Bloodborne Pathogen Training for Plumbing
(CA Code of Regulations, Title 8, Sec. 5193)
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Training Elements

- Copy and Explanation of the BBP Standard
- Epidemiology and Symptoms
- Modes of Transmission
- Employer and Site-specific Exposure Control Plan
- Exposure Determination
- Hazard Recognition / Risk of Exposure / Identification of Exposure Situation
- Use of Engineering Controls, Work Practices and Personal Protective Equipment
- Decontamination and Disposal
- Hepatitis B Vaccination and Program
- Emergency Reporting and Response
- Exposure Incident
- Post-Exposure Evaluation and Follow-up
- Signs and Labels
- Live question and answer sessions
OSHA’s Bloodborne Pathogen Standard

1) limits occupational exposure to blood and other potentially infectious materials since exposure could result in transmission of bloodborne pathogens that could lead to disease and death

2) by protecting workers against this exposure

3) thus reducing their risk from this exposure
Who is Covered by this Standard?

- All employees who could “reasonably anticipate” as the result of performing their job/duties contact blood and other potentially infectious materials

- “Good Samaritan” acts such as assisting a co-worker with a nosebleed would not be considered occupational exposure
Could You Contract a Bloodborne Pathogen Doing This at Work?

- Administering First-Aid?
- Cleaning the restroom?
- Using a tool covered with dried blood?
- A co-worker sneezes on you?
- Working in a sewer manhole?
- Shaking a sick coworkers hand?
- Cleaning up after an accident?
- Cutting yourself with a metal pipe that is contaminated with blood?
Some Workers Who are at Risk

- Physicians, nurses and emergency room personnel
- Dentists and other dental workers
- Laboratory and blood bank technologists and technicians
- Medical examiners
- Morticians
- Law enforcement personnel
- Firefighters
- Paramedics and emergency medical technicians
- Anyone providing first-response medical care
- Medical waste treatment employees
- Home healthcare workers
- Orderlies, housekeeping personnel, and laundry workers
Approximately 5.6 million workers in health care and other facilities are at risk of exposure to bloodborne pathogens.
Other Potential Exposure

- Industrial Accident
- Administering First-Aid
- Post Accident Clean-up
- Janitorial or Maintenance Work
Potential Transmission

- Most common: needlesticks
- Cuts from other contaminated sharps (scalpels, broken glass, etc.)
- Contact of mucous membranes (for example, the eye, nose, mouth) or broken (cut or abraded) skin with blood or other potentially infectious material
Blood and Other Potentially Infectious Materials

Blood means:
- Human blood, human blood components, and products made from human blood

Other Potentially Infectious Materials
- Human body fluids (cerebrospinal, peritoneal, synovial, pleural, pericardial, amniotic fluid, semen, vaginal secretions)
- Other body fluid visibly contaminated with blood i.e. saliva, vomitus
- All body fluids where it is difficult to differentiate between body fluids i.e. emergency response situation
Bloodborne Pathogens

Pathogenic microorganisms that are present in human blood and can cause disease in humans.

Bloodborne Pathogens include, but not limited to:

- Human immunodeficiency virus (HIV) ~ AIDS
- Hepatitis B virus (HBV) ~ Hepatitis B
- Hepatitis C virus (HCV) ~ Hepatitis C
- Malaria
- Syphilis
- Brucellosis
HIV

- **Source of virus**
  - Blood, body fluids, breast milk

- **Route of Transmission**
  - Transfer or direct contact with infected body fluids
  - Broken skin, mucous membrane

- HIV attacks the persons immune system and causes it to break down, making the person more susceptible to other diseases/viruses

- HIV has a low survival rate outside of the body

- Detection can be delayed due to HIV’s ability to integrate into the host DNA and remain inactive

- **CDC Report:** Approximately 40,000 new HIV infections each year. Approximately over 1 million Americans are living with HIV
HIV

- Stages of Infection
  - Category A = asymptomatic, virus is inactive, but present
  - Category B = chronic yeast infections, shingles, thrush, fever
  - Category C = AIDS, TB infection, pneumonia, toxoplasmosis of the brain
Hepatitis

