Bloodborne Pathogens

MURRAY STATE UNIVERSITY

Bloodborne Pathogen Standard

- Required by OSHA
  (29 CFR 1910.1030)

- Applies to employees in all industries who may be exposed to blood or other potentially infectious materials (OPIM)

What are Bloodborne Pathogens?

- Microorganisms such as viruses or bacteria that are present in human blood and can cause diseases in humans
  - **Human Immunodeficiency Virus (HIV)**
  - **Hepatitis B Virus (HBV)**
  - **Hepatitis C Virus (HCV)**

Human Immunodeficiency Virus (HIV)

- The virus which causes AIDS
- Devastates the body's immune system
- ~1.2 million persons living with HIV/AIDS in U.S.; 56,000 new cases in 2013
- Symptoms: flu like illness, weakness, diarrhea, weight loss
- Signs of illness may not be present for years
- AIDS is chronic and fatal

Hepatitis B (HBV)

- Attacks the liver
- Survives in dried blood for up to 1 week at room temperature
- 300,000 new infections each year; 3,000 annually result in death
- Symptoms: fatigue, nausea, vomiting, abdominal pain, anorexia
- Can be chronic and fatal
- Vaccines mandated for children in 1998

Hepatitis C (HCV)

- 130–150 million people globally have chronic Hepatitis C
- A significant number of those who are chronically infected will develop liver cirrhosis or liver cancer
- Approximately 500,000 people die each year from Hepatitis C-related liver diseases
- Antiviral medicines can cure approximately 90% of persons with Hepatitis C infection (Harvoni®)
- Currently no vaccine for hepatitis C; however research in this area is ongoing

Potentially Infectious Materials

- Blood
- Human bodily fluids such as:
  - **Semen, vaginal secretions, lung fluid**
- Any bodily fluid containing visible blood
- Any bodily fluid that cannot be identified

How Are They Transmitted?

- Puncture wounds caused by sharp objects
- Infectious materials contacting open wounds, cuts, or broken or damaged skin

- Infectious materials contacting mucous membranes of eyes, nose and mouth

Possible Exposure Incidents

- During an accident
- While administering First Aid
- During post-accident clean-up

- When performing routine maintenance or janitorial work

Exposure Control Plan

- Universal precautions
- Engineering controls
- Work practice controls
- Post-exposure follow-up

Universal Precautions

- Treat all human blood and bodily fluids as if they are infected with HIV, HBV, HCV and other bloodborne pathogens.

Personal Protective Equipment

- First line of defense
- Limitations
- Rules:
  - **Remove before leaving work area**
  - **Wash hands after removing**
  - **Properly dispose of contaminated PPE**

First-Aid Response

- Adopt Universal Precautions
- Encourage self-care
- Use PPE
- Avoid applying pressure without barrier

Housekeeping: Spill Clean-up

- Use PPE & Universal Precautions
- Cover spill or area with paper towel or rags
- Pour disinfectant solution over towels or rags
- Leave for at least 10 minutes
- Place materials in appropriate container
- Arrange for pick-up and disposal

Housekeeping: Contaminated Laundry

- Laundry soiled with blood or OPIM
- Use PPE
- Handle as little as possible
- Pre-soak all contaminated clothing
- If blood or OPIM gets on clothing, remove and thoroughly wash with detergent ASAP

Exposure Incident Response

- *Contact with skin:* wash exposed areas with antibacterial soap and running water
- *Contact with eyes or mucous membranes:* flush affected area with running water for at least 15 minutes
- *Contact with clothing:* remove contaminated clothing, wash underlying skin
- Report exposure to supervisor immediately

Post-Exposure Evaluation

- Confidential medical evaluation and follow-up after exposure incident
  - **Identify and document source and circumstances of exposure**
  - **Test source individual's blood for HIV/HBV**
  - **Provide blood sample**
- Healthcare professional's written opinion

Hepatitis B Vaccination

- Made available to university employees after exposure incident, unless employee is at high risk of exposure.

Summary

- Bloodborne Pathogens
- Transmission
- Potentially infectious materials
- Exposure incidents
- Prevention
  - **Universal Precautions**
  - **PPE**
- Response