Universal Precautions, Work Practices & Fingerstick Procedure

MIDWEST AIDS TRAINING + EDUCATION CENTER

U.S. Department of Health and Human Services
HRSA Health Resources and Services Administration
HIV/AIDS BUREAU

Objectives

- Define a bloodborne pathogen (BBP)
- Recognize exposure risks
- Employ safe work habits when working with BBP's
- Explain proper finger stick procedure
- List what to do in case of spills & accidental exposures

What is a bloodborne pathogen?

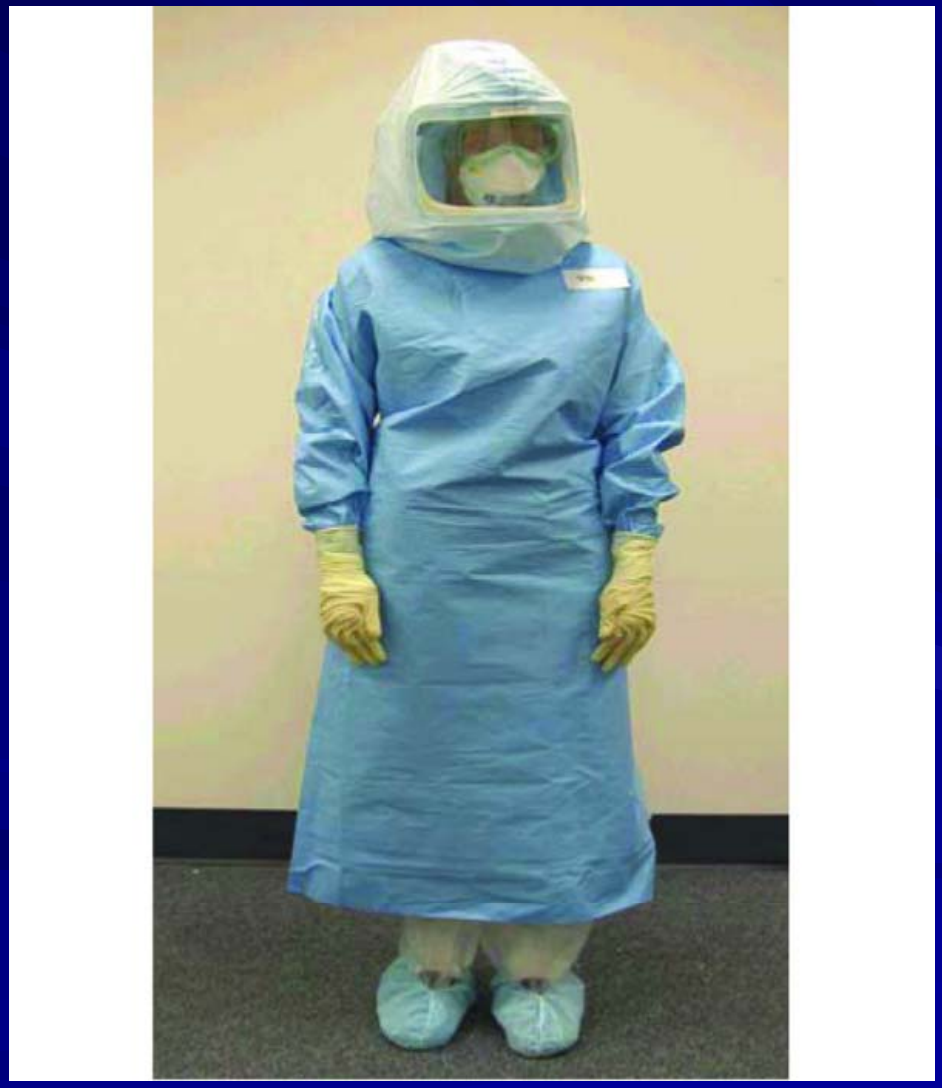
- Organism in blood that can cause disease

- Hepatitis B Virus, HBV
- Hepatitis C Virus, HCV
- Human Immunodeficiency Virus, HIV

Why do I need to know about BBPs?

- To protect yourself & others
- OSHA regulation
  - Regulation to provide safeguards against health hazards related to BBPs
  - Bloodborne Pathogen standard 29 CFR 1910.1030
  - Annual update BBP training required

How do I protect myself at work?

