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Home Health Aide
On-the-Go In-Service
Series

Bloodborne Pathogens

Volume 16, Issue 1

Faith Williams, BS, RN
Objectives

Participants will be able to:

- Discuss harmful organisms that may be present in blood
- Demonstrate precautions to prevent the spread of bloodborne diseases
- Discuss procedures to follow after exposure to blood or body fluids
- Understand the importance of vaccination against hepatitis B

Content

Read the Lesson 20 minutes
Read the Case Study 5 minutes
Complete “Think About It” 10 minutes
Complete Test 15 minutes
Feedback Session 10 minutes

Supplemental Learning Activities

Write this matching quiz on a board or poster. Have participants draw lines to match. Answer key follows.

Table 1.1: Bloodborne Pathogen Learning Activity

<table>
<thead>
<tr>
<th>1. Pathogens</th>
<th>a. There is no vaccine against it</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Hepatitis B</td>
<td>b. These should be used with certain types of diseases</td>
</tr>
<tr>
<td>3. Hepatitis C</td>
<td>c. There is a vaccine against it</td>
</tr>
<tr>
<td>4. Standard precautions</td>
<td>d. This is the best way to prevent the spread of disease</td>
</tr>
<tr>
<td>5. Additional precautions</td>
<td>e. These are tiny organisms that can cause disease</td>
</tr>
<tr>
<td>6. Hand washing</td>
<td>f. These should be used at all times</td>
</tr>
</tbody>
</table>
Ask a participant to draw one line matching an item in the left column with an item in the right column. Encourage the participant to ask others in the group for opinions if needed. Do the same thing with five other participants, until all the lines have been drawn connecting the phrases.

Hand out copies of the learning guide to participants. Lecture on the material in the guide, allowing for questions and discussion. Or ask participants to read portions of the guide and tell the rest of the group what they learned.

Discuss the pyramid chart until everyone understands it. You may want to post it on an employee bulletin board as a reminder of infection control precautions. If possible, demonstrate proper hand washing technique and have participants practice.

Look at your matching quiz on the board again. Ask participants if they need to change anything. Correct anything that was not matched to the right phrase.

Administer the test and grade it.

---

**Test Answer Key**

1.  c  
2.  b  
3.  b  
4.  d  
5.  a  
6.  b  
7.  b  
8.  a  
9.  c  
10. d
Instructor’s Log

Date / Time / Place

Attachments

☐ Participation Record  ☐ Posttest  ☐ Handouts  ☐ Other  __________________________, RN
<table>
<thead>
<tr>
<th>Date/Time Spent</th>
<th>Aide Participant</th>
<th>Test Score</th>
<th>Feedback/RN Signature</th>
</tr>
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**Bloodborne Pathogens**

**Why Is It Important to Protect Yourself From Contact With Blood and Body Fluids?**

Though they can’t be seen, there are hundreds of tiny organisms living in blood and other body fluids that can cause disease in humans. These are called “bloodborne pathogens.”

Some of these organisms are harmless and can be handled easily by the body’s immune system, but others can cause severe illness, such as hepatitis or AIDS.

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**Bloodborne Diseases: HIV/AIDS, Hepatitis B, Hepatitis C**

Bloodborne pathogens include the hepatitis B virus (HBV), the hepatitis C virus (HCV), the human immunodeficiency virus (HIV) that causes autoimmune deficiency syndrome (AIDS), and others.

These pathogens are transmitted through contact with infected body fluids such as blood, semen, and vaginal secretions. Exposures occur (a) if the skin is punctured by a contaminated needle, razor, or other sharp item or (b) when broken skin or mucous membranes are splashed with blood or body fluid. Fortunately, most exposures do not result in infections.

Standard precautions are designed to prevent transmission of HIV, HBV, and HCV. Standard precautions must be observed in all situations where there is potential for contact with blood or other potentially infectious body fluids.

