HealthStream Regulatory Script

Standard Precautions: Bloodborne Pathogens and Other Potentially Infectious Materials

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HLC non-PA Version: 603
HLC CE Version: 1

Lesson 1: Introduction
Lesson 2: Bloodborne Pathogens
Lesson 3: Protecting Yourself
Lesson 4: What to Do if You Are Exposed
Welcome to the introductory lesson on Standard Precautions and bloodborne pathogens.

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If you have concerns about any aspect of the safety or quality of patient care in your organization, be aware that you may report these concerns directly to The Joint Commission.
Course Rationale

Some organisms that cause disease are carried in a person’s blood and other body fluids.

Healthcare workers are routinely exposed to the blood and fluids of their patients. Therefore, they are at risk for contracting disease.

This course will help you protect:
  • Yourself
  • Your coworkers
  • Your patients
  • Your family

You will learn how to:
  • Work safely with blood and body fluids
  • Protect against exposure to bloodborne pathogens
<table>
<thead>
<tr>
<th>Course Goals</th>
</tr>
</thead>
</table>

After completing this continuing education activity, you should be able to:

- Identify important bloodborne pathogens and how they are spread, increasing risk to healthcare workers.
- List important safeguards against bloodborne pathogen exposure that will improve healthcare worker safety.
- Identify what to do if you are exposed to a bloodborne pathogen that will increase healthcare worker safety.
Course Outline

This introductory lesson gave the course rationale and goals.

Lesson 2 describes bloodborne pathogens. This includes three important bloodborne diseases and how they are spread.

Lesson 3 explains how to use Standard Precautions to protect against exposure to bloodborne pathogens.

Finally, lesson 4 describes what to do if you are exposed to a bloodborne pathogen.
Lesson 2: Bloodborne Pathogens
2001

<table>
<thead>
<tr>
<th>Introduction</th>
</tr>
</thead>
</table>
Welcome to the lesson on bloodborne pathogens.
This lesson defines “bloodborne pathogens” and how they are spread, and identifies the 3 most important bloodborne diseases and their symptoms.

<table>
<thead>
<tr>
<th>Lesson 2: Bloodborne Pathogens</th>
</tr>
</thead>
</table>
- Important bloodborne diseases and their symptoms
- How bloodborne diseases spread
Bloodborne Pathogens

A *pathogen* is an organism that causes disease.

*Bloodborne pathogens* are pathogens carried in a person’s bloodstream. They also may be present in other body fluids.

Reference 1

<table>
<thead>
<tr>
<th>Pathogens include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteria</td>
</tr>
<tr>
<td>Viruses</td>
</tr>
<tr>
<td>Fungi</td>
</tr>
<tr>
<td>Parasites</td>
</tr>
</tbody>
</table>
Bloodborne Diseases

Healthcare workers routinely come into contact with human blood and other body fluids.

As a result, healthcare workers are at risk for exposure to bloodborne pathogens.

This means that healthcare workers need to know:
- Important bloodborne diseases
- Symptoms of these diseases
- How these diseases are spread

Reference 1
Important Bloodborne Pathogens

Three important bloodborne pathogens are:
- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)
- Human immunodeficiency virus (HIV)

Reference 1
# HBV & HCV

HBV and HCV both infect the liver.

Both of these viruses can cause long-term liver damage.

Up to 85% of those infected with HCV become chronic carriers, remaining infectious to other people. Approximately 5% of patients infected with HBV in adulthood will develop a chronic infection.

HBV and HCV infections can be life threatening.

References 2, 3
If you are at risk for exposure to blood or other potentially infectious material (OPIM)* [glossary] because of your job, your employer must:

- Offer you the hepatitis B vaccine
- Pay for the vaccine

The vaccine is very safe and effective.

If you do not want the vaccine, you will need to sign a form. This form states that your employer offered you the vaccine, and you refused. If you change your mind later, you can still receive the vaccine at any time.

For more information on the HBV vaccine, contact your supervisor.

There is no vaccine for HCV at this time.

*Note: You will learn more about OPIM later in the course. See the glossary for a definition.

References 4, 5
HBV & HCV: Symptoms of Infection

Signs and symptoms of HBV and HCV infection can include:
- Feeling tired
- Loss of appetite
- Mild fever
- Aching muscles or joints
- Diarrhea
- Nausea and vomiting
- Yellowed skin and eyes (jaundice)
- Dark urine
- Light colored stools
- Itching

References 2, 3
<table>
<thead>
<tr>
<th>HIV</th>
</tr>
</thead>
</table>

HIV attacks the immune system. This causes the disease known as AIDS (acquired immune deficiency syndrome).

Without a strong, healthy immune system, the body develops many infections and illnesses.

These infections and illnesses are the direct cause of death for many AIDS patients.

Reference 6
### HIV: Symptoms of Infection

Early HIV infection may feel like the flu.

