

# 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

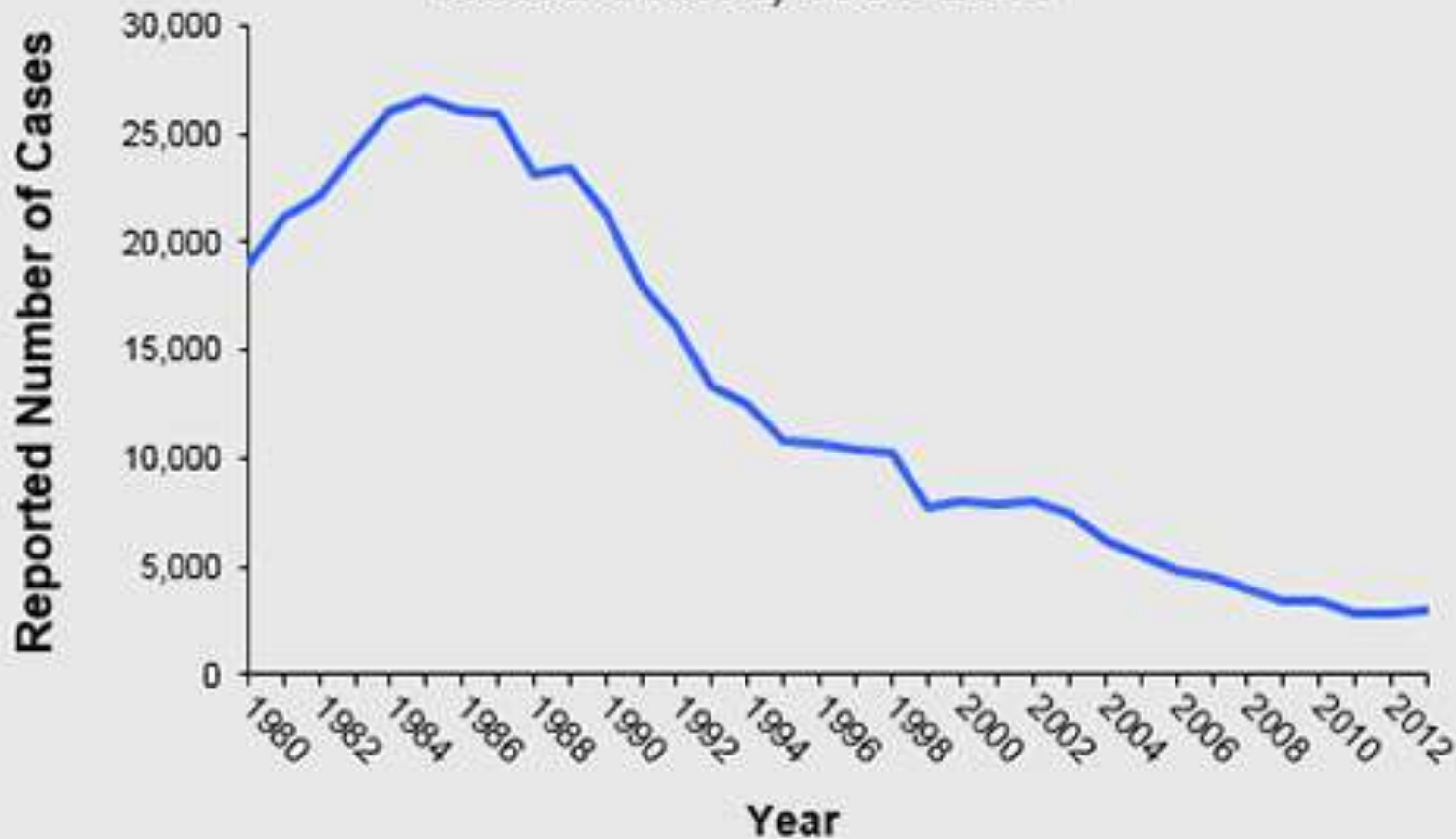
# Epidemiology of BBP's

- 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

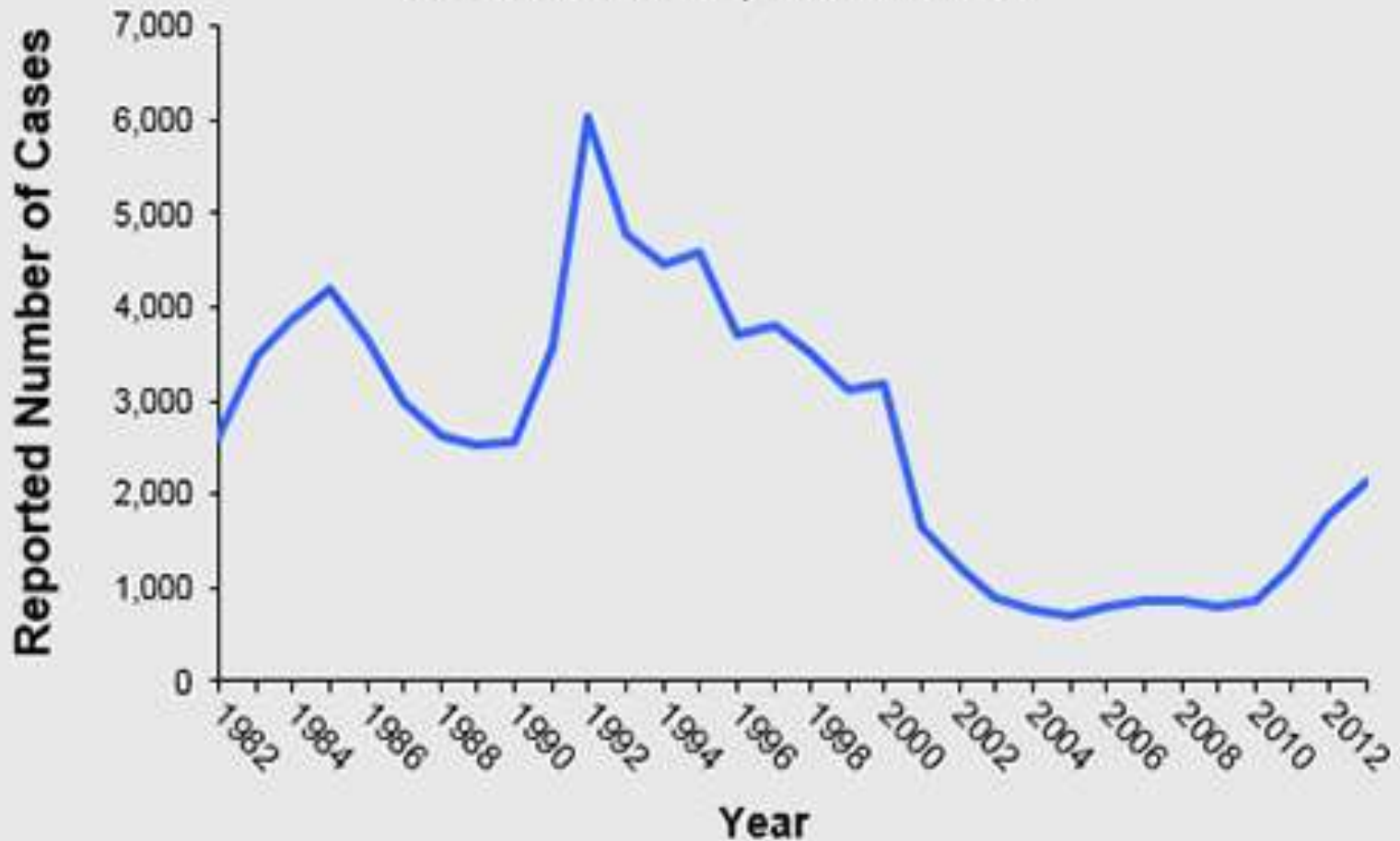


<http://www.cdc.gov/hepatitis/statistics/index.htm>

