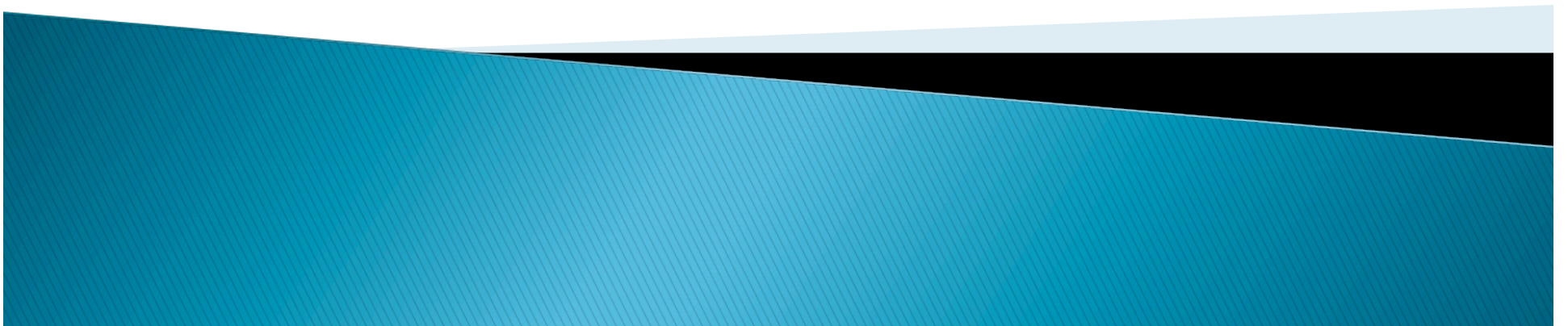
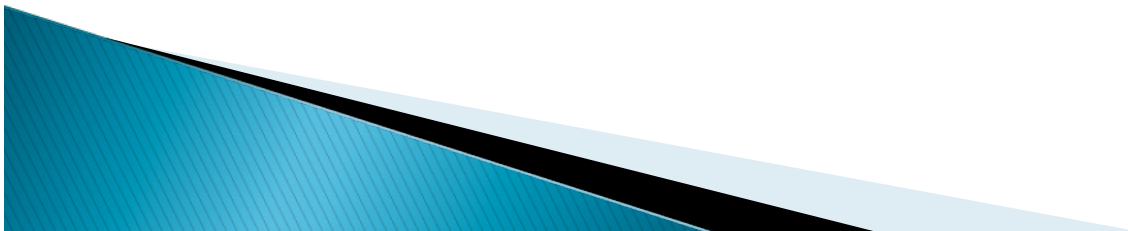


Blood Borne Pathogens



Blood-borne pathogens

- ▶ What are Blood borne pathogens?
- ▶ How are Blood borne pathogens harmful?
- ▶ How do you come into contact with Blood-borne pathogens?
- ▶ How do I protect myself?



Blood-borne pathogens

- ▶ A **blood-borne disease** is one that can be spread by contamination by blood.
- ▶ A **pathogen** or **infectious agent**, is a biological agent that causes disease or illness to its host. The term *pathogen* is derived from the Greek "that which produces suffering."
- ▶ Pathogen examples: Parasite, Bacteria, Virus.
- ▶ OPIM: Other potential infectious materials



Blood borne pathogens

- ▶ **Human Immunodeficiency Virus (HIV)**
- ▶ **Hepatitis B (HBV)**
- ▶ **Hepatitis C (HCV)**
- ▶ Non A, Non B Hepatitis
- ▶ Syphilis
- ▶ Malaria
- ▶ Babesiosis
- ▶ Brucellosis
- ▶ Leptospirosis
- ▶ Arboviral infections
- ▶ Relapsing fever
- ▶ Creutzfeld-Jakob disease
- ▶ Human T-lymphotrophic Virus Type 1
- ▶ Viral hemorrhagic fever



Blood borne pathogens

- ▶ **Hepatitis B** is a liver disease. It ranges in severity from a mild illness, lasting a few weeks, to a serious long-term illness that can lead to liver disease or liver cancer.
- ▶ **Transmission:** Contact with infectious blood, semen, and other body fluids from having sex with an infected person, sharing contaminated needles to inject drugs, or from an infected mother to her newborn.
- ▶ **Vaccination:** Hepatitis B vaccination is recommended for all infants, older children and adolescents who were not vaccinated previously, and adults at risk for HBV infection.
- ▶ **Hepatitis C** a liver disease caused by the hepatitis C virus (HCV). HCV infection sometimes results in an acute illness, but most often becomes a chronic condition that can lead to cirrhosis of the liver and liver cancer.
- ▶ **Transmission:** Contact with the blood of an infected person, primarily through sharing contaminated needles to inject drugs.
- ▶ **Vaccination:** There is no vaccine for hepatitis C.