Other signs and symptoms of HIV infection can include:
- Swollen lymph nodes
- Visual changes
- Diarrhea
- Night sweats
- Unexplained weight loss
- Rash
- Fatigue
- Shortness of breath
- Frequent pneumonias

Reference 6
Transmission of Bloodborne Diseases

Many patients infected with HBV, HCV, or HIV do not have obvious symptoms.

These patients can still spread the disease.

They may pass the disease to others without even knowing it.

References 2, 3, 6
Exposure & Transmission: Modes

Bloodborne diseases can be spread in several ways.

The three most important ways are:
- Sexual contact
- Sharing drug needles
- Mother-to-baby exchange of bodily fluids

References 2, 3, 6
Exposure & Transmission: Among Healthcare Workers

In the healthcare setting, workers can be exposed to bloodborne pathogens in additional ways.

Workers are at highest risk of HBV, HCV, or HIV infection from needle-stick or other sharps injury.

Healthcare workers also can be exposed to bloodborne pathogens if they have:
- Mucous membrane (eye, nose, mouth) contact with infectious materials
- Non-intact skin contact with infectious materials

Healthy, intact skin is the best natural defense against bloodborne pathogens. Even a simple hangnail or a rash can be an entry point for pathogens.

References 2, 3, 6
Exposure & Transmission Among Healthcare Workers: Risk

When a healthcare worker is exposed to a bloodborne pathogen, the pathogen is not always transmitted.

For example, HBV is more transmissible than HCV or HIV.

What does this mean?

Suppose a healthcare worker is exposed to blood from a patient who has hepatitis B. This worker has up to a 30% chance of becoming infected with the virus. The risk when exposed to hepatitis C virus is 1.8%.

By contrast, a healthcare worker exposed to HIV has less than a 1% chance of getting the virus.

Reference 1
Exposure & Transmission Among Healthcare Workers: Risk

Several other factors also affect the risk of infection following exposure.

These factors include:
- **Amount of exposure**
- **Route of exposure**
- **Amount of virus in the infectious material**

Click on each for an example.

Reference 1

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**Amount of exposure**
A large blood splash into the mouth is more likely to lead to infection than a small splash.

**Route of exposure**
A needle-stick injury is more likely to lead to infection than a blood splash.

**Amount of virus in the infectious material**
Blood with a large amount of HBV, HCV, or HIV is more likely to lead to infection than blood with less of the virus.
Exposure & Transmission Among Healthcare Workers: Risk (2)

Which healthcare setting and occupational groups are at the greatest risk for exposure to blood and/or OPIM?

To answer this question, let’s look at a recently published study that evaluated a decade of exposures (1999-2008) in an inner-city teaching hospital.

Of the 564 occupational exposures:
- 66% were caused by needlesticks while 20% were caused by sharps.
- 39% occurred in the acute care setting. For comparison, exposure rates for the long-term care and outpatient settings are given in the table to the right,
- 22% occurred in the operating room.
- Housestaff were exposed most often.

Reference 7

<table>
<thead>
<tr>
<th>Occupational exposure risk by setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
</tr>
<tr>
<td>Acute care</td>
</tr>
<tr>
<td>Long-term care</td>
</tr>
<tr>
<td>Outpatient</td>
</tr>
</tbody>
</table>
Review

Select the answer that best fits the question.

Important bloodborne pathogens are:

- a) Salmonella
- b) VZV and SARS-CoV
- c) HBV, HCV, and HIV
- d) Mycobacterium tuberculosis

MULTIPLE CHOICE INTERACTION

[CORRECT ANSWER: C]

[RESPONSE FOR CHOICE A: Incorrect. The correct answer is C.]

[RESPONSE FOR CHOICE B: Incorrect. The correct answer is C.]

[RESPONSE FOR CHOICE C: Correct.]

[RESPONSE FOR CHOICE D: Incorrect. The correct answer is C.]
Select the answer that best fits the question.

Listed below are some of the tasks of a healthcare worker. Choose the task that puts the worker at greatest risk for exposure to a bloodborne disease.

A. Drawing blood
B. Delivering a breakfast tray
C. Taking an oral temperature
D. Helping a patient change his or her gown

**MULTIPLE CHOICE INTERACTION**

[CORRECT ANSWER: A]

[RESPONSE FOR CHOICE A: Correct. Healthcare workers are at risk whenever they handle blood or OPIM.]

[RESPONSE FOR CHOICE B: Incorrect. The correct answer is A. Healthcare workers are at risk whenever they handle blood or OPIM.]

[RESPONSE FOR CHOICE C: Incorrect. The correct answer is A. Healthcare workers are at risk whenever they handle blood or OPIM.]

[RESPONSE FOR CHOICE D: Incorrect. The correct answer is A. Healthcare workers are at risk whenever they handle blood or OPIM.]
Summary

You have completed the lesson on bloodborne pathogens.