# 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



<http://www.cdc.gov/hepatitis/statistics/index.htm>

# 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

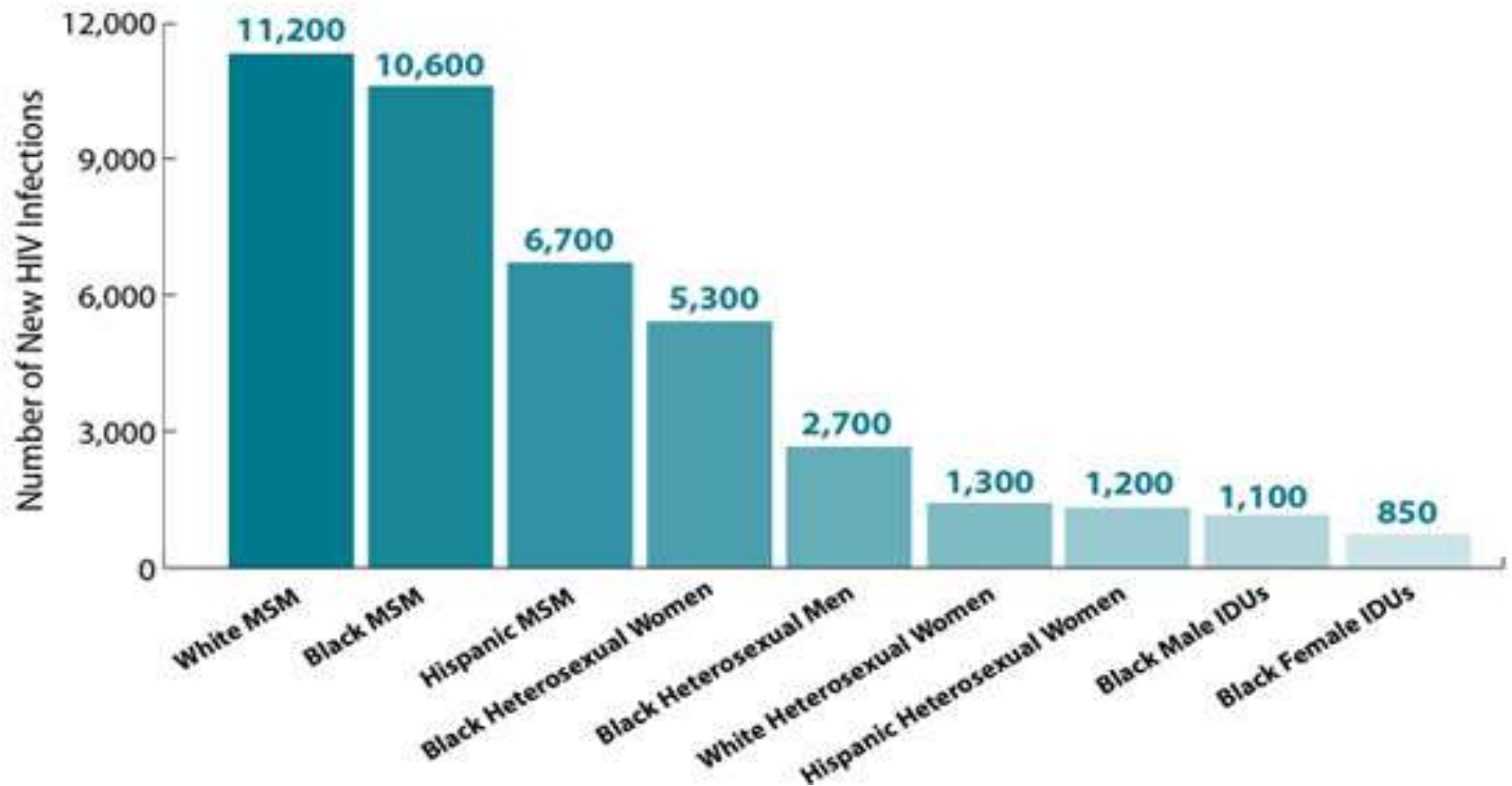
<http://www.cdc.gov/hepatitis/statistics/index.htm>



# 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
- 
- Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2010. Vol. 22. Atlanta:  
<http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>. Published March 2012. Accessed December 15, 2015.

