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

Millie Tran and Sheryl Major
Department of Environmental Health and Safety
San Diego State University
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?
- Cleaning up after an accident?
- Shaking a sick coworkers hand?
- Cut yourself with glass 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
Potential Exposure

Approximately 5.6 million workers in health care and other facilities are at risk of exposure to bloodborne pathogens.
Other Potential Exposure

- Industrial Accidents
- 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 person's 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><strong>Source of Virus</strong></td>
<td>Feces</td>
<td>Blood/Body fluids</td>
<td>Blood/Body fluids</td>
<td>Blood/Body fluids</td>
<td>Feces</td>
</tr>
<tr>
<td><strong>Route of Transmission</strong></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>
</tr>
<tr>
<td><strong>Chronic Infection</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Vaccine</td>
<td>Vaccine</td>
<td>Modified behavior</td>
<td>Modified behavior</td>
<td>Ensure safe drinking water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Blood screening</td>
<td>HBV vaccine</td>
<td></td>
</tr>
</tbody>
</table>

- Hepatitis A: Enteric transmission
- Hepatitis B: Hematogenous transmission
- Hepatitis C: Hematogenous transmission
- Hepatitis D (delta): Hepatitis B virus
- Hepatitis E: Enteric transmission
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>
</tr>
</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:
- Sharps disposal containers
Workplace Control

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

- Housekeeping Precautions
- Laundry Precautions
- First-Aid Precautions

Always wash hands in warm soapy water
Housekeeping Precautions

Wear gloves and protective eyewear:
- When you clean surfaces that may be soiled with body fluids or excretions
- When you clean toilets and sinks
- When you handle trash

When emptying trash watch for:
- Sharp objects
- Broken glassware
- Used syringes
Housekeeping Precautions

To prevent contamination:

- Use a device such as dustpan and broom to pick up sharp objects
- Place sharp objects in labeled sharps container
- Place all contaminated waste in red biohazard bags within a secondary container
- Wash hands as soon as possible after contamination and after removing gloves
- Do not handle items such as pens or door handles while wearing gloves
- Clean and decontaminate equipment and surfaces that had contact with infectious materials
Laundry Precautions

- Wear gloves and other PPE to handle contaminated laundry
- Separate contaminated laundry from non-contaminated laundry
- Contaminated laundry shall be handled as little as possible with minimum agitation and placed in appropriately labeled red bags
- Carry the laundry bag from the top
  - Do not wrap your arms around it
  - Do not hold it against your body
  - Do not place your hand underneath the bag to support it
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 off 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
Protective Clothing or Equipment

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
  - Commercially purchased disinfectant
- If cleaning up wet blood/bodily fluids:
  - Place paper towel or absorbent material over the contaminated fluid to soak up
  - Spray paper towel area with disinfectant
  - Red bag contaminated paper towels
  - Spray area with disinfectant solution and wipe dry
- If cleaning up dried blood/body fluids:
  - Spray with disinfectant solution
  - Wipe with paper towel
- Properly dispose of contaminated PPE, towels, rags in a red biohazard bag inside a rigid, puncture resistant, leak-proof secondary container with a biohazard label on the outside of the container and lid, during use, storage and transport. Affix generator address label to red biohazard bag.
Accident Clean-up

Clean up personnel must wear:
- Leak-proof gloves to protect your hands
- Smocks to protect work clothes if clean-up involves a large amount of blood

Conducting a clean-up:
- Restrict access to the area
- Soak up most of the blood with disposable towels or other absorbent materials
- Mop the floor with disinfectant solution
- Clean machinery/equipment with disinfectant solution
- Disinfect the mop and other cleaning equipment

Disposing of wastes:
- Seal blood soaked cleaning materials in red biohazard bags
- Affix generator address label and biohazard label
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
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: Medical evaluation and 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 #1

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

- 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 #2

You encounter a blood trail leading from a broken window into a nearby restroom.

- What personal protective equipment would you wear?
- What steps would you take before cleaning up the spill?
- How would you clean up the spill?
- What would you do to dispose the clean-up waste?
Case Summary

- Donne gloves and safety goggles before starting to clean-up spill
- Rope of the area to reduce foot traffic and potential contamination of other areas. Contact supervisor if additional assistance is needed. Get the spill kit ready with the proper disinfectant, wipe rags, red biohazard bags, etc.
- Cleanup the spill by first soaking up all wet blood spots with towel or rag, then disinfect the area with bleach or commercial solution. Wipe again.
- Place all blood soaked materials in red biohazard bags and dispose of in the proper trash container at Student Health Services. During use, storage, transport keep the red biohazard bag in a secondary container marked with a red biohazard symbol on all sides and lid.