Remember:

- Important bloodborne pathogens are HIV, HBV, and HCV.
- These pathogens are most commonly spread by sexual contact and sharing drug needles.
- In the healthcare setting, workers can be exposed to bloodborne pathogens through sharps injury, mucous membrane contact, or non-intact skin contact.
- After a healthcare exposure, infection is most likely with HBV. Infection is least likely with HIV.
- Other factors also affect the risk of developing infection after an exposure. These factors include: amount of exposure, route of exposure, and how much virus is present in the infectious material.
**Introduction**

Welcome to the lesson on protecting yourself from bloodborne pathogens.

This lesson will define Standard Precautions, describe work practice and engineering controls that help prevent exposure to bloodborne pathogens, stress the importance of proper hand hygiene, and identify the role of personal protective equipment.

<table>
<thead>
<tr>
<th>Lesson 3: Protecting Yourself from Bloodborne Pathogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Environmental controls</td>
</tr>
<tr>
<td>• Work practice controls</td>
</tr>
<tr>
<td>• Housekeeping</td>
</tr>
<tr>
<td>• Personal protective equipment</td>
</tr>
</tbody>
</table>
Standard Precautions: Origin

Standard Precautions protect healthcare workers from exposure to blood and other potentially infectious materials.

Standard Precautions were put together from:
- Universal Precautions (UP), a set of infection-control practices that focus on bloodborne pathogens
- Body Substance Isolation (BSI), a set of infection-control practices that focus on moist body substances

Reference 8
Standard Precautions

Can you identify when Standard Precautions are needed? For each patient listed below, determine if Standard Precautions are needed or not needed. Click the Submit button to see if your selections are correct.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Clinical Presentation</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, age 75</td>
<td>Fecal incontinence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female, age 10</td>
<td>Respiratory illness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female, age 55</td>
<td>Localized shingles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male, age 35</td>
<td>HIV infection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Feedback: You should use Standard Precautions during the care of all of these patients.

Reference 9
Standard Precautions: New Additions

In 2007, the CDC updated their recommendations for Standard Precautions. These new additions focus on patient safety.

They include:

- **Respiratory hygiene/cough etiquette for staff, patients, and visitors**
- **Safe injection practices**
- **Use of a mask when inserting a catheter or performing a lumbar puncture**

Click on each for additional information.

Reference 8

**Respiratory hygiene/ cough etiquette**

During the 2003 SARS outbreak, the disease was transmitted by patients and their families in emergency rooms. To prevent this type of disease spread, the CDC added respiratory hygiene/cough etiquette recommendations to Standard Precautions.

**Safe injection practices**

Recently, the CDC investigated four large outbreaks of HBV and HCV in ambulatory care facilities. They found that these outbreaks could have been prevented if aseptic techniques were used to prepare and administer medications.

**Use of a mask**

The CDC now recommends that a face mask be worn when inserting a catheter or performing a lumbar puncture. This will help prevent the spread of infectious organisms from healthcare provider to the patient.
Standard Precautions: When to Use

Standard Precautions are used whenever a healthcare worker may have contact with patient blood.

Whether or not there is visible blood, Standard Precautions also apply to:
- All body fluids
- All secretions
- All excretions

The one exception is sweat. Standard Precautions do not apply to sweat.

Standard Precautions apply whether or not you think or know the patient has a bloodborne disease.

**In other words, Standard Precautions are used with all patients.**

Reference 8
# Standard Precautions: Body Fluids

Why do Standard Precautions apply to body fluids other than blood?

Certain other body fluids and materials also carry bloodborne pathogens.

As a group, these materials are known as “other potentially infectious materials” (OPIM).

Regardless of the body fluid, use Standard Precautions to help protect against exposure to bloodborne diseases.

References 4, 8

<table>
<thead>
<tr>
<th>OPIM include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Semen</td>
</tr>
<tr>
<td>• Vaginal fluids</td>
</tr>
<tr>
<td>• Fluid from around an unborn baby</td>
</tr>
<tr>
<td>• Fluid from any human body cavity</td>
</tr>
<tr>
<td>• Unfixed tissue or organ</td>
</tr>
<tr>
<td>• Human cell, tissue, or organ culture</td>
</tr>
<tr>
<td>• Saliva from a dental procedure</td>
</tr>
<tr>
<td>• Any other body fluid contaminated with visible blood</td>
</tr>
<tr>
<td>• Any body fluid, when it is impossible to tell which body fluid is which</td>
</tr>
</tbody>
</table>
Standard Precautions: Protecting Yourself

Your employer has reviewed the tasks that put employees in your facility at risk of exposure to bloodborne pathogens.

To decrease this risk, your employer has put safeguards in place.

These safeguards include:
- Engineering controls
- Work practice controls
- Proper housekeeping
- Personal protective equipment (PPE)

Standard Precautions are an important basis for these safeguards.