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



<http://www.cdc.gov/hiv/statistics/surveillance/incidence/index.html>

# Occupational Health and BBP

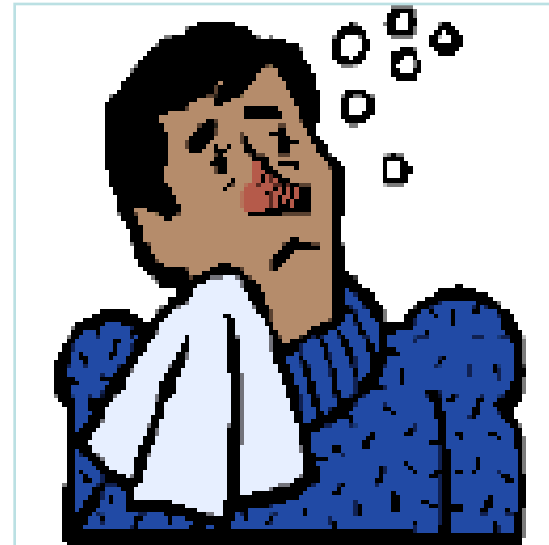
- Annual infection has decreased since hepatitis B vaccine became available in 1982
- Hepatitis B incidence has declined 82% from 1990 to 2010
  - The lowest rates ever recorded
- About 57 cases of occupationally-acquired HIV have been documented in the US
- Statistics on Hepatitis C in health care workers 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

