2016 OSHA Blood-borne Pathogens (BBP) Update

2016 JHS Annual Mandatory Education
Objectives

• Discuss the epidemiology of Blood-borne Pathogens
• List the statistics of HIV/AIDS cases
• Identify the correlation between Occupational Health Services and Blood-borne Pathogens
• Identify and list signs & symptoms of Blood-borne Pathogen infections
• Describe the transmission of Blood-borne Pathogens
• Demonstrate how to protect yourself in the healthcare setting
• Explain the importance of having a Blood-borne Pathogen Plan
• Identify Occupational Exposures
Epidemiology of BBP’s

• Although there are many BBPs that can cause disease in humans, this presentation will focus on the most common ones to which health care workers can be exposed.
• These include Hepatitis B, Hepatitis C, and HIV.
• Although Hepatitis A is often included in information on BBPs, Hepatitis A is not a BBP. It is spread mostly via the fecal-oral route.
Hepatitis B

Cases of Hepatitis B have declined in the US because of:

- Hepatitis B vaccine
- Screening of pregnant women
- Infant immunization
- Adolescent immunization
- Implementation of OSHA standard for healthcare workers
Incidence of acute hepatitis B, by year
United States, 1980-2013

Hepatitis C

• Although cases have declined in the US, Hepatitis C can be seen in:
  – IV drug users
  – Transfusion/transplant recipients
  – Occupational exposures
  – Children born to Hep C infected mothers
  – Sex partners of those infected with Hepatitis C
Incidence of acute hepatitis C, by year
United States, 1982-2013

Chronic Hepatitis Infections

- The CDC estimates that there are 1.4 million people in the US with chronic Hepatitis B infection, and 3.9 million with chronic Hepatitis C infection.
- Yearly about 1,800 deaths from chronic liver failure from Hepatitis B and 18,000 deaths from chronic liver failure from Hepatitis C are noted in the US.
- Hepatitis A does not cause chronic infection.

HIV/AIDS Cases

• Through 2010, 1,106,429 persons in the United States had been reported as having AIDS
• From 2007-2010, the total number of new cases of HIV/AIDS remain stable overall
• In 2010, the estimated rate of HIV/AIDS cases was 16.1 per 100,000 population

Figure 1: Estimated New HIV Infections in the United States, 2010, for the Most Affected Subpopulations

Occupational Health and BBP

- Annual infection has decreased since hepatitis B vaccine became available in 1982
- Hepatitis B incidence has declined 82% from 1990 to 2010
  - The lowest rates ever recorded
- About 57 cases of occupationally-acquired HIV have been documented in the US
- Statistics on Hepatitis C in health care workers are not yet available
- Overall, Hepatitis C cases have declined since 1992. Since 2003, rates have plateaued

Centers for Disease Control and Prevention. Surveillance of Occupationally Acquired HIV/AIDS in Healthcare Personnel, as of December 2010
Signs and Symptoms of BBP Infection
Signs & Symptoms of HIV

- Flu-like illness
- Fever
- Night sweats
- Aches
- Swollen glands
- Sore throat
- Diarrhea
- Fatigue
- Skin rashes
Signs & Symptoms of AIDS

- Trouble fighting off infections
- Weight loss
- Frequent diarrhea
- Fever
- Confusion
- Memory loss
- Depression
- Motor dysfunction
- Development of opportunistic infection
Signs & Symptoms of Hepatitis

- Mild flu-like illness
- Abdominal pain
- Nausea
- Fatigue
- Jaundice
- Dark urine
- Joint pain
- Rash
- Fever
Transmission of Blood-borne Pathogens
BBP Transmission

Infection Prevention and Control methods for the healthcare worker:
• Hand hygiene
• Standard precautions
• Correct use of personal protective equipment (PPE)
BBP and the Chain of Transmission

RESERVOIR or SOURCE
(infected patient)

Mode(s) of transmission
(blood to blood contact)

Susceptible Host
ENTRY
PORTALS
(break in skin)
EXIT
Transmission of BBP’s

BBP’s can be contracted after exposure to:
- blood
- body fluids containing blood
- semen
- vaginal secretions
- amniotic fluid
- spinal fluid or any other body fluid
- tissues from the body
Transmission of BBPs in the Health Care Setting

- Exposure comes from one of the following:
  - Needle stick or injury from another sharp object
  - Body fluid contact with broken skin
  - Splashes to the eyes and mucus membranes (mouth, nose, etc.)
Protecting Yourself in the Healthcare Setting
Standard Precautions

- The best way you can protect yourself is to treat all patients that you come into contact with as having a BBP.
- Since many patients may not know they are infected with a BBP, treating each patient as if they are infected will decrease your risk of contracting a BBP.
Hand Hygiene

- Hand hygiene is the easiest and most effective method for reducing the spread of infections and for decreasing your risk of contracting a BBP.
- Hand hygiene should be performed before and after patient contact.
Methods of Hand Hygiene

• If hands are not visibly soiled, use an alcohol based hand rub
  – Apply a quarter sized amount to hands and rub over all surfaces until dry
• If using soap and water, moisten hands, lather and rub vigorously for 15 seconds
• Dry with paper towel and use towel to turn off faucet
Personal Protection Equipment (PPE)

