SQ Acute: Bloodborne Pathogens and Standard Precautions, Clinical

HealthStream™

Welcome to **SQ: Bloodborne Pathogens and Standard Precautions, Clinical**.
Select START MODULE to begin.
Be sure to click all the interactive elements to advance.

- Introduction
- The Spread of Bloodborne Pathogens
- Risks of Exposure
- Using Standard Precautions
- Response to Exposure
- Module Conclusion

Introduction

This module will review the following:

- Bloodborne pathogen risks to healthcare workers and the people under their care
- Protective measures to reduce exposure risk
- Actions to take in the event of exposure

Please look at these important terms.

Select "+" to expand.

Glossary

Bloodborne pathogen

Bacteria or virus in the human blood and body fluids that can cause disease

Disinfection

The process of cleaning something to remove all germs, with exception of spores

Exposure

Coming in contact with or not having protection from something

Hand hygiene

Washing hands with soap and water or with alcohol-based rubs to prevent the spread of germs or bacteria

Infection control breach

When there is a break in following established infection control procedures that prevent the spread of germs

Mucous membranes

The moist, inner tissue of the eyes, nose, or mouth

Non-critical items

Medical equipment that comes in contact with intact skin

Other potentially infectious materials (OPIM)

Human body fluids that can spread infection from one person to another through direct or indirect contact

Source person

The person involved in the exposure to the healthcare worker

Standard precautions

Guidelines developed for healthcare workers to help prevent and reduce the spread of bacteria

Sterilization

The process of making something free of germs and spores

Let's get started!

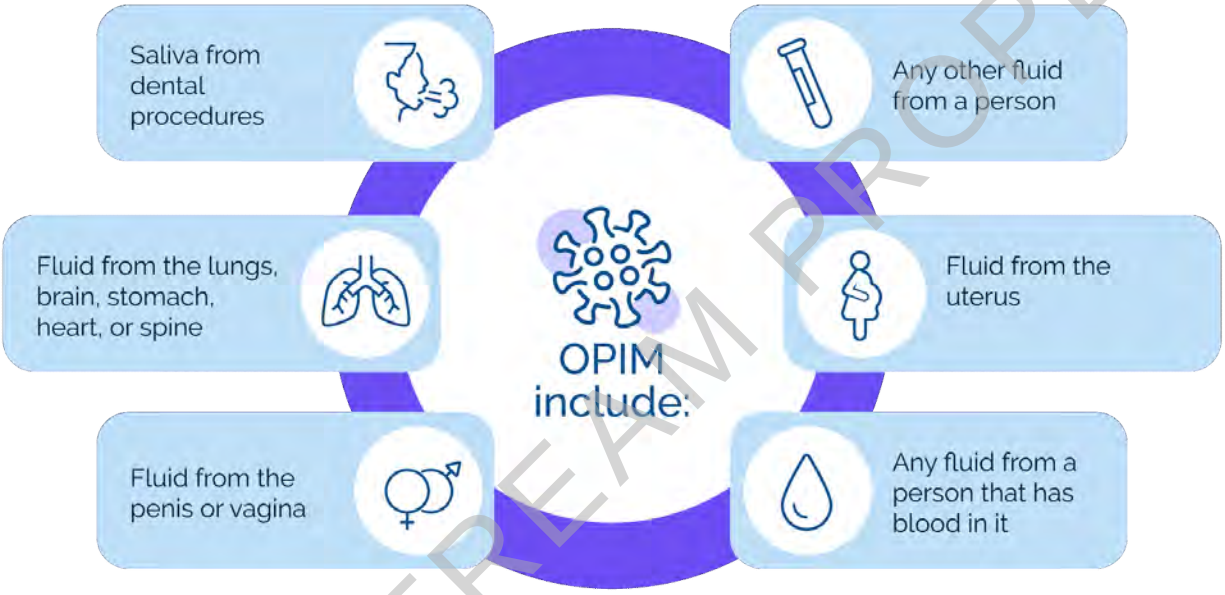
Complete the content above before moving on.

The Spread of Bloodborne Pathogens

What is a bloodborne pathogen?

Bloodborne pathogens are bacteria and viruses that can be found in human blood. They may also be in other fluids in the body.

Those other fluids are called other potentially infectious materials (OPIM).



How do pathogens spread in the workplace?