These safeguards also should be documented in your facility’s Exposure Control Plan. Refer to the Plan for specific information on the safeguards in your facility.

The following screens provide an overview of safeguards against exposure.

Reference 8
Engineering Controls

Engineering controls are the first type of safeguard against bloodborne pathogen exposure.

These controls are devices with built-in safety features. These features minimize or eliminate the risk of exposure to bloodborne pathogens.

Examples include:
- Safety needles
- Sharps disposal boxes

Reference 8
Work Practice Controls: Hand Hygiene

Work practice controls are the second type of safeguard against exposure. These controls are ways of doing your job, to protect against exposure.

Handwashing is a critical work practice control, and a critical part of Standard Precautions.

Proper hand hygiene is the single most important way to prevent the spread of disease.

Reference 10
Let’s see how familiar you are with hand hygiene recommendations. Identify which situations warrant the use of alcohol-based hand rubs. Click the submit button to check your responses and to compare your knowledge with other nurses in a recently published survey.

<table>
<thead>
<tr>
<th>Use alcohol-based hand rubs:</th>
<th>My response: Recommended</th>
<th>Not recommended</th>
<th>Surveyed Nurses Responding Correctly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before touching equipment in a patient’s room</td>
<td></td>
<td></td>
<td>38%</td>
</tr>
<tr>
<td>Before inserting catheters</td>
<td></td>
<td></td>
<td>38%</td>
</tr>
<tr>
<td>After removing gloves</td>
<td></td>
<td></td>
<td>88%</td>
</tr>
</tbody>
</table>

Feedback: A recently published survey of nurses found that participants did not correctly identify the need for hand hygiene before touching equipment in a patient’s room or before inserting a catheter. 22% did not recognize the need for hand hygiene after removing gloves.

Reference 9
Work Practice Controls: Hand Hygiene (3)

To wash hands properly:
- Apply soap.
- Rub hands together for 15 seconds.
- Rinse with a stream of warm water.
- Dry with a paper towel.

Use a clean paper towel to turn off the faucet.

Reference 10
# Hand Hygiene: When to Wash Hands

<table>
<thead>
<tr>
<th>Hands should be washed:</th>
<th>NO IMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Before and after each work shift</td>
<td></td>
</tr>
<tr>
<td>• Before and after physical contact with each patient</td>
<td></td>
</tr>
<tr>
<td>• Before donning sterile gloves when inserting a central intravascular catheter</td>
<td></td>
</tr>
<tr>
<td>• Before inserting indwelling urinary catheters, peripheral vascular catheters, or other invasive devices that do not require a surgical procedure</td>
<td></td>
</tr>
<tr>
<td>• When moving from a contaminated-body site to a clean-body site during patient care</td>
<td></td>
</tr>
<tr>
<td>• After handling contaminated items such as bedpans, dressings, or urinary drainage bags</td>
<td></td>
</tr>
<tr>
<td>• After removing gloves</td>
<td></td>
</tr>
<tr>
<td>• After using the toilet, blowing the nose, covering a sneeze, etc.</td>
<td></td>
</tr>
<tr>
<td>• Whenever hands become visibly dirty</td>
<td></td>
</tr>
<tr>
<td>• Before eating, drinking, or handling food</td>
<td></td>
</tr>
</tbody>
</table>

Reference 10
### Hand Hygiene: Alcohol-Based Hand Rubs

Alcohol-based hand rubs are an alternative to soap and water for hand hygiene.

**Alcohol rubs:**
- Give good protection against the spread of infection
- Are less drying to the skin than soap-and-water washing
- Are convenient (you do not need a hand-washing sink to use an alcohol rub)

Alcohol wipes are less effective than rubs. They should *not* be used.

Reference 10

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You have two choices for routine hand hygiene in most cases:

- Antimicrobial soap and water
- Alcohol-based hand rub
Hand Hygiene: How & When to Use an Alcohol Rub

To use an alcohol rub:
- Apply enough rub to cover all surfaces of both hands.
- Rub hands until dry. Do not rinse or wipe dry.

You may use an alcohol rub almost any time hands should be washed (see previous screen). In fact, the Centers for Disease Control and Prevention (CDC) now recommends alcohol rubs for routine hand decontamination in most clinical situations.

An exception is when hands are visibly dirty. In that case, wash with soap and water.

Reference 10
Other work practice controls to prevent bloodborne pathogen exposure are:
- Dispose of sharps in proper containers
- Do not recap or bend needles

Let’s take a closer look at how needlestick and sharps injuries occur and how these injuries can be prevented.

Reference 8, 11
Needlestick Injuries

Nurses are responsible for the use and proper disposal of needles and other sharps. This is a hazardous responsibility.

The possibility of percutaneous injury is high.

In a study of 2273 nurses, 15.6% reported a needlestick injury within the last year.

