Peak Development for … Home Health Aides©

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Infection Control: Preventing Needlesticks and Transmission of Bloodborne Pathogens

Peak Development Resources, LLC
P.O. Box 13267
Richmond, VA 23225

Phone: (804) 233-3707
Fax: (804) 233-3705
Email: editor@peakdev.com

After reading the newsletter, the home health aide should be able to:

1. Identify modes of transmission for HBV, HCV and HIV.
2. State precautions to decrease the risk of disease transmission in client care.
3. List the appropriate steps to take if exposure to blood or body fluids occurs.

Prevention of injury and illness in the workplace is a serious concern for all healthcare providers and facilities. The Centers for Disease Control and Prevention (CDC) estimates that 385,000 needlesticks and sharps injuries occur in hospitals each year— more than 1,000 per day. The CDC also notes that similar injuries occur in other healthcare settings, including long-term care and home settings.

A significant risk caused by these injuries is the transmission of bloodborne pathogens and illness that may result. OSHA, the Occupational Safety and Health Administration, defines bloodborne pathogens as "infectious microorganisms present in human blood that can cause disease in humans."

This newsletter will discuss bloodborne pathogens, including selected diseases they cause and how they are transmitted, Safety measures to prevent exposure to bloodborne pathogens will be discussed, as well as actions to take if exposure occurs.

Bloodborne Infections

There are many types of bloodborne pathogens that can cause illness in those who come into contact with them. The three that are of greatest concern are the hepatitis B virus (HBV), hepatitis C virus (HCV), and the human immunodeficiency virus (HIV).

Hepatitis is a disease of the liver. The liver has several different, and very important, body functions. It produces bile, which helps to digest fats. The liver helps to regulate the amount of sugar, protein and iron in the blood. It produces factors that help the blood to clot, preventing excessive bleeding. The liver also filters the blood to remove particles like bacteria and metabolizes many of the medications we take.

Hepatitis occurs when the liver is infected by one of the hepatitis viruses. This causes inflammation of the liver and may affect the liver's ability to do its many jobs. Hepatitis C infects over 41,000 people per year in the US, and is the most common chronic bloodborne infection, affecting an estimated 3.5 million people.

HIV is a virus that attacks and weakens the immune system. It can progress to a severe illness, acquired immunodeficiency syndrome (AIDS). Without an effective immune system to protect it from disease, the body may develop serious and life-threatening infections or cancer. Common infections include pneumonia, tuberculosis, and yeast infections.

HIV, HBV, and HCV are spread by contact with blood and other

potentially infectious body fluids, such as semen, vaginal secretions, amniotic fluid, cerebrospinal fluid, or any blood-tinged body fluid. These viruses are not spread by droplet or airborne transmission. They cannot enter the body through healthy, intact skin. The organisms can enter the body only by needlestick or other sharps injury, through cut, broken or abraded skin, or through the mucous membranes, such as the eyes, nose and mouth. For example, the healthcare provider may become infected if an infected client coughs, and blood-tinged saliva or sputum touches an open rash or cut on the skin, or lands on the mucous membranes of the healthcare provider's eyes, nose or mouth. Needlesticks are the most common way that these pathogens are transmitted to healthcare workers in the workplace.

Prevention of Infection

As a healthcare provider, you must be alert at all times to keep yourself safe from infection. Since you don't always know which clients have blood-borne diseases, you must protect yourself as if all clients may have them. The use of Standard Precautions with all clients, including thorough handwashing, is essential.

Handwashing is still the most important way to prevent infections. Wash your hands thoroughly before and after each contact with your client. Wear gloves any time you may contact blood or body fluids (anything "wet"). If splashing could occur, also wear goggles, mask, and gown to protect your eyes, nose, mouth, and body.

Vaccination to prevent HBV is recommended by the CDC for healthcare providers. If you have not been immunized against hepatitis B, ask your agency about how to get these vaccines. There are no vaccines available to prevent HCV and HIV.

