

Police and other public safety officers, who may have to handle assaults or conduct body searches, are urged to wear gloves whenever possible. To avoid contact with needles or other sharps, they're supposed to use flashlights and long-handled mirrors for searches. Where possible, it's suggested that they have suspects empty their own pockets or purses.

As you can see, it's not always easy for employees to avoid exposure to blood or other fluids that could be infected. That's why this is such an important health rule.

The regulation also makes it clear that anyone who is exposed to blood or other body fluids on the job should report it promptly. That way, they can get proper medical attention on the off chance that they've actually been exposed to something dangerous.

Suggested Discussion Questions –



1. What are bloodborne pathogens and which ones are most hazardous?
2. How are HIV and HBV transmitted—and not transmitted?
3. What kinds of things does the Bloodborne Pathogens Standard require employers to do to reduce employee exposure risk?
4. What are “universal precautions”?
5. What kind of hygiene precautions are called for to prevent exposure to bloodborne pathogens?
6. What are some of the ways workers can avoid getting stuck by needles or other sharps?
7. What industries other than health care, are likely to put employees at risk of exposure to bloodborne pathogens?
8. What are some of the ways emergency responders, lab workers, and others potentially at risk can reduce the chance of exposure?
9. What precautions would you take if you had to help a person who was bleeding?
10. Are there any other questions?

Wrap Up –

I hope that this safety meeting has helped you understand the potential dangers of bloodborne pathogens—and the ways the regulations, employers, and employees are reducing their risk, of exposure on the job.

As I’ve mentioned, many of the precautions are a lot like the ones we follow to prevent exposure to other possibly hazardous substances. And the concept behind the precautions is the same. There’s no reason for anyone to panic that every drop of blood carries a dangerous virus. The fact is that very few people carry these infections and it’s rare for people to contract HIV or HBV from coming in contact with blood.

But just because the chances are small doesn’t mean you don’t have to be careful. It’s only common sense to do what you can to avoid any possibility of exposure to something that could be hazardous to your health. And it’s not difficult to avoid exposure by following simple precautions like using protective clothing, washing thoroughly after any exposure, and taking care not to get stuck by sharp objects that could be contaminated.

Although we have very little chance of being exposed to bloodborne pathogens on the job at this facility, we all benefit from understanding the ways that serious diseases are transmitted—and knowing what procedures to follow to avoid contracting them.



Bloodborne Pathogens: Do's & Don'ts Checklist

Do's:

- Do check PPE for damage before putting it on.
- Do remove PPE carefully to prevent the spread of contamination.
- Do place contaminated PPE, towels, etc. in closable, leakproof bags or containers for disposal or decontamination.
- Do wash exposed skin immediately and thoroughly with soap and water.
- Do wash thoroughly with soap and water after removing personal protective equipment.
- Do flush exposed eyes, nose, or mouth quickly and thoroughly with water.
- Do minimize splashing or spattering of potentially infectious materials.
- Do cover open cuts, rashes, and other broken skin.
- Do dispose of used needles carefully and immediately in assigned puncture - resistant, leakproof containers identified by the biohazard symbol.
- Do keep sharps containers upright.
- Do clean up all spills immediately.
- Do clean and decontaminate all equipment and surfaces after contact with blood or other potentially infectious materials.
- Do clean and decontaminate pails and other reusable containers regularly—immediately after contact with potentially infectious materials.
- Do report any on-the-job exposure to blood or other body fluids promptly and get medical attention.
- Do follow Bloodborne Pathogens Standard precautions to enable you to respond to an injury without fear of infection.

Don'ts:

- Don't practice unsafe sex, inject illicit drugs or share needles.
- Don't worry that casual contact with an infected person will transmit a bloodborne disease.
- Don't mix contaminated clothing or linens with other laundry.
- Don't keep food or drink in work areas that could contain infectious materials.
- Don't eat, drink, smoke, apply makeup or lip balm, or handle contact lenses in areas with exposure potential.
- Don't suction potentially infectious materials by mouth.
- Don't touch any contaminated surfaces, clothing, or equipment.
- Don't touch needles or other sharps that may be contaminated by blood.
- Don't break or shear contaminated needles or other sharps.
- Don't bend, recap or remove sharps unless specifically instructed to do so.
- Don't reach by hand into a container holding sharps.
- Don't clean up broken glass by hand; use tongs, a brush and pan, etc.
- Don't let fear of exposure to bloodborne pathogens keep you from helping an injured person.