Standard precautions apply to:

- Blood
- Semen
- Vaginal secretions
- Saliva
- Cerebrospinal fluid
- Synovial fluid
- Pleural fluid
- Peritoneal fluid
- Pericardial fluid
- Amniotic fluid
- Feces
- Nasal secretions
Treat all human blood and body fluids as if they are infectious. Remember who you are protecting—YOURSELF!

**Standard precaution 1: Hand washing**

Hand washing is the single most important thing you can do to prevent the spread of infection. Thorough hand washing removes pathogens from the skin.

Wash hands before and after all patient or body fluid contact. Immediately wash hands and other skin surfaces that are contaminated with blood or body fluids. When wearing gloves, wash hands as soon as the gloves are removed.

Germicidal hand rubs are recommended only when you can’t wash.

**Proper hand washing procedure**

1. Remove watch or push it up your arm. You should not wear rings or bracelets at work.
2. Do not touch the sink with your hands while you are washing, and stand back from the sink to keep it from touching your clothes.
3. Use warm water. Hot water may dry skin.
4. Either bar soap or liquid soap is okay. If using a bar, rinse it first and hold it the whole time you are lathering. Soap does not have to be an antiseptic type, unless you are doing an invasive procedure such as catheterization.
5. Wet your wrists and hands.
6. Apply plenty of soap. Work up a thick lather all over your hands and wrists, between your fingers and thumbs, and on the back of your hands and wrists.
7. Vigorously rub all areas of your hands, fingers, and wrists for a minimum of 10–15 seconds. Sixty seconds is better. Friction helps remove dirt and microorganisms.
8. Clean under your nails by using the nails on your other hand, or rub your nails into the palm of your other hand. Clean around the top of your nails.
9. Rinse with warm water, letting water run down from wrists to fingertips and into the sink.

10. Dry with a clean paper towel and throw it away.

11. Turn off the faucet with a clean, dry paper towel and throw the towel away.

12. Use lotion on your hands to prevent irritation and chapping, which makes skin more prone to infection.

When handwashing facilities aren't available, use an agency-approved antiseptic hand cleaner or an antiseptic towelette. As soon as possible, rewash your hands with soap and water following the correct hand washing procedure.

**Standard precaution 2: Gloves**

- Use gloves in all situations where you may come in contact with blood or body fluids
- Use gloves for patient care involving contact with mucous membranes, such as brushing teeth
- Change gloves and wash hands between patient contacts
- Use gloves when you have scrapes, scratches, or chapped skin on your hands
- Do not wash or disinfect disposable gloves for reuse

**Standard precaution 3: Protective barriers**

Protective barriers, including gloves, reduce the risk of your skin or mucous membranes being exposed to potentially infective blood and body fluids. You should wear the appropriate barriers for the work you are doing.

Employers must provide suitable personal protective equipment (PPE) in the right sizes. Protective equipment includes gloves, gowns, masks, eye protection, face shields, mouthpieces, resuscitation devices, and other things. Hypoallergenic gloves, glove liners, powderless gloves, or other alternatives must be available for those who are allergic to the regular gloves.

The equipment you need depends on your work. When splashing of blood or body fluids is likely, wear the following PPE in addition to gloves:

Mask if your face could be splashed with blood or body fluids

- Eye protection if your eyes could be splashed with blood or body fluids
- Gown if your clothing or skin could be splashed

**Standard precaution 4: Proper disposal of sharp items**

A “sharp” is any object that can penetrate the skin, such as needles, scalpels, broken glass, broken capillary tubes, and exposed ends of wires. A sharp is contaminated if it has been in contact with blood, body fluids, or body tissues.

Contaminated sharps must be disposed of properly. Follow your agency’s policies.
• Be careful to prevent injuries from needlesticks and other sharp instruments after procedures, when cleaning used instruments, and when disposing of used needles. Do not recap or manipulate needles.

• It's best to use needleless injection systems or needles with injury protection. If you must use a regular needle, remember:
  – Do not recap needles. If it is absolutely necessary to recap a needle, use one hand to slide the needle into a cap lying on a flat surface. Do not hold the cap in your other hand while recapping.