- Inflammation of the liver
  - Chronic cases can lead to liver damage and liver failure
  - Symptoms include: jaundice, fatigue, abdominal pain, loss of appetite, intermittent nausea, vomiting
- Detection can be delayed due to slow response of body to produce antibodies for the viruses
- HBV can survive for at least one week in dried blood
- **CDC Report**: Approximately 60,000 new HBV infections each year. Approximately 1 million Americans are living with HBV
- **CDC Report**: Approximately 26,000 new HCV infections each year. Approximately 3 million Americans are living with HCV.
## Hepatitis

<table>
<thead>
<tr>
<th></th>
<th>Hep A</th>
<th>Hep B</th>
<th>Hep C</th>
<th>Hep D*</th>
<th>Hep E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Virus</td>
<td>Feces</td>
<td>Blood/Body fluids</td>
<td>Blood/Body fluids</td>
<td>Blood/Body fluids</td>
<td>Feces</td>
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<tr>
<td>Route of Transmission</td>
<td>Fecal-oral</td>
<td>Broken skin, mucous membrane, Sexual contact</td>
<td>Broken skin, mucous membrane</td>
<td>Broken skin, mucous membrane</td>
<td>Fecal-oral</td>
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<tr>
<td>Chronic Infection</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Prevention</td>
<td>Vaccine</td>
<td>Vaccine</td>
<td>Modified behavior</td>
<td>Modified behavior</td>
<td>Ensure safe drinking water</td>
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<td></td>
<td></td>
<td></td>
<td>Blood screening</td>
<td>HBV vaccine</td>
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</table>
Exposure Control Plan

- Identifies jobs and tasks where occupational exposure to blood or other potentially infectious material occurs
- Describes how the employer will:
  - Implement universal precautions
  - Ensure use of engineering and work practice controls
  - Ensure use of personal protective equipment
  - Provide hepatitis B vaccinations
  - Provide post-exposure evaluation and follow-up
  - Use signs and labels
  - Provide training
  - Maintain sharps injury log
- Plan must be reviewed annually
- Plan must be accessible to employees
Exposure Determination

- As required by OSHA, exposure evaluations will be performed in accordance with a categorization scheme based on the potential of job-related tasks leading to exposure.

- The three categories used are:
  - Category 1: Tasks that involve exposure to blood, body fluids or tissues.
  - Category 2: Tasks that involve no exposure to blood, body fluids or tissues, but employment may require performing unplanned Category 1 procedures.
  - Category 3: Tasks that involve no exposure to blood, body fluids or tissues and Category 1 tasks are not a condition for employment.
# Employee Job Assignments

<table>
<thead>
<tr>
<th>Department</th>
<th>Employee Assignment</th>
<th>Guideline Category</th>
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</thead>
<tbody>
<tr>
<td>Athletics</td>
<td>Trainers (including paid student trainers)</td>
<td>1-2</td>
</tr>
<tr>
<td>Associated Students – Recreation &amp; Fitness</td>
<td>Trainers, Technicians, Instructors, Lifeguards</td>
<td>2</td>
</tr>
<tr>
<td>Associated Students – Childcare</td>
<td>Teachers, childcare providers, assistants (including student assistants)</td>
<td>2</td>
</tr>
<tr>
<td>Aztec Shops – Food Service</td>
<td>Food Service Employees</td>
<td>2</td>
</tr>
<tr>
<td>Housing</td>
<td>Custodial Services, Maintenance Workers</td>
<td>2</td>
</tr>
<tr>
<td>Public Safety</td>
<td>Officers</td>
<td>2</td>
</tr>
<tr>
<td>Physical Plant</td>
<td>Custodial Services, Plumbing, Grounds, Maintenance Workers</td>
<td>2</td>
</tr>
</tbody>
</table>
Universal Precautions

- Treat all human blood and other potentially infectious fluids as if they are infectious.
- Must be observed in all situations where differentiation between body fluid types is difficult or impossible - all body fluids shall be considered potentially infectious materials.
These are the primary methods used to control the transmission of bloodborne pathogens from blood or OPIM as a result of splashing, spraying, and aerosolization.
Engineering Controls

These controls reduce employee exposure by removing the hazard.

Examples:
- Safety guards on tools
- Sharps disposal container
Workplace Control

These precautions/controls reduce the likelihood of exposure by altering how a task is performed.