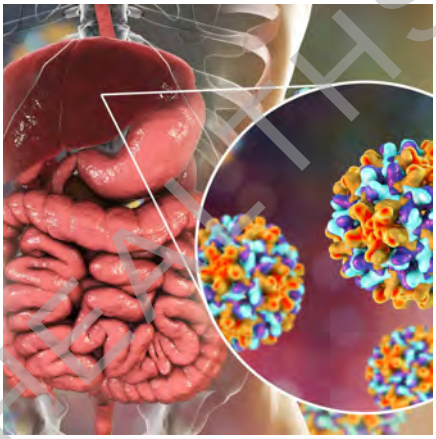
Getting stuck by a used needle or another sharp object

Touching the eyes, nose, or mouth when hands are dirty

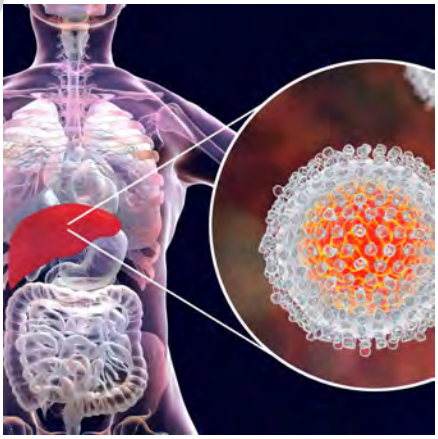
Contact with open areas of the skin such as cuts, bites, blisters, or other wounds

Most Common Pathogens in the Blood

Here are three viruses found in the blood:



Hepatitis B virus (HBV) is a virus in the



Hepatitis C virus (HCV) is a virus in the

Human immunodeficiency virus

blood that attacks the liver. The disease can be stopped by a vaccine.

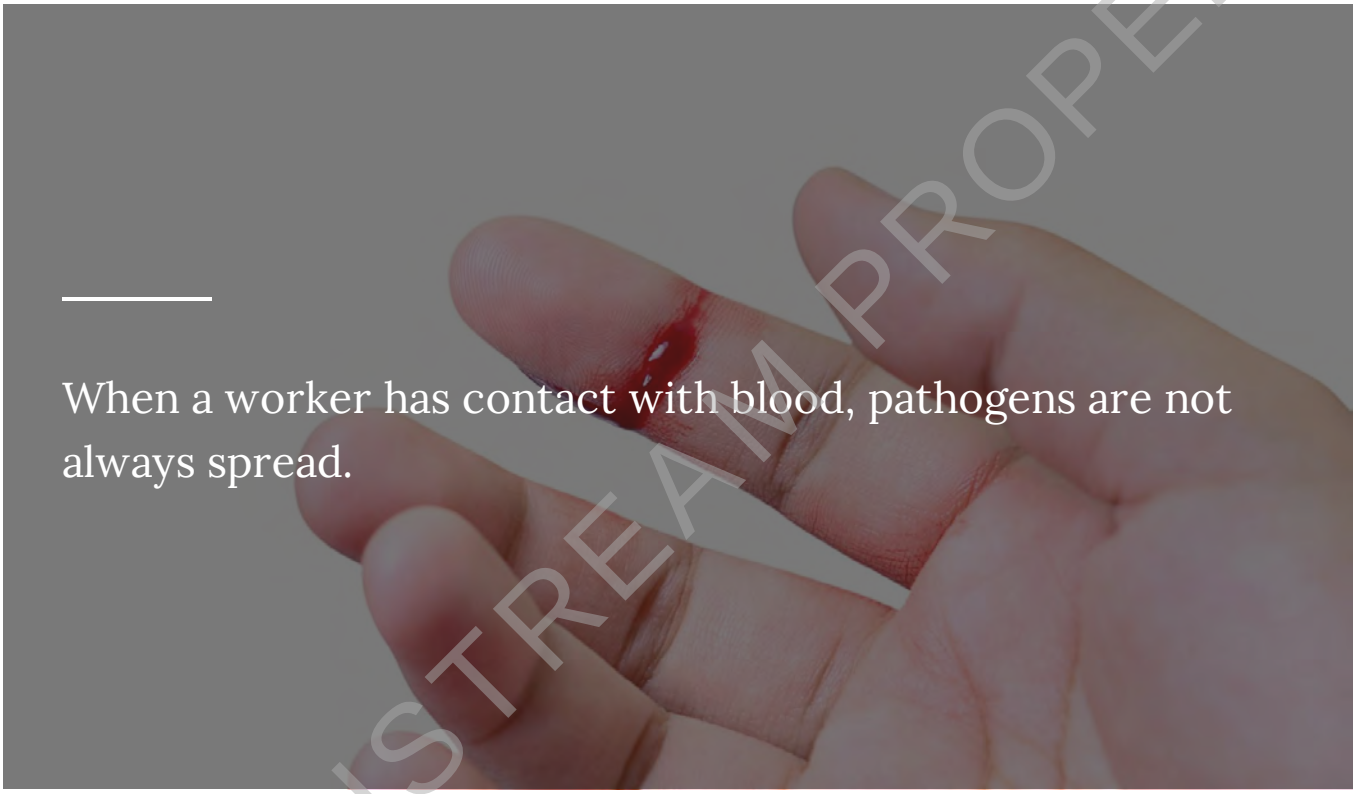
blood that attacks the liver. The disease cannot be stopped by a vaccine.