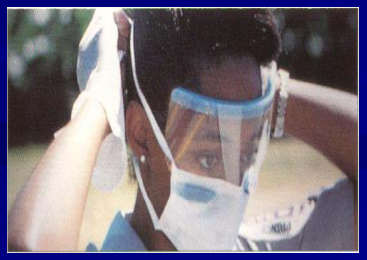


Exposure Risks at Work

- Cuts, scrapes
- Splashes
- Sharps injuries (needlestick, lancet, etc.)
- Immediate treatment of exposure site
  - wash site with soap & water
  - mucous membranes should be flushed with water
- Immediate reporting of exposures
  - Institutions & employers usually require an exposure report, check your policy

Protecting yourself from exposures

- Universal (Standard) Precautions, all patients, all the time
  - All human blood and other human fluids are assumed to be potentially infectious
  - Perform all tasks using safe work practices & personal protective equipment (PPE)



Safe Work Habits

- Washing hands
- Using disposable gloves
  - Change them after contact with each client!
- Safe disposal of sharps
- Disposal of contaminated waste in appropriate containers
- Workplace disinfection

Hand Washing is Your Best Protection!

- Wearing gloves is not a substitute!
- Wash with soap & water for 15-20 seconds
- Rinse
- Towel dry
- Turn faucet off with towel
- When soap and water are not available, waterless hand sanitizers (like Purell) are just as effective

Another reason to wash your hands…

Working with Sharps

- Use safer medical devices when available (retractable lancets)
- Do NOT recap sharps
- Dispose of sharps in containers that are
  - Closable
  - Puncture proof
  - Leak proof
  - Labeled or color-coded to indicate biohazard material

Retractable lancet

Using Sharps Containers Properly

- Keep as close to the immediate area where sharps are being used
- Keep upright throughout use
- Replace routinely
- Do not overstuff

What is Biohazardous Waste?

- Liquid / semi-liquid blood or other potentially infectious materials
- Contaminated items if squeezed or dropped could release blood or other potentially infectious materials
- Items caked with dried blood or other potentially infectious material that are capable of releasing these materials when handled
- Contaminated sharps

Biohazardous waste disposal

- Non-sharps: biohazard bags
- Sharps: sharps disposal container
- Canisters: for larger items
- All must be labeled with biohazard label

Workplace Disinfection

- Work surfaces are assumed to be contaminated
- Work surfaces should be disinfected:
  - Before performing any test procedure
  - Whenever contamination is visible
  - When finished with work / shift

What to Use to Disinfect

- 10% bleach solution
  - 1 part household bleach / 9 parts water
  - Mix well
  - Label container with date, concentration, initials, expiration date (1 week from date prepared)
  - Include health hazard warning on bottle
- EPA-approved disinfectant
- Do not use alcohol or alcohol wipes, because they evaporate too quickly

How to Clean a Surface

- Put on gloves
- Apply bleach solution
- Let stand 1 minute
- Wipe up using absorbent towel
- Throw towel out in biohazard waste
- Remove gloves appropriately & dispose of gloves in biohazard waste container
- Wash hands

Cleaning up Blood Spills

- Put on gloves
- Identify area affected, do not directly touch fluids, remove any sharps with tweezers, forceps or dustpan
- Place absorbent towel over spill
- Spray or pour disinfectant on towel
- Let disinfectant stand for 2-3 minutes
- Wipe up
- Dispose of in biohazard can
- Repeat as many times as necessary

Preparing for Fingersticks – Supplies Needed

- Clean, absorbent workplace cover (chux)
- Soap & water or hand sanitizer
- Disposable gloves
- Retractable safety lancets
- Alcohol wipes
- Sterile gauze pads
- Test device for specimen collection
- Band-Aids
- Sharps disposal container
- Biohazard waste container
- Regular trash can

Workstation Organization

- Wash hands and put on disposable gloves
- Cover work surface with absorbent material
- Have all supplies within easy reach and all materials ready to use before performing stick
- Place sharps disposal container & waste container appropriately to avoid cross-over

The Fingerstick

- Make sure client is sitting
- Instruct client to rest arm in a downward position for about 30 seconds to allow blood to flow to the fingertips
- If clients hands are cold, it may be difficult to obtain blood

Stimulating blood flow to fingertips

- Gently massage finger a few times from base to tip of finger
- Stroke client's arm in downward motion from forearm to hand
- If client's hands are cold, ask client to rub hands together or wash hands in warm water if available