Tips

• Use thick rubber household gloves to protect your hands during housekeeping chores or instrument cleaning involving potential blood contact

• Treat all linen soiled with blood or body secretions as potentially infectious

• Surfaces that have been contaminated with blood or body fluids should be cleaned with a disinfectant according to your organization’s policies
Figure 1.1
Centers for Disease Control and Prevention two-tiered system to control disease transmission

Everyone is a possible source of bloodborne infection.

Protect yourself!

TIER 2:
Additional Precautions

Based on Type of Disease and How It Is Transmitted:
1. Airborne
2. Contact
3. Droplet

TIER 1:
Standard Precautions

Basic Precautions to Be Used at All Times, With All Clients, to Prevent Transmission of Bloodborne Diseases:
1. Frequent, thorough hand washing.
2. Wear gloves when you touch blood or body fluids.
3. When splashing of blood or body fluids is likely, wear the following, depending on the situation:
   a. Masks
   b. Eye protection
   c. Disposable gowns
4. Safe use and disposal of sharp items. Do not recap needles at any time.
If an Exposure Occurs

Immediately following an exposure to blood or body fluids:

- Wash needlesticks and cuts with soap and water.
- Flush splashes to the nose, mouth, or skin with water.
- Irrigate eyes with clean water, saline, or sterile irrigation.

Next:

- Report the exposure at once. Treatment may be recommended, and it should be started as soon as possible. See a medical professional.
- Discuss the possible risks and the need for treatment with the person managing your exposure.
- Remember that mandatory testing of a patient is not legal. Patients who might be the source of an infection must give consent to be tested.

Workers’ rights

The Occupational Safety and Health Administration (OSHA) is a federal agency that guarantees rights to a safe workplace. Under OSHA’s rules, workers who might be exposed to contaminated blood or body fluids have specific rights.

Employers must train workers that might be exposed to blood or body fluids about the hazards and how to protect themselves. This training must occur during working hours at no cost to employees, at orientation, and annually thereafter.

Standard precautions must be practiced at all times. Puncture-proof and leak-proof containers must be provided for disposal of sharp items. There must be a system for reporting exposures to blood or body fluids.

Employers must provide free hepatitis B vaccine, free protective equipment, and free immediate medical evaluation and follow-up for anyone exposed to blood or body fluids. Employees must receive confidential treatment, and their medical records must be protected.

Workers’ responsibilities

- Always use standard precautions.
- Actively participate in evaluating safer equipment and encouraging your organization to purchase safer equipment. Be open to new products or practices that could prevent exposure and protect workers and patients.
- Be immunized against hepatitis B, getting the series of three injections.
- Report all exposures immediately after cleaning and disinfecting the exposed skin or mucous membranes.
- Comply with postexposure recommendations of your organization.
• Support other workers who have been exposed. HIV-infected workers who continue working deserve support and confidentiality.

• Know your own HIV/HBV/HCV status. If you are positive for any of these viruses, you do not pose a risk for patients if you don’t do invasive procedures.

SPECIFIC EXPOSURE RISKS AND TREATMENTS

Human immunodeficiency virus (HIV)

HIV is the virus that causes AIDS.

Risk of infection after exposure:

• Needlestick is the most common cause of work-related infection.
• Risk factors include the amount of blood or fluid, the puncture depth, and the disease stage of the infected person.
• The average risk of HIV infection after a needlestick or cut exposure is 1 in 300. The risk after exposure of the eye, nose, skin, or mouth to positive blood is less than 1 in 1,000. If the skin is damaged, the risk may be higher.

Treatment after exposure:

• There is no vaccine against HIV.
• Postexposure treatment is not always recommended. A physician or exposure expert should advise you.
• Drugs used to prevent infection may have serious side effects.
• Perform HIV antibody testing for at least six months after exposure.

Note: 99.7% of needlestick/cut exposures do not result in HIV infections.

Hepatitis B virus

• Everyone with a chance of exposure to blood or body fluids should receive the hepatitis B vaccine, preferably during training, unless it is contraindicated because of allergies, pregnancy, or potential pregnancy.