(HIV) attacks the body's immune system. The disease cannot be stopped by a vaccine.

The CDC provides vaccine information statements (VISs) to help employers inform staff about the administration, safety, effectiveness, and benefits of Hepatitis B and other vaccines. They can be found on the CDC website. The Hepatitis B vaccine should be offered free for healthcare workers at risk.

CONTINUE

Risks of Exposure



When a worker has contact with blood, pathogens are not always spread.

Review factors that affect the chance of infection after contact:

Amount of exposure

A large splash to broken skin is more likely to result in infection than a small splash to the eyes, nose, or mouth.

Route of exposure

A needlestick or a sharp object injury is more likely to result in infection than a splash to the eyes, nose, or mouth.

Amount of virus (in the infectious material)

Blood with a large amount of a pathogen is more likely to cause infection than blood with a low viral count.

The Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard helps facilities create their exposure control plan. This plan is for all staff. It outlines possible exposures in each job and what type of personal protective equipment (PPE) is needed (Level D).

Here are some parts of the exposure control plan:

Select each tab to view the text.

ENGINEERING CONTROLS | WORK PRACTICE CONTROLS | HOUSEKEEPING AND MEDICAL WASTE | PPE

Devices with built-in safety tools lower the chance of an accidental stick from a used needle or sharp.

ENGINEERING CONTROLS | WORK PRACTICE CONTROLS | HOUSEKEEPING AND MEDICAL WASTE | PPE

Work controls can prevent exposure. These include hand washing or using alcohol rubs before and after touching surfaces, doors, and items of people being cared for. Food and drink should not be kept in work areas.

ENGINEERING CONTROLS | WORK PRACTICE CONTROLS | HOUSEKEEPING AND MEDICAL WASTE | PPE

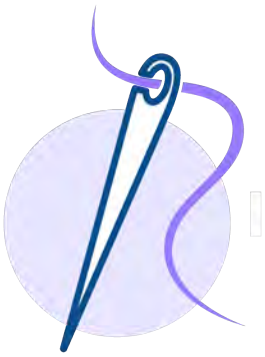
Regulated waste are items that have liquid, dried, caked blood or OPIM and used sharps (such as needles, lancets, or other sharp objects). All waste is put in leakproof containers or bags that are red or have bright orange stickers with the biohazard symbol on them.

ENGINEERING CONTROLS	WORK PRACTICE CONTROLS	HOUSEKEEPING AND MEDICAL WASTE	PPE

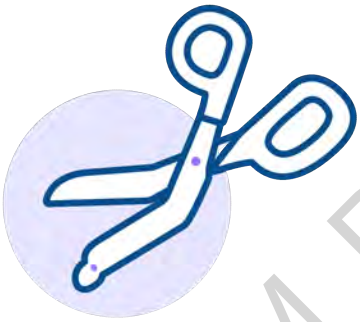
PPE includes masks, face shields, gowns, gloves, eyewear, shoe covers, and other items worn to protect a worker.

Surgical staff working in the operating room have the highest risk of injury from surgical tools.

Injuries in the operating room likely occur when:

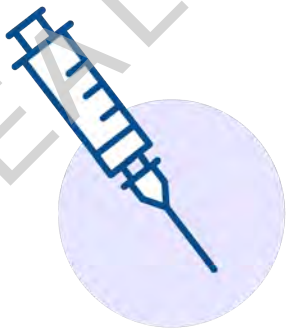


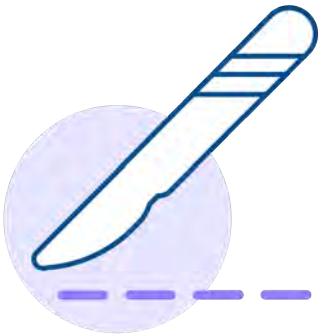
The needle is guided by the fingers while closing a wound.



Sharp tools are passed between the scrub staff and the surgeon.

Hands are used to stretch or pull tissue back.





A syringe is not removed from the surgical area.

Scalpel blades are loaded or taken off the handle.