Fingerstick-site selection

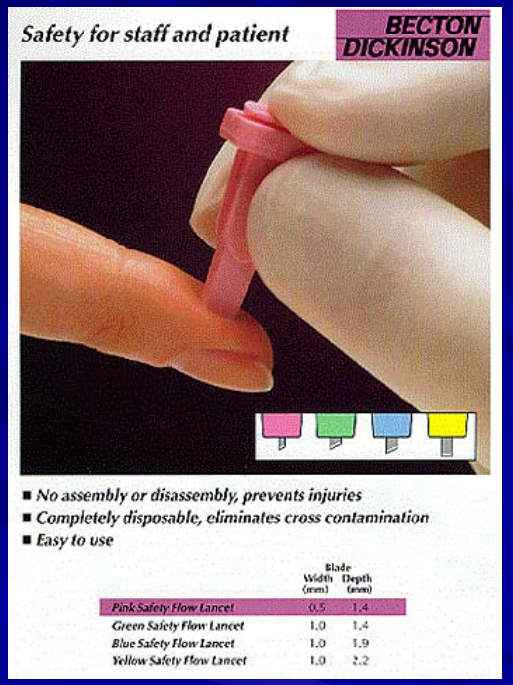
- Select middle or ring finger on hand used less often
- Do not choose a puncture site that is callused, bruised, scarred, swollen or injured
- Use the less painful part of the fingertip, just off the center of the finger pad, slightly to the side

Fingerstick-cleaning site

- Clean puncture site with alcohol pad
- Pad and wrapper can go in regular trash
- Allow site to air dry
- Remove any excess alcohol with sterile gauze
- Do not puncture skin if wet alcohol remains
  - OUCH!
  - Could dilute sample

Fingerstick-using the lancet

- Open package, remove protective cover
- Follow manufacturers instructions
- Hold client's finger firmly, palm side up, between your thumb & index finger
- Place retractable lancet on finger
- Hold firmly against skin and press release button for puncture
- Discard used lancet in sharps container



After puncture

- Apply gentle pressure every few seconds about ½ inch above puncture site
- Using clean gauze, wipe away 1st drop of blood
  - Contains tissue fluid that may dilute blood sample
- Discard gauze in regular waste
- Hold finger & pressing gently, collect specimen in test device

Following specimen collection

- Give client a gauze pad to press on puncture site to stop bleeding
- After a few minutes, check the site again, to see if bleeding has stopped. Dispose of gauze in biohazard container (Never release a client if they are still bleeding)
- Offer Band-Aid
- Remove gloves and discard in biohazard container
- Wash hands

Risk of Getting HIV, HBV or HCV from a Blood Exposure

HIV: 0.3%

HBV: 22-31%

HCV: 1.8%

HIV risk on the job

- 0.3 % for percutaneous injury, less for splashes
- PEP: Post Exposure Prophylaxis reduces risk by an additional 80%
- PEP needs to started as soon as possible
  - 24-72 hours after potential exposure
- PEPline, for help managing occupational exposures: 24hr/day, 7 days/week

1-888-HIV-4911

PEP for HIV

- Consists of taking the medications used to treat HIV for a 28 day period
- Prescription based on type of injury and source of exposure
  - HIV status known / unknown
    - If HIV +, any evidence of resistance?
- Special recommendations for pregnant HCWs
- Need to report in for monitoring / evaluation

FYI-as of December 2006

- 57 HCW seroconverted after an occupational exposure to HIV *(CDC, 2007)*
- Another 140 HCW considered *possible* occupational exposure:
  - History of occupational exposure to fluids containing HIV
  - HIV seroconversion after a specific exposure not documented

What to remember after any potential exposure…

- All exposed healthcare workers need to be counseled regarding:
  - Safer sex practices
  - Safer injection practices
  - Drug and alcohol use
  - Avoiding blood donation

Hepatitis B (HBV)

- Virus that infects and damages liver, causing cirrhosis & sometimes cancer
- Risk of clinical hepatitis after needlestick injury 22-31%
- Prevalence of HBV infection 10 times higher in HCWs than in general population
- HBV can survive in dried blood on environmental surfaces for 1 week

Recommendations for healthcare workers for HBV

- Hepatitis B vaccine
  - Very safe, (most common side effect=pain at injection site)
  - Through yr 2000, over 100 million persons have received vaccine
  - Given to infants and kids
- If you have a HBV exposure
  - HBIG (hepatitis B immune globulin) initiated within 1 week of exposure (75% protection from HBV infection)
  - Hepatitis B vaccine series

Hepatitis C (HCV)

- Virus that infects the liver
  - Inflammation, cirrhosis, liver failure, liver cancer
- Leading cause of liver transplantation in US
- Symptoms may not show up for many decades after initial infection
- 3.9 million Americans are infected

Hepatitis C

- 1.8% risk after needlestick
- ≈10,000 deaths annually from HCV liver disease
- PEP for HCV: None
  - Use of immune globulin for HCV PEP not supported by research studies

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