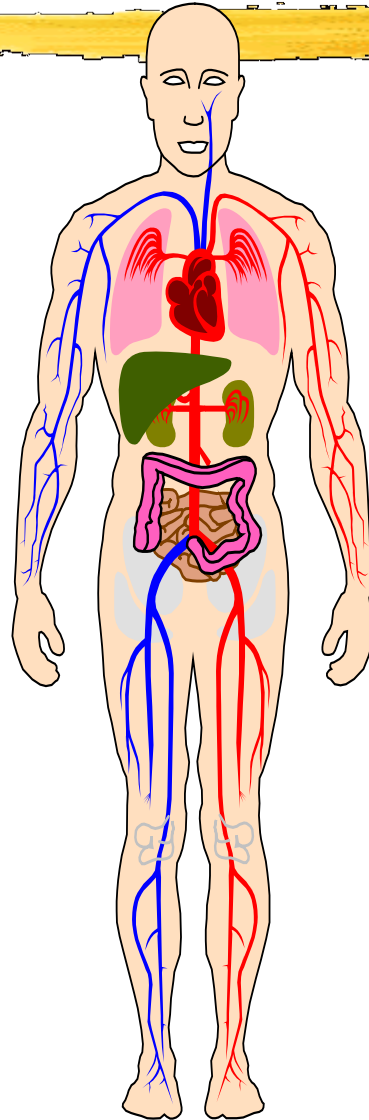


Bloodborne Pathogens (BBPs)

Present in
Blood

or



Other
Potentially
Infectious
Materials

Bloodborne Pathogens



Microorganisms that are present in human blood and carry disease.

Viruses that are carried in the bloodstream.

⌘ HIV - Human Immunodeficiency Virus

⌘ HBV - Hepatitis B Virus

⌘ HCV - Hepatitis C Virus

Blood and Other Potentially Infectious Materials (OPIM)



- ⌘ Blood Products
- ⌘ Semen
- ⌘ Vaginal Secretions
- ⌘ Joint, Lung, Chest, Abdominal, and other internal fluids
- ⌘ Severed parts/appendages

Low Risk Body Fluids



- Feces
- Nasal secretions, saliva, sputum
- Sweat
- Tears
- Urine
- Vomit

Risk is low unless contaminated with
blood.

You Cannot "Catch" BBP



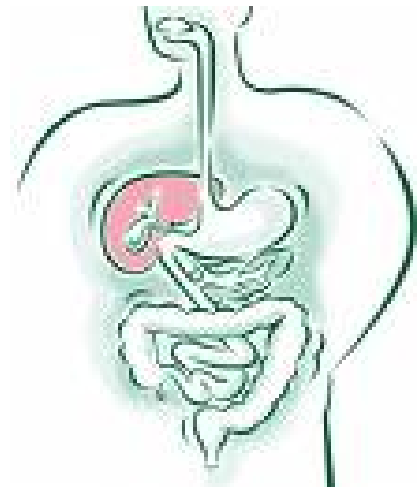
- ⌘ Through the air (coughing, sneezing)
- ⌘ Through casual contact (sharing bathrooms, kitchens, etc.)
- ⌘ Through non-sexual social situations
- ⌘ Through insects/mosquitoes
- ⌘ Through urine, feces, nasal secretions, sputum, vomit, saliva, sweat, tears
- ⌘ *Unlikely* through mouth-to-mouth resuscitation

HBV

Target organ: liver

Cirrhosis – Liver Cancer - Death

- ⌘ 5% of population will get infected at some time in their lives
- ⌘ 15% - 25% of chronically infected persons will die from liver disease



Hepatitis B

Symptoms:

45-200 day incubation period

*About 30% of persons have no symptoms or symptoms are so mild they don't know they're infected.

- ⌘ Fatigue
- ⌘ Nausea
- ⌘ Vomiting



Symptoms:

continued:

⌘ Loss of appetite

⌘ Abdominal pain

⌘ Yellow skin, mucous membranes

⌘ Dark urine



HBV

Modes of Transmission

⌘ Work Exposures

Contact with blood or other potentially infectious body fluids through:

- needlesticks
- splashes into mucous membranes of eyes, nose, and/or mouth
- saliva from a human bite

Hepatitis B Vaccine



- ⌘ Requires 3 doses injected at months 0,1 and 6.
- ⌘ Effective in over 90% of healthy adults.
- ⌘ Not recommended for people with hypersensitivity to yeast or any other component of the vaccine.
- ⌘ Use with precautions in pregnancy and with nursing moms.
- ⌘ Limited side effects.