- Housekeeping Precautions
- First-Aid Precautions
Housekeeping Precautions

- Wash hands as soon as possible after contamination (i.e. work with sewer systems) and after removing gloves.
- Do not pick up broken glass directly with hands.
- Clean and decontaminate equipment and surfaces that had contact with infectious materials.
- Do not handle items such as pens or door handles while wearing contaminated gloves.
- No food or drink in work areas.
- No smoking in work areas.
First-Aid Precautions

To protect yourself during an injury or accident:

- Protect yourself before offering assistance
- Wear clean, leak-proof disposable gloves
  - Be aware of personal cuts or broken skin before donning gloves
  - If no gloves are available, try to have co-worker self administer first-aid
  - Do not be careless about treating a co-worker’s bleeding injury
- If blood is spraying, protect your eyes nose and mouth with goggles and a mask
- Keep blood off of you while you control bleeding.
  - Treat all contact with blood or bodily fluids as if it is pathogenic
- Comfort the Victim and wait for trained emergency responders
First-Aid Precautions

If you get blood on you:

- Wash it of as soon as possible with soap and water
- Immediately flush your eyes with running water at a sink or eyewash station
- Report the incident to your supervisor
When occupational exposure remains after engineering and work practice controls are put in place, personal protective equipment (PPE) must be used.

- Specialized clothing or equipment worn by an employee for protection against infectious materials
- Must be provided, properly cleaned, laundered, repaired, and disposed of at no cost to employees
- Must be removed when leaving area or upon contamination
Examples of PPE

- **Gloves** – replace immediately when visibly soiled, torn, cut, or punctured; not be worn outside contaminated areas

- **Protective clothing/Footwear** – shall be worn as an effective barrier against blood and OPIM

- **Face shields and eye protection** – shall be worn whenever splashes, spray, spatter, droplets, or aerosols may be generated causing eye, nose, mouth contamination

- **Mouthpieces and resuscitation devices**
Decontamination and Disposal

- Wear protective gloves
- Disinfectant:
  - Solution of ¼ cup bleach per gallon of water
- If cleaning up dried blood/body fluids on tools/equipment:
  - Spray with bleach solution
  - Wipe with paper towel
- Properly dispose of contaminated PPE, towels, rags in a red bag inside a secondary container with a biohazard label on the outside of the container and lid
Biohazard Warning Label

- Warning labels required on:
  - Containers of regulated biohazard red bags and red sharps container
  - Refrigerators, freezers, and other equipment containing blood and other potentially infectious materials
  - Other containers used to store, transport, or ship blood or other potentially infectious materials
  - Biohazard labeled red bags or containers may be substituted for sticker labels
Hepatitis B Vaccination Requirements

- Must make available, free of charge at a reasonable time and place, to all employees at risk of exposure within 10 working days of initial assignment unless:
  - employee has had the vaccination
  - antibody testing reveals immunity
- The vaccination must be performed by a licensed healthcare professional
Hepatitis B Vaccination Requirements

- Must be provided even if employee initially declines but later decides to accept the vaccination
- Employees who decline the vaccination must sign a declination form
- Employees are not required to participate in antibody prescreening program to receive vaccination series
- Vaccination booster doses must be provided if recommended by the U.S. Public Health Service
Hepatitis A Vaccine

- The vaccination must be performed by a licensed healthcare professional
- Currently, four inactivated vaccines against HAV are internationally available. All four vaccines are safe and effective, with long-lasting protection.
- Vaccine is administered in two doses 6-18 months apart
- Not required by regulation to be provided by employer; however, it is highly recommended to receive the vaccination from your primary care physician
- For more information please visit the World Health Organization website [http://www.who.int/vaccines/en/hepatitisa.shtml](http://www.who.int/vaccines/en/hepatitisa.shtml) or the Centers for Disease Control and Prevention [http://www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)
Exposure Incident

- A specific incident with contact with blood or OPIM
- If there are no infiltration of mucous membranes or open skin surfaces, it is not considered an exposure incident
- Report all incidents involving blood or bodily fluids
What to do if an exposure occurs?

