

BLOODBORNE PATHOGENS

LCCC SAFE 225

PP 7

Marc Snitzer RS, CSP, CIH



OBJECTIVES

LEARN

- Identify Hazards of Bloodborne Pathogens
- Identify Protections for These Hazards
- Discuss the Bloodborne Pathogens Standard

WHAT PATHOGENS?

- Many Different Pathogens
 - Viruses
 - Bacteria
 - Parasites
 - Other Microorganisms

MAJOR CONCERNS ARE VIRUSES

- Hepatitis B (HBV)
- Human Immunodeficiency Virus (HIV)
- Hepatitis C (HCV)

WHAT ARE BODY FLUIDS OF CONCERNS

- Blood
- Semen
- Vaginal Secretions
- Breast Milk
- Body Samples
- Fluids with Visible Blood
- Almost Every Fluid

HOW DOES OCCUPATIONAL EXPOSURE OCCUR?

- Needle Sticks, Contaminated Sharps, Broken Glass
- Lacerations or Other Skin Breaks
- Splashes to Mucus Membranes Eyes, Nose, Mouth

WORKERS EXPOSED

- Healthcare Workers
- Funeral Homes, Embalming
- First Aid Workers
- Industrial Accidents, Clean-ups
- Maid and Janitorial Work

OSHA STANDARD

1910.1030

Specific Standard to
Address Bloodborne
Pathogen Exposure in
the Workplace

- Exposure Control Plan
- Engineering Controls
- Cleaning, Laundry, Waste Disposal
- PPE
- Medical Evaluations and Procedures
- Training/Labeling
- Sharps Log

STANDARD COVERS EMPLOYEES “REASONABLY ANTICIPATED” TO HAVE EXPOSURE

- Healthcare Workers
- Dental Workers
- Funeral Home Workers
- Assigned First Aid Staff
- Maids/Janitors or Others Who Clean Blood or Body Fluids

EXPOSURE CONTROL PLAN REQUIRED UNDER STANDARD

- Exposure Determination
- The schedule and method of implementation for
 - Methods of Compliance,
 - HBV Vaccination and Post-Exposure Follow-up
 - Communication of Hazards to Employees
 - Recordkeeping
- Procedure for the Evaluation of Exposure Incidents

HBV

- 2.2 Million in US Have Chronic Infection
- 19,800 New Cases in 2013
- Some People Asymptomatic
- Symptoms: Fever, Muscle Ache, Jaundice
- Approximately 1/3 Cases by Needle stick but Contact with Damaged Skin also Important
- Vaccination Available

HIV

- 37,600 New HIV infections in 2014 (CDC)
- HIV Infection Causes Acquired Immunodeficiency Syndrome (AIDS)
- Infectious For Life
- No Vaccination Available Some Treatments May Increase Latency Period

STAGES OF HIV INFECTION

Patients are Contagious in All Stages

- Stage 1 – Acute HIV Infection: Flu Like Illness
- Stage 2 – Latency: HIV Active but Suppressed Activity, Can Last 10 Years or More
- Stage 3 – AIDS: Subject to Opportunistic Infections

HIGH RISK FOR HIV

Requires a High Virus Load

- Deep Injury Especially with a Sharp With Visible Blood
- Injury with Needle Used in Vein or Artery from a Patient
- Blood is From a Patient With AIDS

HEPATITIS C (HCV)

- 19,800 New Cases in 2013 (CDC)
- Usually Transmitted by Needlestick
- Some People Asymptomatic
- Symptoms: Fatigue, Joint Pain, Belly Pain, Itchy Skin, Sore Muscles, Dark urine, Jaundice,
- No Vaccination Available But New Treatments Available

EXPOSURE CONTROL PLAN

- Prepared for all Employees with Exposure
- Available for Employee Review
- Healthcare Workers
- First Aid
- Janitorial/Maid Services

EXPOSURE PLAN INCLUDES

- Engineering Controls
- Work Practices
- Vaccination Procedures
- Follow-up for Needlestick or Other Exposures

CONSIDER ALL INFECTIOUS UNIVERSAL PRECAUTIONS

- Hand Washing and Sanitizer
- PPE
- Safe Waste Disposal
- Cleaning Procedures
- Handling of Laundry
- Needle Stick Prevention

UNIVERSAL PRECAUTIONS

- Treat Fluids From all Sources as Infectious
- Treat as Exposure
 - Contact with Most Fluids Except Sweat
 - Contact with Mucus Membranes
 - Contact with Damaged Skin

WHEN IS HAND HYGIENE NECESSARY

- Before and After Exposure
- After Removal of Gloves or Other PPE
- Before and After Restroom Use
- Before and After Meals
- After Sneezing or Coughing

HANDWASHING

Handwashing

- Turn on Water
- Wet Hands Apply Soap
- Rub Palms, Backs of Hands, Fingers, Nails, Between Fingers
- Rinse – Fingertips Pointing Downward
- Dry Hands Discard Paper Towel
- Turn Off Faucet with Clean Paper Towel

HAND HYGIENE ALCOHOL GEL

- Dispense Press Pump
- Rub Palms, Backs of Hands, Fingers, Nails, Between Fingers Until Dry,