Complete the content above before moving on.

Using Standard Precautions

The Centers for Disease Control and Prevention (CDC) have created a set of guidelines called Standard Precautions.

Use Standard Precautions when caring for all people.

Hand Hygiene

Hand hygiene is the best way to prevent the spread of pathogens (Level B).

(Level B)

Always wash hands with soap and water (Level B):

- When clearly soiled
- Before eating
- After using the restroom
- After contact with blood or OPIM

The CDC currently recommends alcohol-based hand rubs (ABHR) for routine hand hygiene (Level B).

(Level B)

Before and After with ABHR (Level B)

Always do hand hygiene with ABHR before:

- Contact with treatment areas and equipment

Always do hand hygiene with ABHR after:

- Contact with equipment
- Removing gloves
- Washing hands with non-antibacterial soap and water

Placement of the person receiving care

Read the infection control guidelines for isolation precautions in the facility. A person may be placed in a single-person room if they are at:

- Increased risk of spreading illness to others
- Risk of contaminating the setting
- High risk of catching an infection

Sharps Safety

Handling of Needles and Sharps

Facilities may have a sharps injury prevention program. In this program:

- Used needles and other sharps are disposed of in a sharps container.
- Sharps containers are:
  - Located in care areas
  - Kept safe from anyone opening them
  - Replaced when about three-fourths (3/4) full

Injuries from Needles and Sharps

An injury can happen if a staff member or the person under care leaves a used needle or sharp object in their belongings or bedding. Facilities may have a sharps injury log for record-keeping.

Personal Protective Equipment (PPE)

Take a look at commonly used PPE.

Select each piece of PPE to view the text.

Wear gloves when there might be contact with:

- Blood or OPIM
- Dirty equipment used by the person being cared for

Gowns protect the skin on the arms and legs and prevent clothes from being exposed to blood and OPIM.

Use protective eyewear, a mask, or a face shield to cover the mucous membranes such as the eyes, nose, mouth, and any open areas on the face. This protects from splashes or sprays of blood and body fluids.

Use an N95 respirator when entering the room of a person with a suspected or confirmed airborne disease (Level B).

If PPE becomes torn or damaged while wearing it:

- Remove the PPE and place it in the correct trash container.
- Wash the affected area with soap and water.
- Replace the PPE.

Tell the supervisor right away if there may have been an exposure.

Choose the best option and select SUBMIT.

When should Standard Precautions be used?

- With all people
- Only with people known to have a specific disease
- Only with children
- Only with older adults

SUBMIT

Cleaning

Routine cleaning is recommended for work surfaces and care areas. Examples are light switches, doorknobs, bed rails, IV poles, remote controls, equipment on walls, and keyboards.

Always wash hands after cleaning.

Disinfecting and Sterilizing

Disinfecting and sterilizing are processes to clean medical equipment.

Disinfecting involves soaking and scrubbing items in an approved solution to destroy viruses and bacteria.	Sterilizing destroys all viruses and spores that are tiny bacteria. Sterilization requires specific training and education.

Handling Laundry and Cloth Materials Safely

When working with dirty cloth materials (Level E):

- Wear gloves.

- Do not rinse or sort items in care areas.
- Bag or close items in containers that will not leak.
- Label containers following OSHA standards.
- Do not touch the eyes, mouth, or any body part where a scratch or abrasion has broken the skin.
- Do not touch or eat food until hands have been thoroughly washed.

Handle laundry and cloth materials per facility policy.

Respiratory Hygiene/Cough Etiquette

Respiratory hygiene/cough etiquette prevents the spread of bacteria and viruses.

This is when a person covers their nose and mouth with a tissue when they sneeze or cough.

Without a tissue, a person can cough or sneeze into the elbow, not the hands.

Always wash hands after coughing or sneezing.

Medication Administration

Use syringes, needles, and medicine vials correctly to prevent the spread of germs.

Use aseptic technique when preparing and giving medicines to avoid contamination:

- Wash hands.
- Wipe the top of the medicine vial with alcohol before sticking in the needle, even if the vial is new.

- Do not use intravenous bags of fluids for more than one person.

