

Universal Precautions, Work Practices & Fingerstick Procedure



Objectives

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

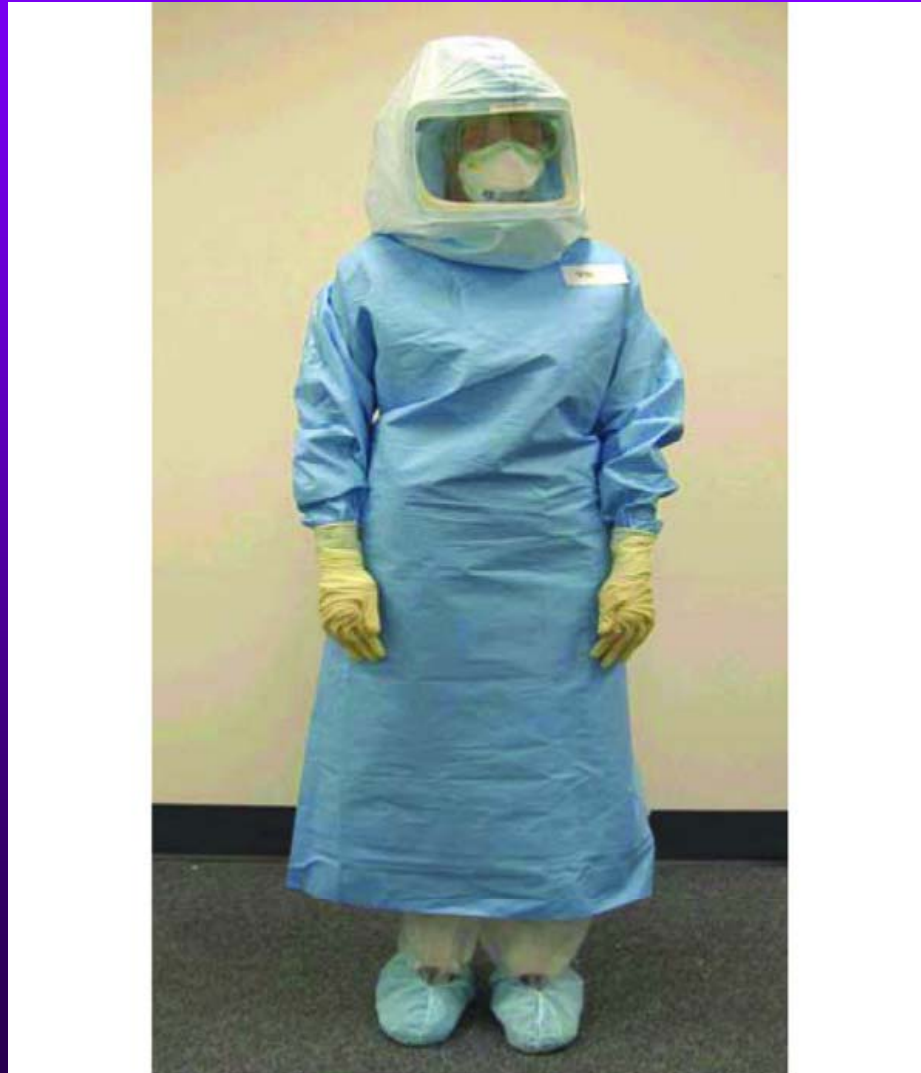
What is a bloodborne pathogen?

- 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 a BBP?

- 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?

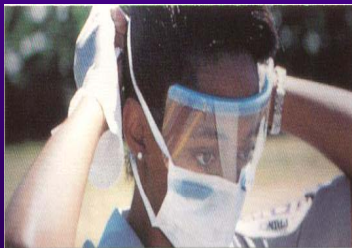


Exposure Risks at Work

- 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

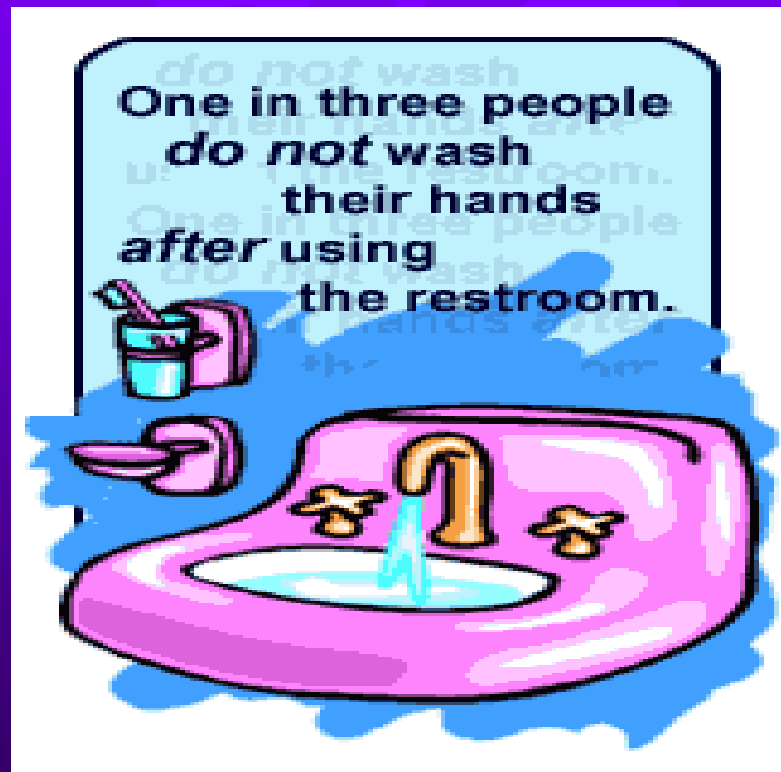
- Washing hands
- Using disposable gloves and changing them after contact with each client!
- Safe disposal of sharps
- Disposal of contaminated waste in appropriate containers
- Workplace disinfection