If your client uses needles or lancets, such as a diabetic, be extremely careful to watch for discarded sharps in the household. These may be left by the client or family in unexpected places. When changing bed linens, pull the linens from the bed carefully, to make sure a needle hasn't been left there. Don't just grab up an armful, or you may get stuck. The same caution applies to trash disposal. If you have to remove something from a trash can or empty it, never put your hand into the trash can. Make sure the family has an appropriate, puncture-proof container for needle and lancet disposal. If they do not, let your supervisor know so that one can be obtained.

If you handle or use needles, such as to collect a urine specimen or pick up a client's used equipment, ensure that you have received adequate sharps training and use appropriate safety precautions. And remember that contaminated sharps include equipment such as used lancets, disposable razors, and razor blades.

Safety is promoted by the use of safer needle and lancet designs, such as those that retract into the syringe or have a sheath to cover them. Used needles and lancets should not be bent, broken, removed, or recapped, since injury and infection may result. Needles and sharps should be discarded immediately after use into an approved container.

If Exposure Occurs

An exposure is contact with blood or body fluids that put the healthcare provider at risk for contracting a bloodborne disease. Examples include a needlestick, contact with blood on an open skin area, or splashing of body fluids into the eyes. It is very important to be familiar with your agency's policies and procedures regarding exposure BEFORE an exposure occurs. You will want to know what to do immediately if you have an exposure.

If an exposure occurs, try not to panic. Most exposures do not result in disease. Immediately wash the affected area thoroughly with soap and water, if it is a needlestick, other injury, or skin exposure. For exposure to eyes or other mucous membranes, flush with lots of water (or saline for eyes). Then call your agency immediately to report the exposure, giving as much detail as possible, and follow any directions given. Blood may be drawn from you and the client for testing. Based on these results and your health history, you will be counseled regarding the options available to you. For example, you may have the option of taking a preventive anti-viral medication if your client does have a bloodborne infection. Because HIV, HBV, and HCV cause viral diseases, antibiotics are not effective in preventing or treating these infections. The testing, follow-up, and preventive treatment are provided at no cost to the employee.

Personal safety is a critical concern for all healthcare providers. By having a thorough understanding of how bloodborne pathogens are transmitted, and using appropriate precautions in the clinical setting, the risk of contracting a bloodborne illness is substantially reduced.

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Competency Assessment Tool

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NAME:_____ DATE: _____

Directions: Place the letter of the one best answer in the space provided.

____1. Hepatitis is best described as:
A. a weakened immune system
B. a severe lung infection
C. blockage of the gall bladder
D. inflammation of the liver

____2. Hepatitis B and C are most commonly spread by:
A. the fecal-oral route
B. eating raw shellfish from contaminated water
C. contact with infected stool
D. blood or sexual contact

____3. The most common chronic bloodborne infection in the US is:
A. hepatitis A
B. hepatitis B
C. hepatitis C
D. HIV/AIDS

____4. HIV, HBV and HCV are viruses that are transmitted through which of the following ways:
A. contact
B. airborne
C. droplet
D. all of the above

____5. Pathogens such as HIV and HBV in blood and body fluids may cause illness if they touch a person's healthy, intact skin.
A. True
B. False

____6. In healthcare settings, transmission of illness due to bloodborne pathogens to healthcare providers most commonly occurs as a result of:
A. scalpel injuries in the operating room
B. splashing of body fluids into the eyes
C. needlestick injuries
D. poor handwashing technique

____7. The best way to prevent infection with hepatitis C is to receive the vaccine.
A. True
B. False

____8. To prevent exposure to bloodborne pathogens, all of the following guidelines should be followed EXCEPT:
A. all needles should be securely re-capped before discarding them
B. linens should be removed carefully to watch for sharp objects
C. needles should never be bent, broken or removed
D. clients using needles or lancets should have an approved disposal box

____9. Most exposures to blood and body fluids result in disease for the healthcare worker.
A. True
B. False

____10. Kayla is accidentally stuck with one of her client's used needles. The <u>first</u> action she should take is to:
A. notify the agency
B. ask the client if he has any bloodborne diseases
C. wash the area thoroughly with soap and water
D. have blood drawn for testing

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Group Tracking Log

Employee Name	Unit	Test Date	Comments	Signature