Hepatitis B

Hepatitis C

Blood borne pathogens

- ▶ **Human immunodeficiency virus (HIV)** is a lentivirus (a member of the retrovirus family) that can lead to acquired immunodeficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections.
- ▶ **Transmission:** Contact with infectious blood, and semen from having sex with an infected person, sharing contaminated needles to inject drugs, or from an infected mother to her newborn.
- ▶ **Vaccination:** There is currently no vaccine or cure for HIV or AIDS.^[99] The only known method of prevention is avoiding exposure to the virus. However, a course of antiretroviral treatment administered immediately after exposure, referred to as post-exposure prophylaxis, is believed to reduce the risk of infection if begun as quickly as possible.



Exposure control plan

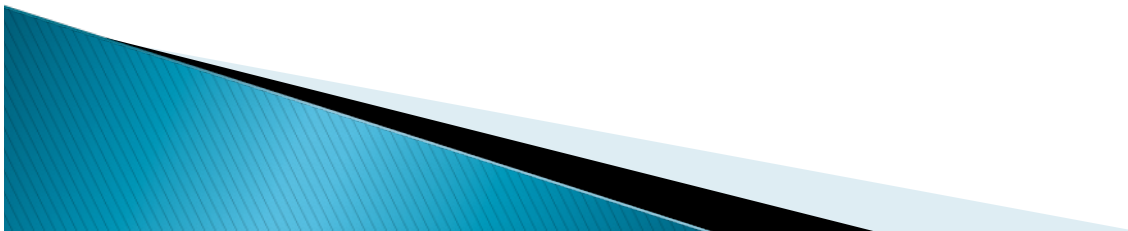
Eliminate or minimize employee exposure

- ▶ Exposure determination Controls
 - Universal precautions (or equivalent system)
 - Engineering controls
 - Work practices
 - Personal protective equipment
 - Housekeeping



Exposure control plan

- ▶ Hepatitis B vaccination
- ▶ Post exposure evaluation & follow-up
- ▶ Communication and training
- ▶ Recordkeeping



Exposure control plan

- ▶ Do we have job classifications where
- ▶ Employees are occupationally exposed?
List the classifications.

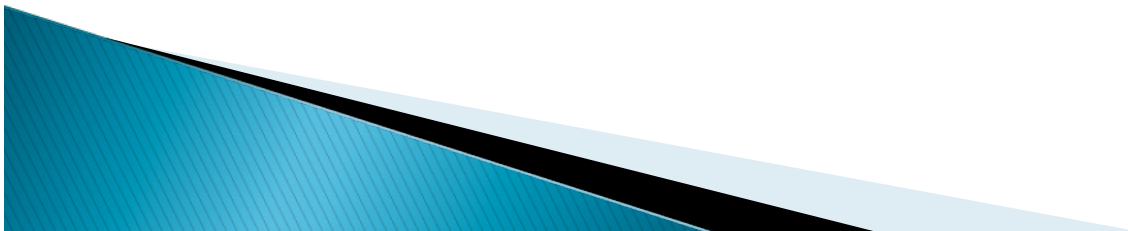
Some employees are occupationally exposed?
List the classifications.
List the tasks with exposure.

- ▶ Determine exposure without regard for PPE the worker uses.



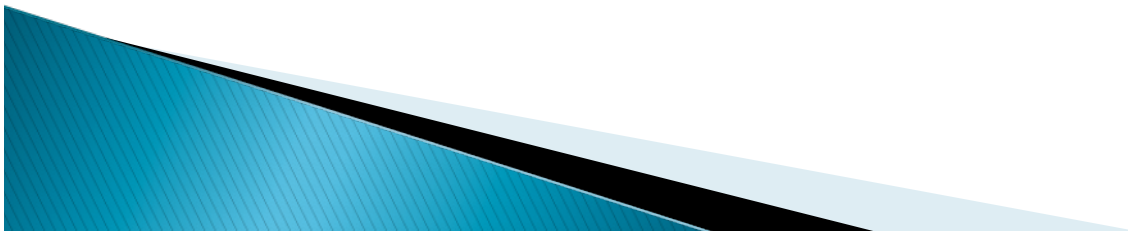
Universal precautions

- ▶ Human body fluids and All human blood is to be treated as if known to be infectious.
- ▶ This method removes all guessing as to what PPE should be worn when handling blood and body fluids.



Engineering controls

- ▶ Sharps disposal containers: Closable, Puncture resistant, Leak proof and Labeled. Never recap sharps!