Risk of infection after exposure:

• Hepatitis B vaccine prevents this disease. Persons who have received the vaccine and developed immunity are at virtually no risk for infection. A series of three injections are required, given initially, then 1–2 months later, then 4–6 months after the first injection.
• Workers should be tested 1–2 months after the vaccination series to make sure the vaccination has provided immunity.
• For the unvaccinated person, the risk from a single needlestick or cut exposure ranges from 6–30%, depending on the level of virus in the infected person’s blood. A higher concentration of virus makes it more likely that someone exposed to that blood will become infected.

Treatment after exposure:

• Hepatitis B immune globulin (HBIG) effectively prevents HBV infection after exposure. Recommendations for postexposure management of HBV may include HBIG and/or hepatitis B vaccine. The decision to begin treatment is based on several factors, such as whether the:
  – Source person is positive for hepatitis B
  – Worker has been vaccinated
  – Vaccine provided immunity

**Hepatitis C virus**

Infection with HCV carries a great potential for chronic liver disease and can lead to liver failure, liver transplants, and liver cancer.

Risk of infection after exposure:

• HCV is a growing problem
• The risk for infection after a needlestick or cut exposure to HCV-infected blood is approximately 1.8%
• The risk after a blood splash is unknown but is believed to be very small; however, HCV infection for such an exposure has been reported

Treatment after exposure:

• There is no vaccine against hepatitis C and no treatment after an exposure that will prevent infection.
• Immune globulin (HBIG) is not recommended.
• Following recommended infection control practices is vital.
• There are several tests that should be performed in the weeks after an exposure and for 4–6 months afterward. Confer with a physician or an exposure specialist.

**Additional Precautions for Infection Control**

If you know or suspect that a patient has a disease that is spread in one of the following ways, use the following extra precautions, in addition to standard precautions.

Airborne germs can travel long distances through the air and are breathed in by people. Examples of diseases caused by airborne germs are TB, chicken pox, and shingles. Precautions include the following:
• Wear a mask. If the patient has, or might have, tuberculosis, wear a special respiratory mask (ask your supervisor). A regular mask will not protect you.
• Remind the patient to cover nose and mouth when coughing or sneezing.
• Treat the patient’s used tissues or handkerchiefs as infected material.

**Contact** germs can cause the spread of disease by touch. Examples of diseases caused by contact germs are pink eye, scabies, wound infections, and methicillin-resistant Staphylococcus aureus. Precautions include the following:

• Wear gloves
• Treat bed linens, clothes, and wound dressings as infected material
• Wear a gown if the patient has drainage, has diarrhea, or is incontinent
• Use a disinfectant to clean stethoscopes, blood pressure cuffs, or other equipment

**Droplet** germs can travel short distances through the air, usually not more than three feet. Sneezing, coughing, and talking can spread these germs. Examples of diseases caused by droplet germs are flu and pneumonia. Precautions include the following:

• Wear a mask when working close to the patient (within three feet)

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**Case Study**

Tammy is the home health aide (HHA) assigned to provide personal care assistance for John Adams. John is a 70-year-old married male who was recently discharged from the hospital where he has been treated for an infected wound. The infection grew out of a MRSA (methicillin-resistant staphylococcus aureus) infection and is still draining. Mary Adams, his wife, is very anxious for her husband to fully recover so they can resume their activities with their friends. John has a covered wound on his abdomen that the RN comes by daily to redress. There is drainage, but only a little shows through as bloody on the bandage. When Tammy attempts to provide personal help with bathing and dressing John, Mary always insists that Tammy does not need to wear gloves or protect her clothes with a gown, since the drainage is so little. Tammy does not wish to upset Mary, so she does not wear the gloves or gown and is very careful to wash his abdomen without getting near the dressing.

**Think About It**

1. What should Tammy have done differently?
2. Is it OK that she ignored the standard precautions, since the wound was draining so only a little shows on the bandage?
3. What more could Tammy have taught Mary about the proper care of John?
4. Is this infection contagious?
5. What should she do with his linens?
Directions: Read each question carefully, then determine the best answer. Check the corresponding box on your answer sheet. Do not write on this posttest.

