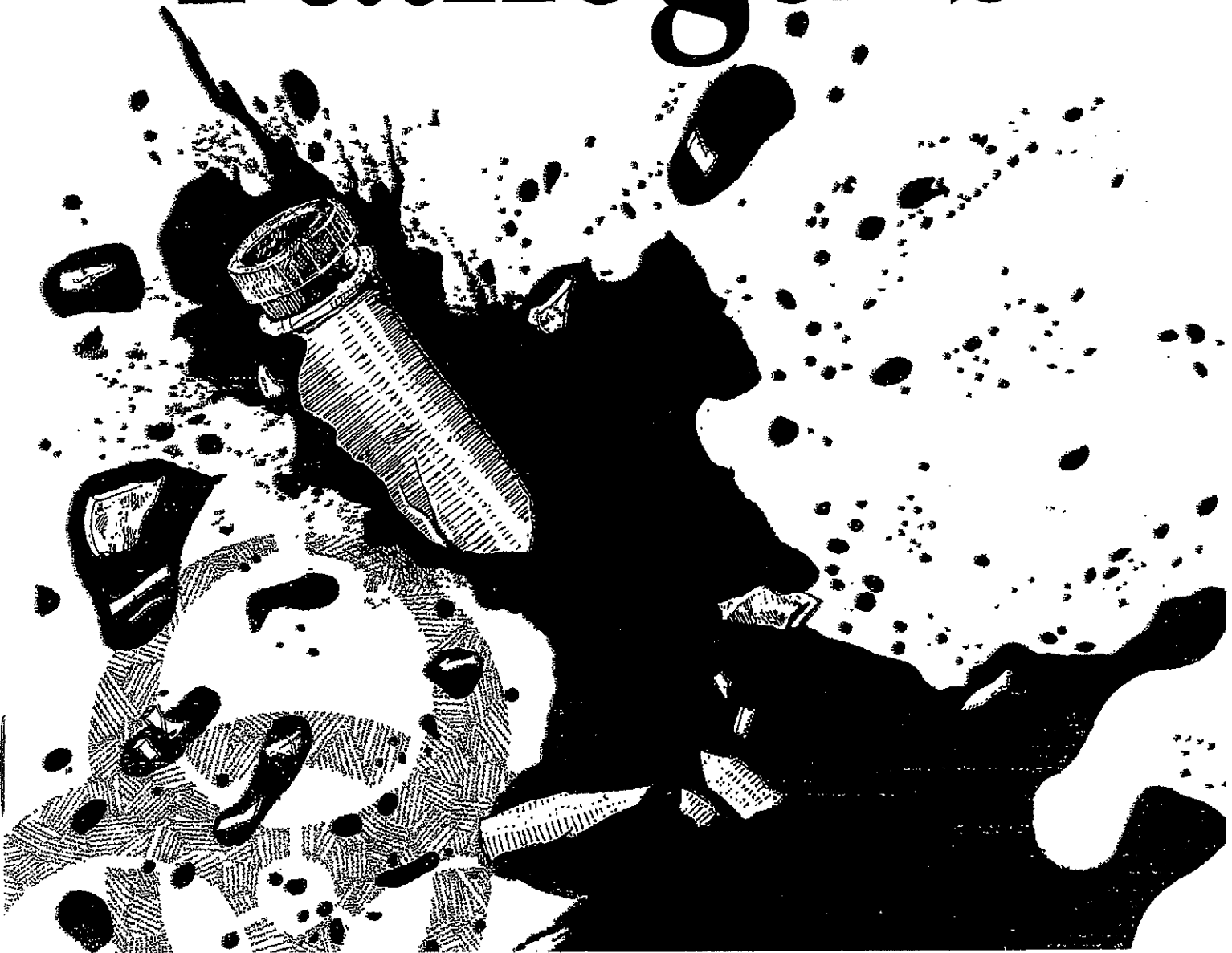


# Bloodborne Pathogens



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## Introduction

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Bloodborne diseases such as HIV, HBV and HCV make needlesticks and other exposures cause for concern if you work in healthcare.

The Occupational Safety and Health Administration (OSHA) has a standard that, if followed, is designed to protect you. It details ways that you and your employer can work together to substantially reduce your risk of contracting a bloodborne disease on the job. You are covered by the standard if it is reasonably anticipated that you could be exposed to bloodborne pathogens as a result of performing your job duties.



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## Bloodborne Diseases

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### Hepatitis B Virus

Hepatitis B virus (HBV) causes serious liver disease. About half of the people infected with hepatitis B have no symptoms. Those with symptoms may experience jaundice, fatigue, abdominal pain, loss of appetite, occasional nausea or vomiting. Most people infected with HBV recover and clear the infection. But about 10% become chronically infected. Each year, more than 5,000 people die from chronic liver disease and liver cancer linked to hepatitis B. As many as 200 of those who die are healthcare workers.

The hepatitis B virus poses a greater risk to healthcare workers than either the hepatitis C virus or HIV, since it is more easily transmitted. As yet, there is no sure cure for hepatitis B. Fortunately, the hepatitis B vaccine can prevent the disease.