Reference 12
Needlestick Injuries: Causes

Example activities associated with needlestick injuries include:
- Injecting medications
- Administering fingersticks
- Drawing blood
- Disposing of needles that are connected to tubing
- Recapping a needle
- Not disposing of used needles properly
- Handling needles that must be manipulated after use
- Using needles to transfer body fluid between containers

Contributing factors include:
- Working too quickly
- Mandatory overtime
- Lack of a safety climate

References 12-14
Needlestick Injuries: Causes (2)

Sharps injuries are more common in the surgical setting. For example, consider injury data (1993 to 2006) from 87 hospitals across the United States. Of the 31,324 sharps injuries that occurred, 7,186 were to surgical personnel. Injuries in the surgical setting were most often caused by:

- Suture needles (43.4%)
- Scalpel blades (17%)
- Syringes (12%)

75% of these injuries occurred during the use or passing of devices.

Reference 15
Needlestick Injuries: Reporting

The number of injuries due to needlesticks is thought to be much higher than the reported rate.

Consider the findings of a recently published study of 794 home health nurses.

When surveyed, the rate of needlestick and sharps cuts within the prior year was 13.8% (13.8 per 100 person years). However, a formal report was made in only 49% of the cases.

In another study of 794 nurses, a similar rate of sharps injury of 12.6% was noted, but a report was only made 48% of the time.

References 13, 14, 16
Needlestick Injuries: Reporting

As we just mentioned, it appears that nurses may sometimes not report a needlestick or sharps cut. Why might this be?

Think about your own experiences and how you would respond to a needlestick injury. Why would you fail to report the injury? Type your answer in the box below and click the Submit button to compare your answer to ours.

References 12-14

<table>
<thead>
<tr>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare workers may not report injuries because they:</td>
</tr>
<tr>
<td>• Feel the post-injury process is too long</td>
</tr>
<tr>
<td>• Feel anxiety about the post-injury process</td>
</tr>
<tr>
<td>• Fear being negatively viewed by the employer</td>
</tr>
<tr>
<td>• Believe that the patient is not an infection risk</td>
</tr>
<tr>
<td>• Fear limiting future job prospects</td>
</tr>
<tr>
<td>• Lack information on reporting</td>
</tr>
</tbody>
</table>
## Work Practice Controls: Personal

Additional examples of work practice controls are:

- Do not eat or drink in contaminated areas.
- Do not apply makeup in areas where exposure could occur.
- Do not handle contact lenses in areas where exposure could occur.
- Do not store food in refrigerators with contaminated items.

Reference 8
A final example of a work practice control is to handle contaminated linen according to your facility’s policy.

Your facility should have guidelines for handling contaminated linen without:
- Exposing your skin or mucous membranes
- Contaminating your clothing
- Transferring microbes to other patients or to the environment

Reference 8
## Housekeeping Practices

Good housekeeping practices also can help protect you against exposure:

- Keep a clean and sanitary workplace.
- Use proper disinfectants when cleaning contaminated areas or spills.
- Keep biohazardous waste separate from ordinary trash.

Reference 8
### Personal Protective Equipment

Are healthcare workers familiar with the types of PPE that should be used with Standard Precautions?

Results of a recent survey found that only 14% of participants correctly identified the recommended PPE for Standard Precautions. 86% responded incorrectly.

Let's review best practices for PPE on the next screens.

Reference 9
### Personal Protective Equipment

Personal protective equipment (PPE) is special clothing or equipment worn to protect against a hazard.

Using proper PPE around blood and OPIM is another important part of Standard Precautions.

Examples of PPE include:
- Gloves
- Masks
- Eye protection
- Face shields
- Shoe covers
- Lab coats

If you need these items to do your job safely, your employer must:
- Provide the items at no charge to you
- Train you to use the items properly

References 4, 8
Personal Protective Equipment: Gloves

Wear *gloves* to touch:
- Blood
- Body fluids
- Secretions
- Excretions
- OPIM

Reference 8
To protect the face, you may use the following:
- Mask
- Eye protection (goggles)
- Face shields

These items shield the mucous membranes of the eyes, nose, and mouth.

Wear this type of PPE during tasks that may expose you to splashes or sprays of:
- Blood
- Body fluids
- Secretions
- Excretions

Reference 8, 17
**Personal Protective Equipment: Protective Clothing**

**Protective clothing** includes:
- Gowns
- Hoods
- Surgical caps
- Shoe covers
- Lab coats

These items are used to protect skin and street clothes from contamination.

Wear protective clothing during tasks that may expose you to splashes and sprays of blood or OPIM.

Reference 8, 17
Barrier devices include mouthpieces and pocket masks.

These should be used when performing CPR.

Reference 8
Employers must provide training to all employees at risk of exposure to blood and OPIM.