HANDWASHING VS. GEL

Handwashing

- Effective for Soiled Hands
- Slow Process
- Requires Water
- Excessive Handwashing May Dry Skin

Gel

- Effective only on Clean Hands
- Quick Process
- No Water Required
- Excessive Use Can Dry Skin

PPE

Gloves, Masks, Eye Protection, Face Shields, Gowns, Aprons

- Required When Exposure is Expected – Potential Spray, Splash, Drip with Blood or Other Potentially Infectious Material (OPIM)
- Protects Skin, Eyes, Mouth, Nose, Rest of Body and Also Prevents Clothing Contamination

MASKS

- Prevent Droplet and Large Particle Contamination
- Use Certified Respirator in Lieu of Surgical Mask if Concern is Inhalation



GLOVES

- Disposable or Washable?
- Latex Allergy is Common
- Assure that have Correct Sizes
- Wash Hands After Removing
- Use Correct Doffing Procedure

PPE POCKET MASKS FOR CPR

- Filter and Facepiece
- One Way Valve
- Cleaned and Replace Valve After Use

Check with Red Cross for Current CPR
Recommendations.

DOFFING – REMOVING GLOVES

Remove PPE To Avoid Outer Contamination

- Glove Removal – Use One Protected Hand to Grasp the Other Gloves Outer Surface and Pull Off
- Hold the Glove in the Gloved Hand
- Reach Fingers of Ungloved Hand and Pinch the Inner Side of Glove, Pull Down Over Other Glove and Discard
- Wash Hands

WASTE DISPOSAL

- Visible Blood or OPIM
- Sharps – Puncture Proof Container
- Sealed, Labeled Bags or Containers

Check With Trash Hauler and Health Department for Disposal Requirements Offsite.

CLEANING AND DISINFECTION

- Cleaning is Required Before Disinfection
- Disinfectants
 - Follow Manufactures Instruction for Mixing and Contact Time
- Sanitization – EPA Defines as Killing 99.9% of All Bacteria, Virus and Fungi

BLOOD OR OPIM SPILLS

Wear Necessary PPE

- Pick Up Visible Material
- Clean with Disposable Materials and Detergent
- Apply Disinfectant Following Mfg. Instruction
- Allow to Air Dry

LAUNDRY

- Minimize all Handling and Agitation
- Some Hospitals Use Bags that Dissolve in Wash
- Bag at Point of Use
- Wet Laundry in Plastic Bags

BIOHAZARD SYMBOL



FIRST AID

- Have Someone Assigned to Call for Help
- Remember Universal Precautions
- Try to Have Injured Person Help
- Use Gloves
- Don't Expose Yourself to Sprays
- Wash Off any Blood or OPIM ASAP
- Report to Supervisor for Follow-up

HBV VACCINATION FOR REASONABLY EXPECTED EXPOSURE

- Offered Within 10 Days of Employment
- Declination Form for Refusal
- During Working Hours at No Cost

HBV VACCINATION SAFETY

- Most Claims of All Vaccination Hazards are Bogus
- Serious Reactions are Rare While HBV is Serious
- Mild Symptoms Can Occur
- Effective in 90% of People
- Since 1985 90% Reduction in HBV

WHAT IS AN EXPOSURE INCIDENT

- Contact with Intact Skin Not Considered Incident but Must Treat
- Wash With Soap and Water
- Flush Splashes to Nose, Mouth, Eyes
- Report Incident

MEDICAL EVALUATION

- Within 24 Hours
- Document Exposure
- Test Source if Possible
- Written Findings to Employee
- Risk Counseling and Post-Exposure Treatment
- Follow Current US Public Health Service Guidelines

TRAINING

- During Working Hours No Charge to Employees
- Initial Assignment and Annually
- Retraining if Job Tasks Change Exposure
- Maintain Records for 3 Years

TRAINING REQUIREMENT

- Copy of the Standard, Explanation of Its Contents;
- A General Explanation of the Epidemiology and Symptoms
- Modes of Transmission
- Exposure Control Plan
- Methods to Prevent or Reduce Exposure
- Personal Protective Equipment
- Information on HBV Vaccine
- Actions in Emergency
- Procedure to Follow if an Exposure Occurs
- Post-Exposure Evaluation and Follow-Up
- Signs and Labels
- Interactive Questions

SAFETY DEVICES

- Where Available Must Use
- Activate on Hard Surface
- Dispose in Sharps Container

International Sharps Injury Prevention Society

SHARPS DISPOSAL CONTAINERS

- Red or Biohazard
Labeled
- Puncture proof
- Covered Secure Lid
- Proper Disposal
- Do Not Overfill



WORK PRACTICES

- Do Not Eat, Drink, Apply Make-up or Smoke in Areas Where there is Exposure to Blood or OPIM
- Do Not Store Food in Specimen Refrigerator or Storage Areas
- Recapping, Breaking of Sharps Prohibited
- Do Not Reach into Sharps Containers
- Do Not Use Hands to Pick-up Broken Glass



This work is licensed under the Creative Commons Attribution 4.0 International License. It is attributed to Ohio TechNet. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

This workforce solution was funded by a grant awarded by the U.S Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.