Hepatitis C virus (HCV) causes a serious liver disease. This liver disease may cause symptoms similar to hepatitis B. However, there are important differences between hepatitis B and hepatitis C.

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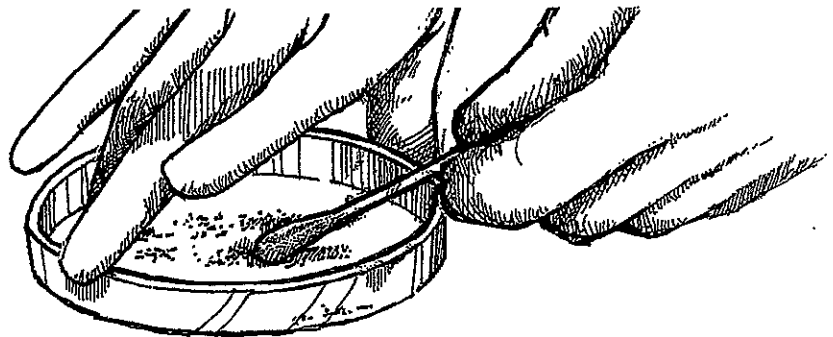
## Transmission

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Hepatitis B, hepatitis C and HIV spread most easily through contact with blood. They also spread through contact with other potentially infectious materials, or OPIM, including semen and vaginal secretions, as well as any other body fluid or tissue containing visible blood.

OPIM also includes cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, and saliva in dental procedures. Non-intact skin or organs from living or dead humans and cell tissue or organ cultures and other biological matter from laboratory experiments are also included.

In our society, bloodborne viruses are most commonly transmitted through sharing needles to inject drugs or by having unprotected sexual intercourse with an infected person, or from mother to unborn child before or during birth.



### Means of Transmission

Bloodborne pathogens may enter your body and infect you through a variety of means, including:

- An accidental injury by a sharp object contaminated with infectious material. Sharps include:
  - ✓ Needles
  - ✓ Scalpels
  - ✓ Broken glass
  - ✓ Exposed ends of dental wires
  - ✓ Anything that can pierce, puncture or cut your skin.
- Open cuts, nicks and skin abrasions, even dermatitis and acne, as well as the mucous membranes of your mouth, eyes or nose
- Indirect transmission, such as touching a contaminated object or surface and transferring the infectious material to your mouth, eyes, nose or open skin.

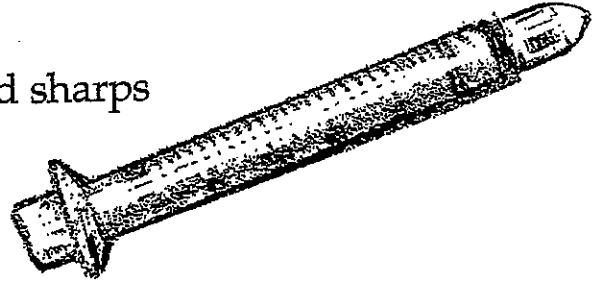
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## Engineering Controls

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These are physical or mechanical systems your employer provides to eliminate hazards at their source. Some examples are:

- Needleless systems
- Protective devices for needles and sharps
- Sharps disposal containers.



Engineering control effectiveness usually depends on you.

**Example:** A sharps disposal container provides no protection if you recap needles by hand and toss them in a wastebasket.

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## Work Practice Controls

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### Handwashing

If infectious material gets on your hands, the sooner you wash it off, the less chance you have of becoming infected. Handwashing keeps you from transferring contamination from your hands to other areas of your body or other surfaces you may contact later. Wash your hands with non-abrasive soap and running water.

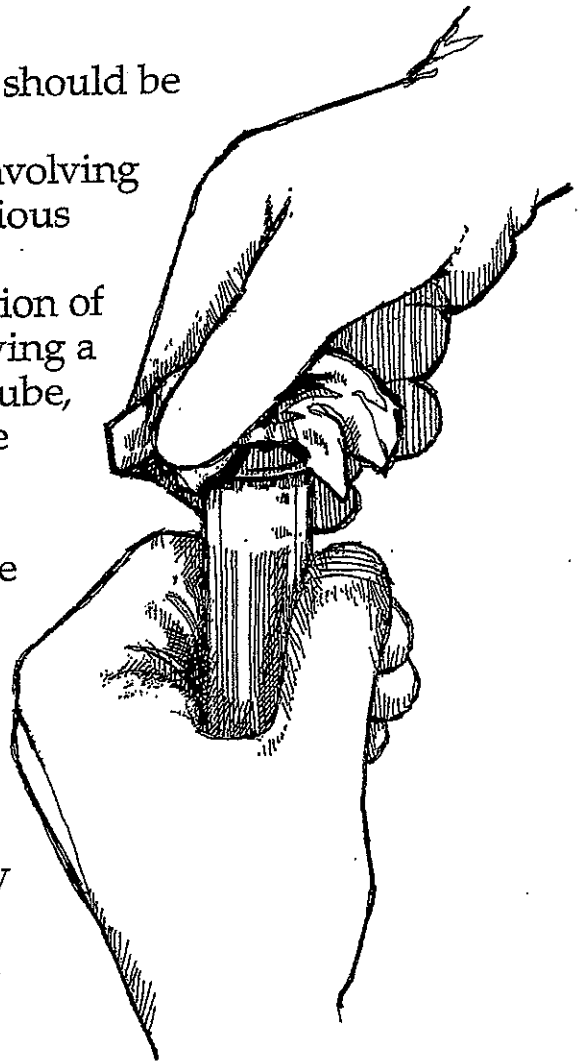
- Every time you remove your gloves
- When skin or mucous membranes come in contact with blood, body fluids or OPIM.
- Between patients
- Where handwashing facilities are not available, such as an emergency medical van, use an antiseptic hand cleanser. Wash your hands with soap and running water as soon as you can.