Hepatitis B Vaccination Requirements (cont'd)

- ⌘ 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
- ⌘ Vaccination booster doses must be provided if recommended by the U.S. Public Health Service

Hepatitis C



- ⌘ Is a form of hepatitis
- ⌘ Is considered to be the most serious of these viruses, and is the most common chronic bloodborne infection in the U.S.
- ⌘ Approximately 170 million people are infected with HCV and are at risk for developing liver cirrhosis and/or liver cancer.

HCV

Target organ: liver



Cirrhosis - liver cancer - death

- ⌘ 55% - 85% becomes chronic infection
- ⌘ 70% of those have chronic liver disease
- ⌘ 1% - 5% of those will die of liver disease
- ⌘ Highest reason for liver transplants

Hepatitis C



Symptoms:

15-90 day incubation period, but 80% of persons have no signs or symptoms

⌘ same as Hepatitis B

Modes of Transmission:

⌘ same as Hepatitis B

Hepatitis C



- ⌘ Persons who are chronically infected with HCV may not be aware of their infection because they may not be clinically ill. Many of those infected don't find out that they have the disease until many years later when liver damage shows up during routine medical tests.

HIV

Target organ: Immune System



HIV Positive- AIDS - death

Makes the body less able to fight off other infections.

Top 3 Risk Categories:

- men who have sex with men (49%)
- injecting drug use (25%)
- heterosexual contact (primarily in women)

HIV

6-12 weeks - most likely time to convert

Early Symptoms:

- fever
- swollen lymph glands
- aching muscles and joints
- fatigue
- diarrhea
- rash



HIV

Modes of Transmission



Work Exposures:

Contact with blood or other potentially infectious body fluids through:

- needlesticks
- splashes into mucous membranes of eyes, nose, and/or mouth

HIV and Direct Contact



The HIV virus is very fragile and will not survive very long outside of the human body. It is primarily of concern to employees providing first aid or medical care in situations involving fresh blood or other potentially infectious materials.

| Mode of Transmission | HBV | HIV |
|------------------------------|------------|------------|
| Blood | Yes | Yes |
| Semen | Yes | Yes |
| Vaginal Secretions | Yes | Yes |
| Saliva (from a bite) | Yes | No |
| Target in body | Liver | Immune |
| Risk after needlestick | 6% - 30% | 0.5% |
| High no. of viruses in blood | Yes | No |
| Vaccine available | Yes | No |

Exposure Control Plan

- ⌘ Determination of those at risk
- ⌘ Control Methods (Universal Precautions)
- ⌘ HBV vaccination program
- ⌘ Post-exposure evaluation
- ⌘ Infectious waste disposal
- ⌘ Tags/Labels/Bags
- ⌘ Housekeeping
- ⌘ Training and Recordkeeping



Exposure Incident



- ⌘ Mucous membrane – splashing, spraying to eyes, nose, mouth
- ⌘ Skin – broken, chapped, abraded, OR prolonged contact with intact skin
- ⌘ Percutaneous – cut or puncture with sharp object contaminated with blood or other infectious material; human bite

What to do if an exposure occurs?



- ⌘ Wash exposed area with non-abrasive soap and water
- ⌘ Flush splashes to nose, mouth, or skin with water
- ⌘ Irrigate eyes with water
- ⌘ Report the exposure
- ⌘ Direct the worker to a healthcare professional

Engineering controls

⌘ Preferred means of controlling exposure

⌘ Eliminate hazards at the source



Universal Precautions

Treat all blood and body fluids as potentially infectious!



BBP Kits

- ⌘ Gloves
- ⌘ Eye protection
- ⌘ CPR mouthpiece
- ⌘ Face mask
- ⌘ Antiseptic hand cleanser & paper towels
- ⌘ Red biohazard bags
- ⌘ Gown



Personal protective equipment

⌘ PPE must prevent infectious matter from passing through to:

- street clothes
- eyes
- skin
- mouth



⌘ Hypoallergenic or powderless gloves must be made available

Surfaces Contaminated with Blood



- ⌘ HIV cannot live in a dry environment for more than a few hours
- ⌘ HBV can live in a dry environment for at least 7 days
- ⌘ Once the virus is dead, it's dead. You can't "reactivate" it by adding water.

Decontamination is Important!

Exposure incident response

- ⌘ Arrange for immediate, confidential medical evaluation, which:
 - documents how the exposure occurred
 - identifies and tests the source individual, if possible
 - tests the exposed employee's blood, if consent is obtained





THANK
YOU