This training should be:
- Provided to each at-risk employee when he or she starts work
- Repeated once a year

Reference 4
### Injuries and You

Here is something to think about…

The Needlestick Safety and Prevention Act of 2000 requires hospitals to provide safety-engineered devices to reduce needlestick injuries.

Do you think that injury rates have decreased as a result?
  a. Yes
  b. No

Click on your answer for additional information.

Reference 15

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**CLICK TO REVEAL**

**Yes**  
You expected the rate to drop after legislation was introduced. Are you correct? The answer is yes and no.

Injury data from 87 hospitals across the United States are not what you would expect. Between 1993 and 2006, injuries in nonsurgical settings dropped 31.6%. However, injuries in surgical settings *increased* 6.5%.

**No**  
You don’t believe that the rate dropped after legislation was introduced. Are you correct? The answer is yes and no.

Injury data from 87 hospitals across the United States are not what you would expect. Between 1993 and 2006, injuries in nonsurgical settings dropped 31.6%. However, injuries in surgical settings *increased* 6.5%.
Review

Select the answer that best fits the question.

The single most important defense against the spread of disease is:

- a. Using safety needles
- b. Proper use of gloves
- c. Proper hand hygiene
- d. Not recapping needles

MULTIPLE CHOICE INTERACTION

Correct: C

Feedback for A: Not quite. Safety needles are an important engineering control to protect against bloodborne pathogen exposure. However, the single most important defense against the spread of disease is proper hand hygiene. The correct answer is C.

Feedback for B: Not quite. Gloves are an important type of PPE used to protect against bloodborne pathogen exposure. However, the single most important defense against the spread of disease is proper hand hygiene. The correct answer is C.

Feedback for C: Correct.

Feedback for D: Not quite. Not recapping needles is an important work practice control used to protect against bloodborne pathogen exposure. However, the single most important defense against the spread of disease is proper hand hygiene. The correct answer is C.
Select the answer that best fits the question.

Gloves should be worn when drawing blood from:
   a. A patient who has AIDS
   b. A patient who is HIV-positive
   c. A patient who is documented as HBV-negative, HCV-negative, and HIV-negative
   d. Both A and B
   e. All of the above

**MULTIPLE CHOICE INTERACTION**

Correct: E

Feedback for A: Not quite. The correct answer is E. Gloves should be worn whenever there is a possibility of contact with patient blood. The patient’s diagnosis does not matter.

Feedback for B: Not quite. The correct answer is E. Gloves should be worn whenever there is a possibility of contact with patient blood. The patient’s diagnosis does not matter.

Feedback for C: Not quite. The correct answer is E. Gloves should be worn whenever there is a possibility of contact with patient blood. The patient’s diagnosis does not matter.

Feedback for D: Not quite. The correct answer is E. Gloves should be worn whenever there is a possibility of contact with patient blood. The patient’s diagnosis does not matter.

Feedback for E: Correct. Gloves should be worn whenever there is a possibility of contact with patient blood. The patient’s diagnosis does not matter.
Outside Resources

The International Health Care Workers Safety Center has a Checklist for Sharps Injury Prevention. This checklist was developed to help hospitals to comply with the sharps safety requirements of the bloodborne pathogens standard.

You can access the checklist using the link on the right side of the screen.

Print and complete the checklist.

If you cannot print the checklist, note on a piece of paper any items that you need to discuss with your supervisor.

Checklist for Sharps Injury Prevention

Link to:
Summary

You have completed the lesson on protecting yourself from exposure.

Remember:
- Standard Precautions should be used whenever you may have contact with patient blood or OPIM. This is true whether or not the patient has a diagnosed bloodborne disease.
- Safeguards against exposure to bloodborne pathogens include engineering controls, work practice controls, and use of PPE. Standard Precautions are the basis for these safeguards.
- Proper hand hygiene is a Standard Precaution. It is the single most important way to prevent the spread of infection.
- Needlesticks and other sharps injuries should be reported for proper management.
Lesson 4: What to Do if You Are Exposed
4001
Introduction

Welcome to the lesson on what to do if you are exposed. What to do following an exposure to blood or OPIM, and what should happen during post-exposure follow-up will be discussed in this lesson.

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If you are exposed to blood or OPIM: **WIN**.

This stands for:
- **W**ash the exposed area immediately with soap and water.
- **I**dentify the source of the exposure.
- **N**otify your supervisor immediately.

Reference 11
## WIN: Treatment

Medical treatment is available to healthcare providers who may have been exposed to:
- **HBV**
- **HIV**

Unfortunately, there is no recommended preventative therapy against the hepatitis C virus. This is why preventative strategies and best practices are imperative to protect the health of hospital workers.

Click on HBV and HIV for additional information.

Reference 18
WIN: Take Action Quickly

Quick action can decrease the risk of infection after an exposure.

You should seek medical attention immediately.