When your hands are not visibly soiled, CDC approves cleaning your hands with an alcohol-based antiseptic. Recent CDC studies indicate that alcohol-based skin decontamination is more effective than soap and water for reducing multi-drug-resistant pathogens. Use a decontaminant with a concentration of 60 percent to 95 percent ethanol or isopropanol alcohol. Apply the recommended amount to one of your palms. Vigorously rub your hands together, spreading the solution thoroughly over both, particularly around nail beds and under jewelry.

## Personal Hygiene

Additional self-protective controls should be followed to protect you:

- When performing procedures involving blood or other potentially infectious materials, minimize splashing, spraying, spattering and generation of droplets. **Example:** Before removing a rubber stopper from specimen tube, cover it with gauze to reduce the chance of splatter.
- Do not eat, drink, smoke, apply cosmetics or lip balms, or handle contact lenses where you may be exposed to blood or other potentially infectious materials.
- Avoid petroleum-based lubricants that may eat through latex gloves. Follow your facility policy on use of hand lotion.
- Never mouth pipette or suction blood or other potentially infectious materials.
- Don't keep food and drinks in refrigerators, freezers, cabinets or on shelves, countertops or bench tops where blood or other potentially infectious materials may be present.



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## Personal Protective Equipment

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Equipment that protects you from contact with potentially infectious materials may include gloves, masks, gowns, aprons, lab coats, faceshields, protective eyewear, mouthpieces, resuscitation bags or other ventilation devices.

Under normal work conditions, protective equipment must not allow potentially infectious materials to contact your work clothes, undergarments, skin or mucous membranes. The type of protective equipment appropriate for a given task depends on the degree of exposure you anticipate.

## Resuscitation Devices

Avoid unprotected mouth-to-mouth resuscitation. Mechanical emergency respiratory devices and pocket masks are types of personal protective equipment designed to isolate you from contact with a victim's body fluids during resuscitation.

## Gloves

Gloves are the most widely used form of personal protective equipment. They act as a primary barrier between your hands and bloodborne pathogens. Single-use disposable gloves that are low-protein and powder-free are used for medical, dental or laboratory procedures. Heavy duty utility gloves may be used for housekeeping duties.

*Here's how to use them:*

- You must wear gloves when you anticipate hand contact with body fluids, excretions and secretions, mucous membranes or non-intact skin.
- If you are allergic to disposable gloves, your employer will provide a suitable alternative.
- Since gloves can be torn or punctured, bandage any cuts before being gloved.
- Replace single-use disposable gloves, such as surgical or examination gloves, as soon as possible if contaminated, torn, punctured or damaged in anyway. Never wash or decontaminate for reuse.
- Utility gloves may be decontaminated and reused unless they are cracked, peeling, torn or punctured or if damaged in any way.

- Replace protective coverings such as aluminum foil or plastic wrap on equipment or surfaces at the end of the workshift, or immediately after the surface is contaminated.
- Do not pick up broken glass, which may be contaminated, with gloved or bare hands. Use tongs, forceps, or a brush and a dust pan.
- Place infectious wastes in labeled or color-coded, leak-proof containers that are closable. Do not allow containers to over-fill.
- Handle contaminated laundry as little as possible and with minimal agitation. Place soiled laundry in labeled or color-coded, leak-proof bags or containers without sorting or rinsing.

### **Read the Label**

These warning signs protect you from bloodborne hazards:

- Bags or containers bearing the biohazard sign tell you when the containers hold blood or other potentially infectious materials. Warning labels are also used to designate contaminated equipment.
- A fluorescent orange-red biohazard sign on a door indicates that HIV, HBV or HCV research or production takes place within. The sign lists special requirements for entering the facility.



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## **Hepatitis B Vaccine**

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According to OSHA, immunization against the hepatitis B virus has proven very effective. In 1985, 12,000 healthcare workers were infected with HBV on the job. By 1995, after immunizations were promoted, only 800 healthcare workers were infected at work, and that's currently true.

Today's vaccines are safe and very effective at protecting you from getting hepatitis B infection if the series is completed.

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## Rise to the Challenge

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It is possible to protect yourself from bloodborne pathogens on the job by knowing the facts and taking proper precautions. Working together with your employer, you can do it. As a healthcare worker, you can be confident in your ability to safely care for the well-being of others and yourself.