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

- Nonsharps: 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 tweezer, forceps or dustpan
- Place absorbent towel over spill & allow it to soak up
- Spray or pour disinfectant on towel (prevents splashing)
- Let disinfectant set 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 Fingertick

- 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



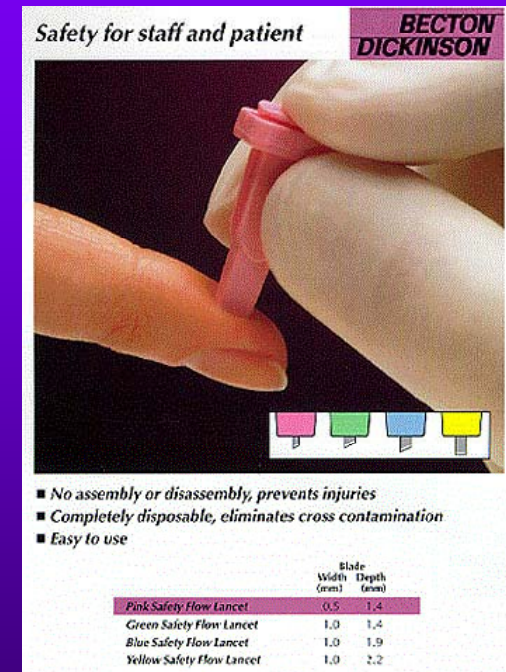
Fingerstick-cleaning site



- Clean puncture site with alcohol pad using a circular motion, working from inside to the outside
- 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! And could dilute sample

Fingerstick-using the lancet

- Open package, remove protective cover, packaging can go in regular trash
- Follow manufacturers instructions (each are different)
- 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
- Never reuse a lancet



After puncture

- Apply gentle pressure every few seconds about ½ inch above puncture site
- Using clean gauze, wipe away 1st drop of blood (first drop contains tissue fluid that may thin blood sample)
- Discard gauze in biohazard 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%
 - decreases by 80% if you get HIV PEP within 2 hours of injury
- 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 within hrs of injury
- 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 4 week period
- Prescription of medication based on type of injury and source of exposure (HIV status known, unknown, if HIV +, any evidence of resistance)
- Special recommendations for pregnant healthcare worker
- Healthcare worker needs to report in for monitoring

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, but HIV seroconversion after a specific exposure not documented

Things to remember about HIV after a potential exposure

- All exposed healthcare workers need to be counseled regarding safe sex
- Would want to avoid blood donation during this time as well

Hepatitis B (HBV)

- Virus that infects and damages liver, causing cirrhosis & sometimes cancer
- Risk of clinical hepatitis after needlestick injury 22-31% (symptoms, got sick with Hep B)
- Risk of developing serologic evidence of HBV infection 37-62% (did not get sick but can be measured in blood)
- Healthcare workers have a prevalence of HBV infection 10 times higher than general population
 - (8000 HBV infections occur yearly in HCW and 200-300 workers die yearly as a result of occupationally acquired HBV infections)
- HBV can survive in dried blood on environmental surfaces for 1 week

Recommendations for healthcare workers for HBV

- **Hepatitis B vaccine**
 - Safe, 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
 - Ok for pregnant women
 - **Again, safe sex message must be reinforced with healthcare worker**

Hepatitis C (HCV)

- Virus that infects liver, causing inflammation which may lead to cirrhosis, liver failure, or liver cancer
- 1.8 % of Americans infected, than equals 3.9 million people

Hepatitis C

- 1.8% risk after needlestick
- Leading cause of liver transplantation in US
- Symptoms may not show up for many decades after initial infection
- ~10,000 deaths annually from HCV liver disease
- PEP for HCV: None
 - Use of immune globulin for HCV PEP not supported by research studies

Content Developed By...

Michelle Agnoli, RN, BSN, ACRN

Questions regarding content?

312-996-0224

magnoli@uic.edu