1. Bloodborne pathogens include:
   a. DIC
   b. Flu
   c. HIV
   d. DCF

2. Hepatitis B immunization requires a series of how many injections?
   a. 2
   b. 3
   c. 4
   d. 6

3. Ideally, all eligible caregivers with any chance of exposure to blood or body fluids should receive the hepatitis B vaccine:
   a. Immediately after exposure
   b. Prior to exposure
   c. Within a week of exposure
   d. When symptoms of infection first occur

4. The preferred method of removing pathogens from hands is:
   a. Rubbing hands vigorously with germicide
   b. Wearing gloves
   c. Scraping under fingernails
   d. Hand washing with soap and water and using friction

5. Vaccines are available for all of the following EXCEPT:
   a. Hepatitis C
   b. Hepatitis B
   c. Measles
   d. Rubella
6. Sharps must be safely used and disposed of. Sharps include:
   a. Plastic bags
   b. Any object that can penetrate the skin
   c. Absorbent dressings
   d. Protective gowns

7. Which statement is true?
   a. Barely soiled gloves can be washed and reused twice.
   b. Always wear gloves when providing patient care if you have any cuts, scrapes, or chapped skin on YOUR hands.
   c. Wear gloves when brushing your patient's teeth only if their gums are bleeding.
   d. To save time, you may wear the same gloves from patient to patient if the patients are clean.

8. Personal protective equipment must be provided by your employer. It includes all except:
   a. Electronic thermometers
   b. Protective gowns
   c. Eye shields
   d. Resuscitation devices

9. The first thing you should do if you have a blood splash into your eyes is:
   a. Report the incident to your supervisor by phone.
   b. Drive to the agency to report to your supervisor.
   c. Flush your eyes with clean water or saline if available.
   d. Call your insurance carrier.

10. If your patient is at home, and has scabies as a current diagnosis, what precautions should you take?
   a. Wear gloves for all patient contact.
   b. Treat linens as infected material—keep and wash separately from other household linens.
   c. Wear a gown when in contact with patient skin or linens.
   d. All of the above.
Multiple-Choice Answer Sheet

1. □ a □ b □ c □ d
2. □ a □ b □ c □ d
3. □ a □ b □ c □ d
4. □ a □ b □ c □ d
5. □ a □ b □ c □ d
6. □ a □ b □ c □ d
7. □ a □ b □ c □ d
8. □ a □ b □ c □ d
9. □ a □ b □ c □ d
10. □ a □ b □ c □ d

Instructor’s Comments/Signature

Signature ____________________________________________, RN   Date ____________________
Home Health Aide Record

This is to certify that

______________________________

has successfully completed the in-service program for home health aides titled

______________________________.

This training included ________ hours of instruction and testing.

INSTRUCTOR:

______________________________

DATE:

______________________________

THE “HOME HEALTH AIDE ON-THE-GO IN-SERVICE SERIES” IS AN HCPRO TRAINING PROGRAM
Each year, home health aides must meet the Centers for Medicare & Medicaid Services' (CMS) annual requirement to complete 12 hours of in-service training.

HCPro’s *Home Health Aide On-the-Go In-service Series, Volume 16*, includes topics that cover the most current best practices and guidelines, with new statistics, quizzes, and case studies. This volume delivers education that home health aides need to fulfill CMS’ annual 12-hour training requirement for homecare. Complete with 12 lessons, this resource provides authoritative, comprehensive, easy-to-understand training for self-study or the classroom. All 12 lessons include a case study, suggested supplemental learning activities, a posttest, and an attendance log to enhance the education process.

Volume 16 includes brand-new topics that cover today’s issues:

- Pressure injuries, incorporating new guidelines from the National Pressure Ulcer Advisory Panel
- Traumatic brain injury
- Considerations for LGBT patients
- Considerations for social media use
- Zika prevention, transmission, and care