Employee must:
- Wash exposed area with soap and water
- Flush splashes to nose, mouth, or skin with water
- Irrigate eyes with water or saline
- Report the exposure incident to supervisor

Note: Treatment should begin as soon as possible after exposure, preferably within 24 hours, and no later than 7 days.

BBP Exposure including needlestick is referred to Sharp Rees-Stealy Occupational Medicine or Urgent Care (619) 644-6600
Post-Exposure Follow-Up

Employer must:
- Direct the worker to a healthcare professional (Sharp Rees-Stealy Occupational Medicine or Urgent Care) (619) 644-6600
- Document routes of exposure and how exposure occurred in the Exposure Incident Form
- Identify and obtain consent from the source individual if legally required
- Record sharps injuries and type of sharps involved in the sharps injury log

Health Provider must:
- Obtain sample from source individual and the exposed employee and test blood as soon as possible after the exposure incident and after consent is obtained
- Provide written opinion of findings to employer and copy to employee within 15 days of the evaluation
- Employee shall be advised of regulations concerning disclosure of the identity and infectious status of the source individual
- Provide risk counseling and offer post-exposure protective treatment for disease when medically indicated in accordance with current U.S. Public Health Service guidelines
Medical Recordkeeping Requirements

- Employee’s name and social security number
- Employee’s hepatitis B vaccination status
- Results of examinations, medical testing, and post-exposure evaluation and follow-up procedures
- Health care professional’s written opinion
- Information provided to the health care professional
- Employee medical records must be kept confidential and not disclosed or reported without the employee’s written consent (unless required by law)
- Medical records must be maintained for duration of employment plus 30 years according to OSHA’s rule governing access to employee exposure and medical records
Training Requirements

- Provide at no cost to employees during working hours
- Provide at time of initial assignment to a job with occupational exposure and at least annually thereafter
- Additional training needed when existing tasks are modified or new tasks are required which affect the worker’s occupational exposure
- Maintain training records for 3 years
Training Elements

- Copy and Explanation of the BBP Standard
- Epidemiology and Symptoms
- Modes of Transmission
- Employer and Site-specific Exposure Control Plan
- Exposure Determination
- Hazard Recognition / Risk Identification
- Use of Engineering Controls, Work Practices and PPE
- Decontamination and Disposal
- Hepatitis B Vaccination
- Emergency Reporting and Response
- Exposure Incident
- Post-Exposure Evaluation and Follow-up
- Signs and Labels
- Live question and answer sessions
Summary

- OSHA’s Bloodborne Pathogens standard prescribes safeguards to protect workers against the health hazards from exposure to blood and other potentially infectious materials, and to reduce their risk from this exposure.

- Implementation of this standard not only will prevent hepatitis B cases, but also will significantly reduce the risk of workers contracting AIDS, Hepatitis C, or other bloodborne diseases.
Case Study

You and a coworker are changing plumbing fixtures during a renovation when your coworker cuts himself with a sawzall and begins bleeding profusely.

- Do you immediately apply direct pressure to the injury?
- Do you know where the first-aid kit is?
- Do you stay in the area or move out of the work space?
- What do you say to other coworkers in the construction site?
For your safety, have your injured co-worker apply direct pressure to his injury until you can get gloves from the first-aid kit.

Once you have gloves, you can apply pressure yourself.

Stay away from equipment as much as possible to avoid contamination.

Let coworkers know there is an injury and warn them to avoid contacting any blood spilled.

Radio or report the injury to supervisor and follow procedures to get your co-worker medical attention.
Case Study

You are disconnecting a leaking p-trap in Student Health Services when you notice blood had leaked from the trap and splashed onto your hands and face.

- Do you immediately wipe your hands and face?
- Do you know where the next nearest sink with running water is?
- Do you stay next to the blood spill?
- Do you continue working in the area?
- Do you clean-up the blood spill yourself?
Case Summary

- First, locate the nearest working faucet and flush the affected areas for 15 minutes.
- Inform the building residents of the spill and the hazard posed with a blood spill, try and have them isolate the contaminated area.
- Do not resume work until the supervisor has been notified of your personal blood exposure and a report is filled out. Post-exposure evaluation will be provided.
- If a blood spill-kit is not available, contact work control for custodial services. Do not resume work until blood contamination is disinfected.