Bloodborne Pathogens

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Occupational Health & Safety
http://www.udel.edu/OHS
Requirements of the Standard

- Have Exposure Control Plan
- Provide annual training
- Provide personal protective equipment
- Provide hepatitis B vaccination
- Provide exposure follow-up
Bloodborne Pathogens

- Hepatitis B virus
- Human immunodeficiency virus
- Hepatitis C virus
- Syphilis
- Malaria
- Babesiosis
- Brucellosis
- Leptospirosis
- Arboviral infection
- Relapsing fever
- Creutzfeld-Jakob disease
- HTLV-1
- Viral hemorrhagic fever
Infectious Materials

- Human blood and blood components
- Body cavity fluids
  - spinal, synovial, pleural, pericardial, peritoneal, amniotic fluids
- Semen and vaginal secretions
Infectious Materials- cont’d.

- Saliva in dental procedures
- Any fluid that is visibly contaminated with blood; or unidentifiable fluids
Hepatitis B Virus

- Symptoms
- Types of infection - acute, chronic, carrier
- Prevalence and complication risks
- Treatment and prevention
HIV Statistics

- The virus
- Cumulative number of AIDS cases in U.S.: 733,374 (12/31/99)
- Over 1 million carriers in U.S.
- 1 in 250 in general population are infected
HIV Statistics - cont’d.

- Delaware: Number 5 in nation per capita for HIV infections
- 54 healthcare workers in US infected by occupational exposures; 132 questionable
Hepatitis C Virus

- Symptoms
- Prevalence and complication risks
- National education campaign
- Treatment and prevention
Routes of Infection

- Sexual transmission
- Intravenous drug use
- Occupational exposures
  - Parenteral
  - Openings in skin
  - Mucous membranes
- Prenatal
Tasks that May Involve Exposure

• Providing first aid/ emergency care/ medical treatment
• Cleaning up spills of blood/body fluids
• Research using human materials/ other infectious fluids
Control Measures

- Eliminate the hazard
- Equipment controls
- Universal precautions
- Safe work procedures
- Personal protective equipment
Universal Precautions

- A method of exposure control in which all human blood and certain human body fluids are treated as if known to be infected with HIV, HBV, and other bloodborne pathogens.
Safe Work Procedures

- Wash hands regularly - before break, after work, when gloves are removed
- No eating, drinking, smoking, food preparation, applying cosmetics, handling contact lenses in work areas with potential for exposure
Safe Work Procedures- cont’d.

- Minimize splashing, spraying, spattering, and aerosolization of infectious materials
- Mouth pipetting and suctioning of infectious materials is prohibited
Safe Work Procedures—cont’d.

• DO NOT bend, recap, or remove needles and other sharps

• Minimize glassware/ sharps hazards

• Do not reach into trash containers
Bloodborne Pathogens Training

Personal Protective Equipment

- Gloves
  - latex, nitrile, leather
- Safety glasses or goggles
- Face mask or face shield
- Tyvek suits or gowns
- CPR barrier devices
Bloodborne Pathogens Training

Biohazard Symbol
Housekeeping

- Worksites shall be maintained in a clean condition
- All equipment, environmental, and working surfaces shall be cleaned and decontaminated after contact with infectious materials and at end of work shift.
Housekeeping- cont’d.

- Broken glassware and sharps shall be cleaned up using mechanical means
Decontamination and Spills

- Clean up spills promptly-notify others in area
- Use appropriate disinfectants
- Notify DOHS of large spills or those generating aerosols
- Notify DOHS if specimen breaks in centrifuge- LEAVE LAB IMMEDIATELY
Infectious Waste

- **Definition**
- **Waste containers**
  - Infectious waste boxes and bags
  - Sharps containers
- **Packaging guidelines**
- **Liquid waste**
Hepatitis B Vaccination

- Available since 1981
- Recombinant DNA technology—no human materials used so no risk of HIV or HBV
- Series of 3 shots in shoulder—0, 1, 6 months
- 85%-95% effective for healthy adults
Hepatitis B Vaccinations- cont’d.

- Minor side effects - soreness, redness at site
- Contraindications - yeast allergy
- CDC does not recommend routine boosters
Hepatitis B Vaccinations- cont’d.

- Vaccinating all babies for HBV; recommended for older children/teens
- Sign waiver form if decline vaccination
- Contact DOHS for information on receiving the vaccine
If an exposure occurs...

• If a cut or splash to skin
  – Wash thoroughly with soap and water
  – Allow cut to bleed

• If a splash to the face
  – Flush thoroughly with water
If an exposure occurs...

- Notify proper supervisor, DOHS
- Receive medical follow-up ASAP
- Document injury
- Procedures available on DOHS web site
Questions???

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