

Bloodborne Pathogens Course Review - CardioCare

1) Introduction

- a) Regulatory text of standards (*Appendix A of student handbook*)
- b) OSHA estimates that 8 million workers are at risk of occupational exposure to BB Pathogens or OPIM's (main concern: human immunodeficiency virus HIV, hepatitis B virus HBV, and hepatitis C virus HCV)
- c) This course should be repeated annually.

2) Bloodborne Pathogens and OPIM

a) **BB Pathogens=bacteria and viruses present in blood and bodily fluids of infected person that can cause disease to others**

- i) HBV (hepatitis B virus): serious disease caused by a virus that attacks and causes inflammation of the liver. It can cause lifelong infection, scarring of the liver, liver cancer, liver failure, and death.
 - (1) **Signs/symptoms:** jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting, joint pain
 - (2) **Transmission:** unprotected sex, shared needles, needlesticks or sharps exposures, or from mother to baby during birth
 - (3) **Risks:** people with HBV are also at risk with HCV or HIV
 - (4) **Myths:** you cannot get HBV from sneezing, coughing, kissing, hugging, sharing utensils or glasses, breastfeeding, food or water, or casual contact
 - (5) **Prevention:** Hepatitis B vaccine (everyone under 19 should), condoms, no drugs, do not share personal care items like razors or toothbrushes, consider tattoo or piercing risks, if you've had it do not donate blood/organs/tissue
- ii) HCV (hepatitis C virus): similar to HBV
 - (1) **Signs/symptoms:** jaundice, fatigue, dark urine, abdominal pain, loss of appetite, nausea
 - (2) **Transmission:** injecting drugs with shared needles, needlesticks or sharps exposures, or from mother to baby during birth (rarely spread through sex)
 - (3) **Myths:** (same as HBV)
 - (4) **Prevention:** (same as HBV)
- iii) HIV (human immunodeficiency virus)/AIDS (acquired immune deficiency syndrome): AIDS is the most advanced stages of HIV. It kills or damages cells of the body's immune system. It progressively destroys the body's ability to fight off bacteria, viruses, fungi, parasites and other microbes.
 - (1) **Signs/symptoms:** fever, headache, tiredness, enlarged lymph nodes or swollen glands (within a month or 2 after exposure symptoms may imitate a flu-like illness). Later the symptoms include: lack of energy, weight loss, fevers/sweats, yeast infections, skin rashes, pelvic inflammatory disease, short term memory loss
 - (2) **Transmission:** sex (anal, vaginal, or oral), sharing needles and syringes, exposure during birth or through breastfeeding
 - (3) **Myths:** you cannot get HIV from shaking hands, hugging, casual kiss, toilet seats, drinking fountains, door knobs, dishes/glasses, food, pets, bugs
 - (4) **Prevention:** (same as HBV & HCV, however there is no vaccine)

b) **OPIM=other potentially infectious materials**

- i) Seminal
- ii) Vaginal
- iii) Cerebrospinal (spinal cord & brain)
- iv) Synovial (lubricates joint surfaces)
- v) Pleural (lining lungs & chest cavity)
- vi) Pericardial (surrounding heart)
- vii) Peritoneal (contained in the abdomen)
- viii) Amniotic (protects fetus throughout pregnancy)

3) Safety and Prevention in the workplace

- a) Employer's exposure control plan should contain: exposure determination (list of all job classifications/tasks/procedures with risk of exposure), schedule & method of implementation (compliance into practice, vaccination program, evaluation and follow up procedures, recordkeeping), documentation of effective engineering controls, procedures for evaluating circumstances surrounding exposure incident

***OSHA provides a model for an easy template: search 3186-06N (2003) at www.osha.gov*

- b) Engineering controls= equipment or devices that help reduce exposure by isolating or removing it
- c) Work place practice controls= procedures that reduce likelihood of exposure by altering manner in which task is performed: handwashing, PPE's, an decontamination
 - i) Signs and warning labels
 - (1) blood must be marked with a biohazard symbol or placed in a red container
 - (2) sharps must be in a color coded, puncture-resistant and leak proof container
 - ii) Hand hygiene
 - (1) CDC (Center for Disease Control and Prevention) recommends an alcohol-based hand rub, if one is not available wash with a non-antimicrobial soap and water, wash for a min. of 15 sec.
 - (2) Do not wear artificial fingernails
 - (3) Keep natural nails less than 1/4" long
 - (4) 1 pair of gloves per patient/client/student, change each person (wear double layer)
 - (5) Change gloves if moving from a contaminated body site to a clean body site
 - iii) Decontamination
 - iv) Disinfectants (appropriate solutions include 1/4 c. bleach 5.25% hypochlorite in 1 gallon of cool water....bleach and water loses its strength by heat and sunlight so mix fresh every day)
 - v) Equipment and surfaces
 - vi) Reusable containers (must be inspected regularly and decontaminated)
 - vii) Broken glass (use mechanical means to pick up: brush/dustpan, tongs, forceps)
 - viii) Laundry (handle as little as possible, place in leak-proof color-coded or labeled container)
- d) Universal Precautions (treat all blood and fluids as if they were known to be infectious) & Personal Protective Equipment (PPE)
 - i) Always use a barrier
 - (1) When necessary: with all cuts or sores on hands you should bandage first then cover with gloves, employer evaluates tasks and type of exposures to determine

- (2) What is necessary: gloves, eye protection (not regular eyewear), CPR devices, clothing such as gowns/aprons/caps/shoe covers
- (3) How to put on, take off and adjust/wear
- (4) Proper care/maintenance, useful life, and disposal: one use only, replace with tears/punctures or loss of function

****Don't eat, drink, smoke, apply cosmetics or insert/remove contacts in areas of exposure. Store all food and drink away from potentially infectious materials.**

4) Exposure incidents and follow up

- a) Needlestick or sharps injury or exposure immediately: wash with soap and water, flush splashes to the nose, mouth or skin with water, irrigate eyes with water/saline/sterile saline, report to supervisor, seek medical treatment

***go to www.osha.gov for great preventatives on sharps injuries*

- b) Follow up: after first aid, employer must make a confidential medical evaluation and follow-up available to employee, and employer must evaluate circumstances surrounding incident

5) Conclusion (rate program forms)

Optional Demos:

- 1-clean up blood or OPIM spills
- 2-removal/disposal of contaminated gloves
- 3-proper hand hygiene techniques