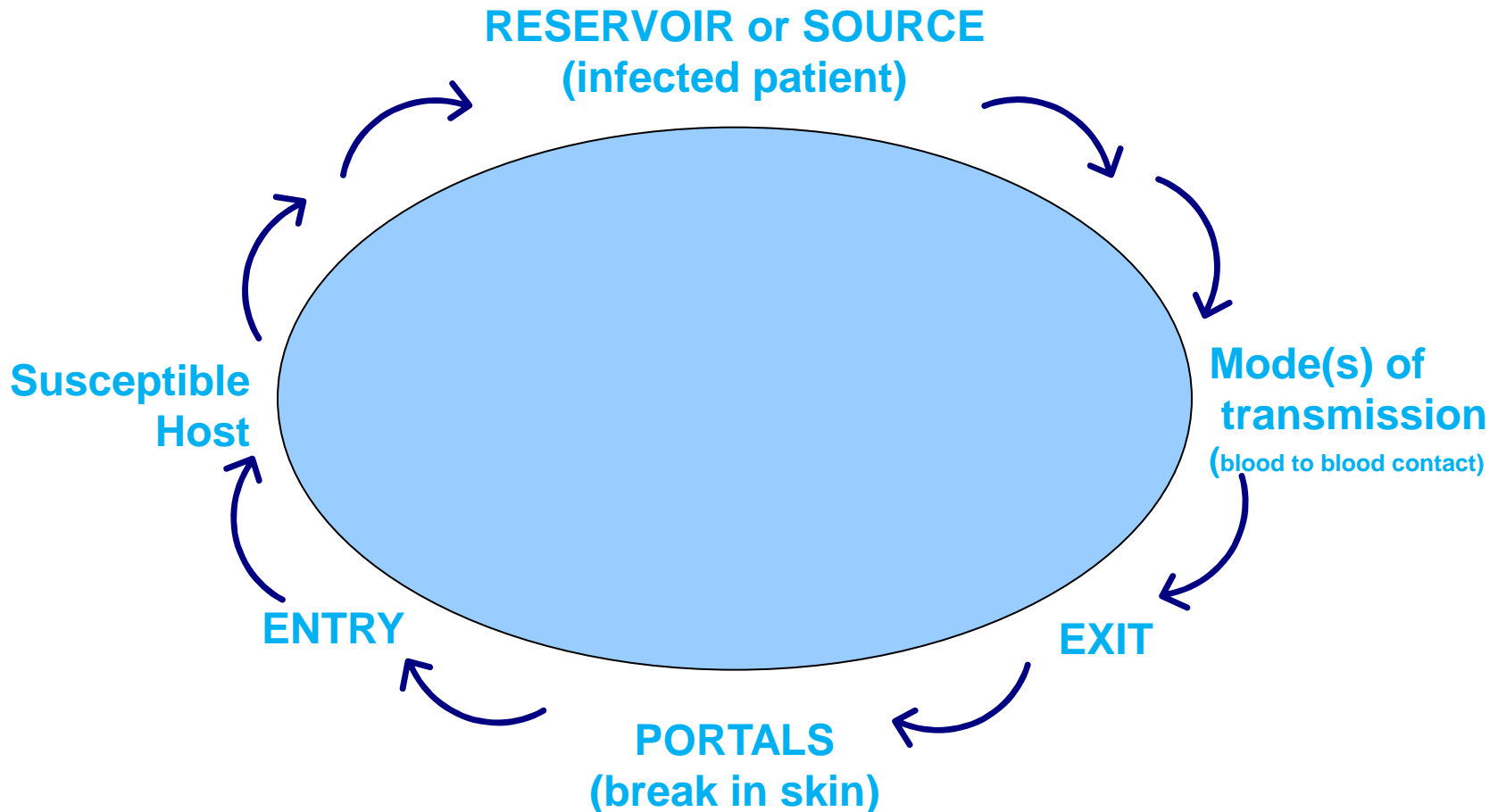


# BBP Transmission

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



# Transmission of BBP's

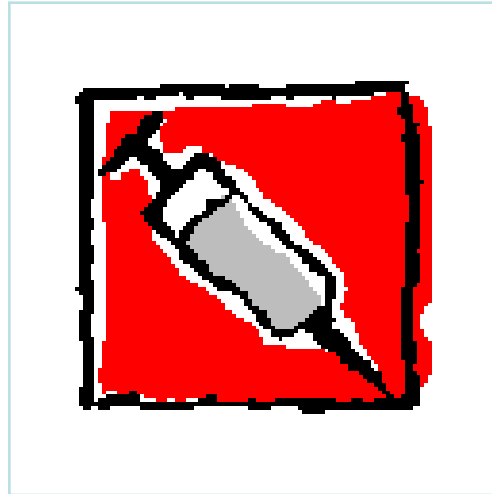
BBP's can be contracted after exposure to:

- 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 mucous 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  $\frac{3}{4}$  full)
- Safer medical devices such as retractable needles and needle-less 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 on line at the OSHA web site
- The exact Internet location is:

[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10051](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051)

# Occupational Exposures

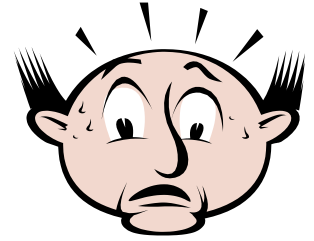
# Risk of Occupational Exposure

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@jhs-miami.org](mailto:needlestick@jhs-miami.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.



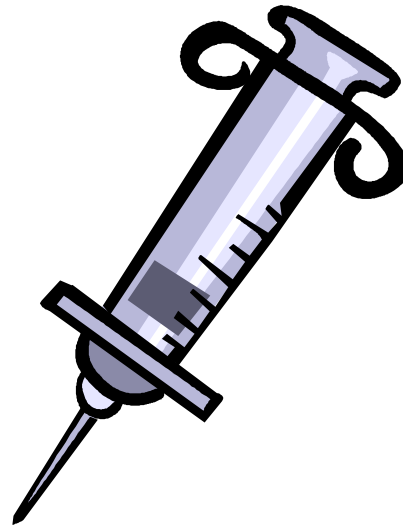


# Employee Exposures (continued)

- 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

- Centers for Disease Control and Prevention. Content source: [Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, Sexual Transmitted Diseases and Tuberculosis Prevention, Centers for Disease Control and Prevention](#)  
<http://www.cdc.gov/hiv/statistics/surveillance/incidence/index.htm>
- NIOSH. (2004). Blood-borne pathogen and infectious diseases: HIV/AIDS, Hep B virus, and Hep C virus. Available at [www.cdc.gov/niosh/bbpgg.html](http://www.cdc.gov/niosh/bbpgg.html).
- OSHA (2004). Blood-borne pathogens and needlestick prevention. Available at [www.osha-slc.gov/SLTC/Blood-bornepathogens/index.html](http://www.osha-slc.gov/SLTC/Blood-bornepathogens/index.html).
- Shelton, P, & Rosenthal, K. (2004). Select a safer needle. *Nursing management*, 35(6), 25-32.



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