To be effective, treatment for:
- HBV should begin within 24 hours, and no later than 7 days after exposure
- HIV should begin within hours, as opposed to days, after exposure

References 8, 11, 18
Post Exposure Follow-Up

If you are exposed, your employer must offer you post-exposure evaluation and follow-up care.

This follow-up is:
- Free
- Confidential

You will be referred to a licensed healthcare professional for a medical exam.

Any necessary lab tests will be ordered, at no cost to you.

Reference 4
Post-Exposure Follow-Up: Documentation

Before your medical exam, your employer should:
- Document the route of exposure
- Document how the exposure occurred
- Identify and document the source patient (if allowed by state and local law)
- Test the source patient for HIV and HBV (if allowed by state and local law)

This documentation and results of the source patient’s tests must be provided to the healthcare professional that performs your medical exam.

Your blood also may be collected for HIV testing, if you give consent.

Reference 4
Post-Exposure Follow-Up: Medical Evaluation & Care

Your medical evaluation and follow-up should address:

- The possibility of taking medication to help prevent infection
- How to prevent possible spread of infection to your close contacts
- Any specific symptoms that you report

After your evaluation, the healthcare professional will send a written report to your employer. This report will not include your diagnosis.

Your employer must give you a copy of this report within 15 days.

Reference 4
Review
Select the answer that best fits the question.

After an exposure: WIN. What does WIN stand for?

A. Write a report. Identify the patient. Note the patient’s condition.

B. Wash the exposed area. Identify the source. Notify your supervisor.

C. Wipe the exposed area. Ice the area immediately. Notify your doctor.

D. Wrap the exposed area. Identify the exposed area. Notify the patient’s doctor.

MULTIPLE CHOICE INTERACTION

[CORRECT ANSWER: B]

[RESPONSE FOR CHOICE A: Incorrect. The correct answer is B. Wash the exposed area. Identify the source. Notify your supervisor.]

[RESPONSE FOR CHOICE B: Correct.]

[RESPONSE FOR CHOICE C: Incorrect. The correct answer is B. Wash the exposed area. Identify the source. Notify your supervisor.]

[RESPONSE FOR CHOICE D: Incorrect. The correct answer is B. Wash the exposed area. Identify the source. Notify your supervisor.]
### Review

Select the answer that best fits the question.

If you are exposed to blood or OPIM, your employer must offer:

- A. Free lab testing
- B. Free medical evaluation
- C. Medication to help prevent infection
- D. All of the above

**MULTIPLE CHOICE INTERACTION**

[CORRECT ANSWER: D]

RESPONSE FOR CHOICE A: Not quite. The best answer is D. Your employer must offer free follow-up. This includes a free medical exam. It also includes any necessary lab testing. Finally, it includes medication to help prevent infection (if you and your doctor decide that you should take medication).

RESPONSE FOR CHOICE B: Not quite. The best answer is D. Your employer must offer free follow-up. This includes a free medical exam. It also includes any necessary lab testing. Finally, it includes medication to help prevent infection (if you and your doctor decide that you should take medication).

RESPONSE FOR CHOICE C: Not quite. The best answer is D. Your employer must offer free follow-up. This includes a free medical exam. It also includes any necessary lab testing. Finally, it includes medication to help prevent infection (if you and your doctor decide that you should take medication).

RESPONSE FOR CHOICE D: Correct. Your employer must offer free follow-up. This includes a free medical exam. It also includes any necessary lab testing. Finally, it includes medication to help prevent infection (if you and your doctor decide that you should take medication).
**Summary**

You have completed the lesson on what to do after an exposure.

Remember:
- If you are exposed to blood or OPIM: **WIN**. Wash the area. Identify the source. Notify your supervisor.
- After an exposure, your employer must offer free follow-up evaluation and care.

![Know your facility's system for reporting incidents!](image-url)
GLOSSARY

other potentially infectious material (OPIM): fluids, tissues, and other biological materials that could contain and transmit bloodborne pathogens

organism: an individual form of life

transmission: the act of spreading or passing on, especially an infection

bacterium: a type of single-celled microorganism

virus: an acellular disease-causing parasite –

personal protective equipment: special equipment provided by an employer to protect workers from on-the-job hazards

percutaneous: passing through the skin

Hepatitis B immune globulin: a blood protein produced in response to hepatitis B infection
References


ASSESSMENT

1. Which of the following is an important bloodborne pathogen?
   a. Adenovirus
   b. Smallpox virus
   c. Parvovirus B19
   d. Hepatitis C virus

Correct: Hepatitis C virus
Rationale: HCV is bloodborne.

2. Which of the following is an important bloodborne pathogen?
   a. Hantavirus
   b. Enterococcus bacterium
   c. Human immunodeficiency virus
   d. Haemophilus influenzae bacterium

Correct: Human immunodeficiency virus
Rationale: HIV is bloodborne.