- OSHA requires that JHS provides you with personal protective equipment (PPE) so that you can safely deliver patient care. Examples of PPE include
  - gloves
  - masks
  - protective eyewear/face shields
  - protective clothing
PPE: Gloves

- Must be worn when contacting body fluids, non-intact skin or contaminated areas
- Change gloves when contaminated
- Discard gloves immediately after use
- When removing gloves, do not touch the outside of the gloves
- Perform hand hygiene immediately after gloves are removed
PPE: Eyewear/Masks/Face shields

- Used to protect eyes, nose and mouth
- Use them when there is a risk of a splash, spatter or spray of body fluids
- Replace masks immediately if they become wet or soiled
- Wash hands immediately after removing these devices
- Eyeglasses do NOT take the place of goggles
Handling Regulated Waste

- Must be placed in closeable, leak-proof containers
- Must be covered when transporting
- Must be in a red bag or display a biohazard label
Handling Contaminated Laundry

- Treat all soiled laundry as contaminated
- Use standard precautions and proper PPE when handling soiled laundry
- Handle as little as possible and keep away from body
- Do not shake or agitate laundry
- Must be bagged at location where used
- Must be transported in properly labeled biohazard laundry bag
- Do not sort or rinse laundry at bedside
Biohazard Warning Labels

Warning labels required on:

- Regulated waste containers
- Refrigerators/freezers used to store specimens
- Any container used to store, transport, or ship infectious materials
Work Practice Controls

To reduce the likelihood of exposure:

• Hand hygiene after patient contact or when removing gloves
• Wear appropriate PPE based on task being performed or when at significant risk of exposure
• Do not bend or break sharps
• No consumption of food or drink in patient care area
• No application of cosmetics/lip balm, or handling contact lenses
Engineering Controls

Devices designed to decrease the risk of exposure:

- Sharps disposal containers (do not overfill; must be changed when ¾ full)
- Safer medical devices such as retractable needles and needleless products
Selection of Safer Medical Devices

- Selection of medical devices is the responsibility of the Value Analysis Team (VAT)
- VAT reviews:
  - New equipment
  - Trials the new equipment
  - Makes recommendations for purchase of newer and safer equipment
  - Reviews product complaints
    - Note: Contact your unit’s VAT representative for new device recommendation or for product

- VAT chairperson can be contacted at 305-585-2289
Blood-borne Pathogen Exposure Control Plan
Blood-borne Pathogen Plan

- As required by OSHA, JHS has a Blood-borne Pathogen exposure plan that is updated yearly
- A copy of the plan is available on the JHS intranet
- If you can not locate Blood borne Pathogen Plan, advise your unit manager
OSHA Standard on BBP

- JHS is required by law to inform you where you can obtain a copy of this regulatory text
- The entire text is available online at the OSHA website
- The exact Internet location is:
Occupational Exposures
Risk of Occupational Exposure

If you are exposed to a BBP via needle stick, your risk of contracting that pathogen is as follows:

- HIV 0.3%
- Hepatitis B 6-30%
- Hepatitis C 1.8%
Exposure to Infectious Material

- Wash area immediately with soap and water
- Flush splashes with water
- Irrigate eyes with saline or clean water
- For deep lacerations that require immediate attention, report to the Emergency Room
- Contact Employee Health immediately 24 hours a day at 786-371-5038 or needlestick@jhsmiami.org to report the incident
Employee Exposures

- Employee health staff will complete documentation of the injury.
- Based on the injury and its severity, the exposed employee will be offered laboratory testing for HIV and Hepatitis and will be offered post-exposure prophylaxis (PEP) to prevent disease transmission.
Employee Exposures (continued)

• The Employee Health Office will arrange follow-up for counseling and any additional testing with the exposed employee
• Results of this testing are confidential
Hepatitis B Vaccine
Hep B Vaccine Requirements

- Must be offered free of charge to all employees within 10 working days of initial employment unless:
  - Employee has had vaccine
  - Antibody testing reveals immunity
  - Employee refuses vaccine
- Vaccine provided by Employee Health Services
Hep B Requirements (continued)

- Employees who refuse vaccine must sign a declination form
- Employee who refuses can accept vaccine later
- Booster doses of the vaccine may also be provided
Mandatory OSHA Education
Mandatory OSHA Education

- Must be provided to the employee at orientation
- Must be provided during working hours
- Must be free of charge for employees
- Must be updated annually
- New training may be required with new equipment
Mandatory OSHA Education (continued)

- JHS provides methods to meet this requirement:
  - Self-study packets
  - Computer/web based training (C/WBT)
  - Located on the CLMS site
- Records of training are maintained for 3 years by the Department of Education and Development
Summary

- The OSHA standard is intended to protect healthcare workers from exposure to BBP.
- Understanding and following the OSHA standards will reduce the risk of contracting Hepatitis B, Hepatitis C or Human Immunodeficiency Virus (HIV) infection from an occupational exposure.
Information

• For questions about any aspect of the OSHA Blood-borne Pathogens requirements or BBP plan contact:
  – JHS Blood-borne Pathogen Manual (in the intranet)
  – Department of Infection Prevention and Control
    • JMH 305-585-6820
    • JNMC 305-654-5215
    • JSCH 305-256-5165
References