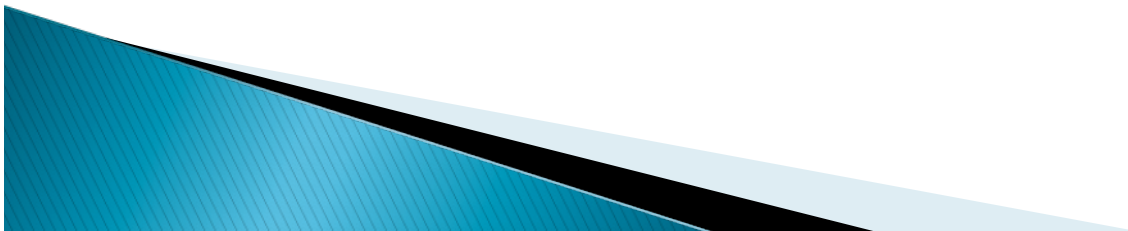
Work place practices

- ▶ Prohibit two-handed needle recapping
- ▶ Do not bend, break or remove needles.
- ▶ Wash hands between glove use
- ▶ Flush body parts with water after contact with blood or OPIM
- ▶ Remove PPE before leaving work area



Personal Protective equipment

- » Gloves
- » Gowns
- » Face shields and/or masks
- » Eye protection
- » Resuscitation devices
- » Lab coats



House keeping

- ▶ Written cleaning and decontamination schedule
- ▶ Contaminated waste disposal methods
- ▶ Laundry



Identify Biological Waste

- ▶ Blood or OPIM

Liquid

Semi-Liquid

Contaminated sharps

Lab or medical waste

- ▶ Other items caked with dried blood or OPIM



Biological waste containers

- ▶ Easily accessible
- ▶ Leak proof
- ▶ Maintained upright
- ▶ Labeled
- ▶ Replaced routinely (**no overfill!!!**)
- ▶ County or City Health Dept.. Regulations for disposal



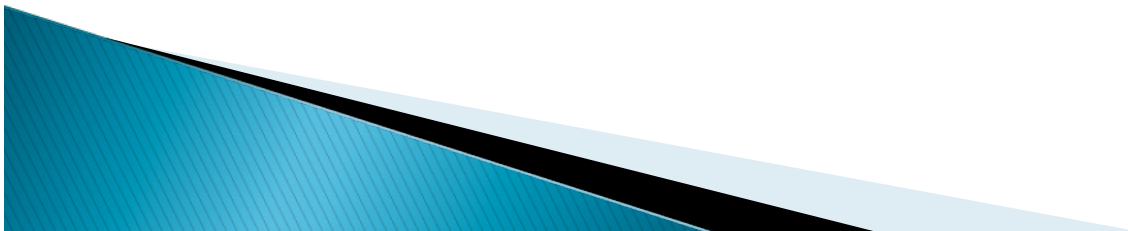
Hepatitis B Vaccine

- ▶ Is a 3 shot series that has 95% effectiveness for adults
- ▶ Make Hepatitis B vaccination available
 - Declination statement required
 - Available at later date if desired
- ▶ No cost to employees
- ▶ Reasonable time and place
- ▶ If series is interrupted, continue at any time rather than restart series



Incident exposure

- ▶ Cuts, puncture, needle sticks
- ▶ Mucous membrane
- ▶ Eye
- ▶ Non-intact skin



Exposures Evaluation

Provide medical evaluation and testing for HBV, HCV, HIV

Identify source individual of exposure, if possible.

Provide information to healthcare provider for routes of entry of exposure.

Insure that the healthcare provides
Results of the employee's test (if legal)
Post exposure treatment as needed
Provided at no cost to employee



Follow up

Provide in writing to employer:

Employee has been informed of the results

Employee has been informed of any medical conditions resulting from exposure

All specific findings or diagnoses are confidential to employee



Communicate with Signs and Labels

Regulated waste

Containers with blood or OPIM

Biohazard symbol



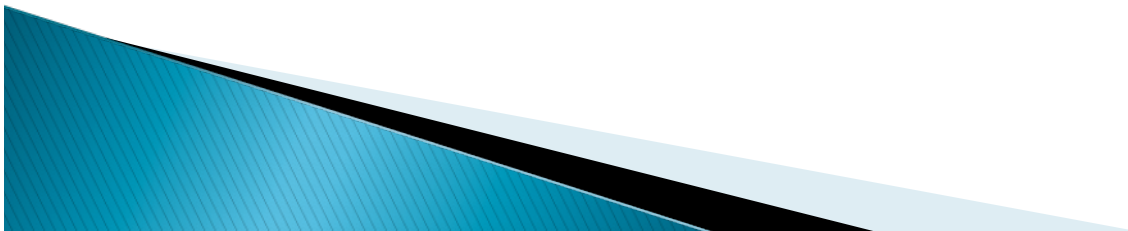
Recordkeeping

HBV vaccination status

Written medical opinion of exposure incidents

Exposure incident details

Maintain for length of employment + 30 years



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