3. Bloodborne diseases are most commonly spread through mother-to-child transmission, unprotected sex, and:
   a. Sharing drug needles
   b. Contaminated water supplies
   c. Eating food prepared by an infected individual
   d. Blood splashes or sprays in the healthcare setting

Correct: Sharing drug needles
Rationale: The three most important modes of transmission for bloodborne diseases are unprotected sex, sharing drug needles, and mother-to-child transmission.
4. Bloodborne diseases can be spread in the healthcare setting. This is most likely to happen if a healthcare worker:
   a. Has a needle-stick injury
   b. Fails to use a personal respirator
   c. Is in the room when a sick patient sneezes
   d. Does not wear gloves when taking a patient's pulse

Correct: Has a needle-stick injury
Rationale: A healthcare worker may be exposed to bloodborne pathogens if he or she has a needle-stick injury.

5. Which of the following best describes a safeguard against exposure to bloodborne pathogens in the healthcare setting?
   a. Use Droplet Precautions in the care of all patients.
   b. Use Standard Precautions in the care of all patients.
   c. Use Droplet Precautions only in the care of patients known or suspected to have a bloodborne disease.
   d. Use Standard Precautions only in the care of patients known or suspected to have a bloodborne disease.

Correct: Use Standard Precautions in the care of all patients.
Rationale: Standard Precautions are used in the care of all patients to guard against exposure to blood or OPIM.

6. Which of the following is a work practice control used to safeguard against exposure to bloodborne pathogens?
   a. Recapping needles after use
   b. Snapping needles off after use
   c. Use of alcohol rubs for routine hand hygiene
   d. Use of alcohol wipes for routine hand hygiene

Correct: Use of alcohol rubs for routine hand hygiene
Rationale: Proper hand hygiene is a key part of Standard Precautions. Alcohol rubs are recommended for routine hand hygiene in most clinical situations.

7. Which of the following is a VIOLATION of a work practice control used to safeguard against exposure to bloodborne pathogens?
   a. A healthcare worker eats lunch in a designated staff break room.
   b. A healthcare worker cleans up a contaminated spill using a disinfectant.
   c. A healthcare worker applies makeup in a lab where blood samples are tested.
d. A healthcare worker disposes of biohazardous waste in a designated container.

Correct: A healthcare worker applies makeup in a lab where blood samples are tested.
Rationale: Healthcare workers should not eat, drink, smoke cigarettes, or apply makeup in areas where contamination could occur.

8. Which of the following describes proper use of PPE to safeguard against exposure to bloodborne pathogens?
   a. Wear gloves when drawing blood.
   b. Avoid use of a mask during invasive procedures.
   c. If a surgical mask is worn during invasive procedures, additional eye protection is not necessary.
   d. If hands are washed immediately after drawing blood, it is not necessary to wear gloves to draw the blood.

Correct: Wear gloves when drawing blood.
Rationale: Gloves should be worn whenever there is a risk of contact with blood or OPIM.

9. If you are exposed to a patient's blood, you should IMMEDIATELY:
   a. Wash the exposed area with soap and water
   b. Isolate a blood sample from the exposed area
   c. Check the patient's chart to see if he or she has a bloodborne disease
   d. Ask your supervisor for permission to test the patient for bloodborne diseases

Correct: Wash the exposed area with soap and water.
Rationale: If exposed to patient's blood, WIN. Wash the exposed area immediately. Identify the exposure source. Notify your supervisor.

10. If you are exposed to a bloodborne pathogen while at work, your employer must offer you post-exposure evaluation and follow-up. Which of the following statements correctly describes what will happen during this post-exposure follow-up?
   a. You will have to pay for any necessary lab tests.
   b. You will be required to give a blood sample for HIV testing.
   c. Your employer will receive a written report including your diagnosis.
   d. Your employer will identify and document the source patient if allowed by law.

Correct: Your employer will identify and document the source patient if allowed by law.
Rationale: If you are exposed to a bloodborne pathogen while at work, your employer is responsible for identifying and documenting the source patient (if permitted under state and local law).

11. If you are exposed to a patient's blood, it is important to follow the acronym:
   a. WIN
   b. PASS
   c. RACE
   d. SCUBA

Correct: WIN
Rationale: If exposed to blood, WIN. Wash the exposed area with soap and water. Identify the source of exposure. Notify your supervisor.

12. Which of the following is an engineering control used to safeguard against exposure to bloodborne pathogens?
   a. Sharp needles
   b. Safety needles
   c. Reusable needles
   d. Uncapped needles

Correct: Safety needles
Rationale: Safety needles are an engineering control

13. Listed below are some of the tasks of a healthcare worker. Choose the task that puts the worker at greatest risk for exposure to a bloodborne disease.
   a. Drawing blood
   b. Delivering a breakfast tray
   c. Taking an oral temperature
   d. Helping a patient change his or her gown

Correct: A
Rationale: Healthcare workers are at risk whenever they handle blood or OPIM.