Injection Safety

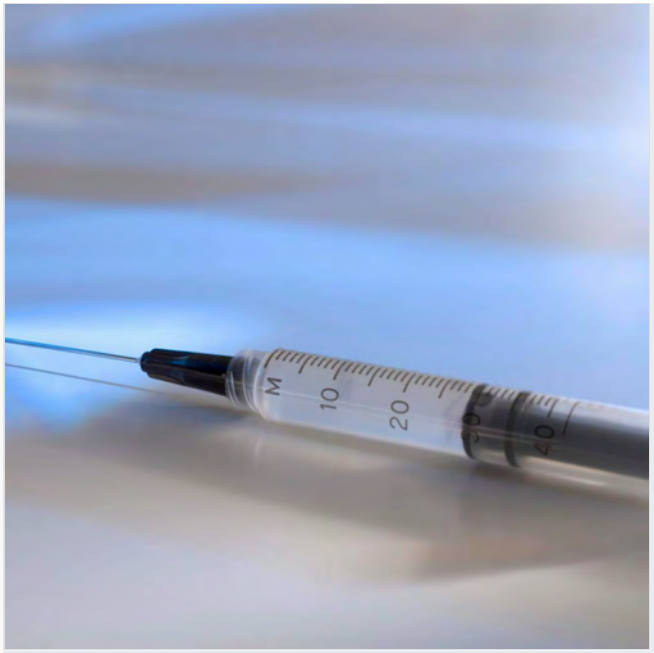
Safe injection practices include the following (Level A):

Please select each image to view the text.

- Use single-dose vials whenever possible.
- Do not use medicines that are single-dose for more than one person.
- Do not combine single-dose vials or ampules for later use.

- Assign multidose vials to one person.
- Use sterile needles/cannulas each time the vials are entered.
- Discard multidose vials if sterility is compromised or in question.

- Use fluid infusion and administration sets for only one person.
- Dispose of sets after use



- Do not give medicines from the same syringe to more than one person.
- Do not bend, recap, or remove a dirty needle or sharp; put them in the sharps container.
- Do not enter a vial or IV system with a used needle

Always wear a surgical mask during lumbar, spinal, or epidural puncture procedures (Level B).

Blood Glucose Monitoring Devices

When using blood glucose devices (LevelD):

- Do not use the same fingerstick device for more than one person.
- Use an auto-disabling or single-use fingerstick device.
- Blood glucose devices should not be shared. If they need to be shared, clean them after every use following the manufacturer's directions.

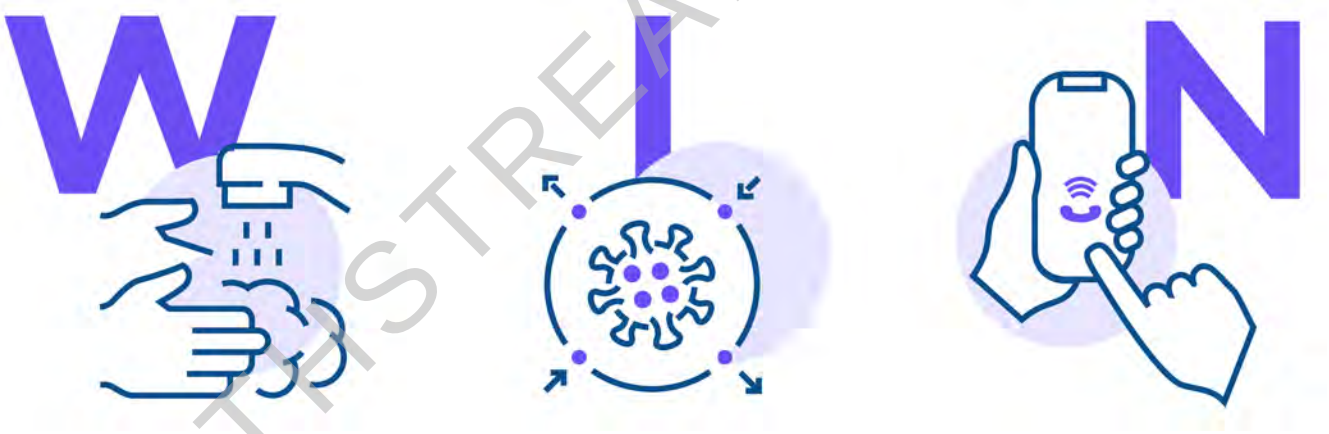
The employer is responsible for training employees in the proper use of equipment and procedures for infection control. When procedures and equipment change, risks of exposure may change. Employers have to train employees in changes. If staff is unsure of a policy, procedure, or how to use infection control equipment, they should ask their manager. Training has to be documented.

Complete the content above before moving on.

Response to Exposure

Reading facility policies and procedures helps to make sure people know what to do if exposed.

If exposed to blood or OPIM, remember these steps of WIN:



WASH

Wash the area right away with soap and water. If mucous membranes are affected, flush well with water. Flush eyes with

IDENTIFY

Identify the source person of the exposure.

NOTIFY

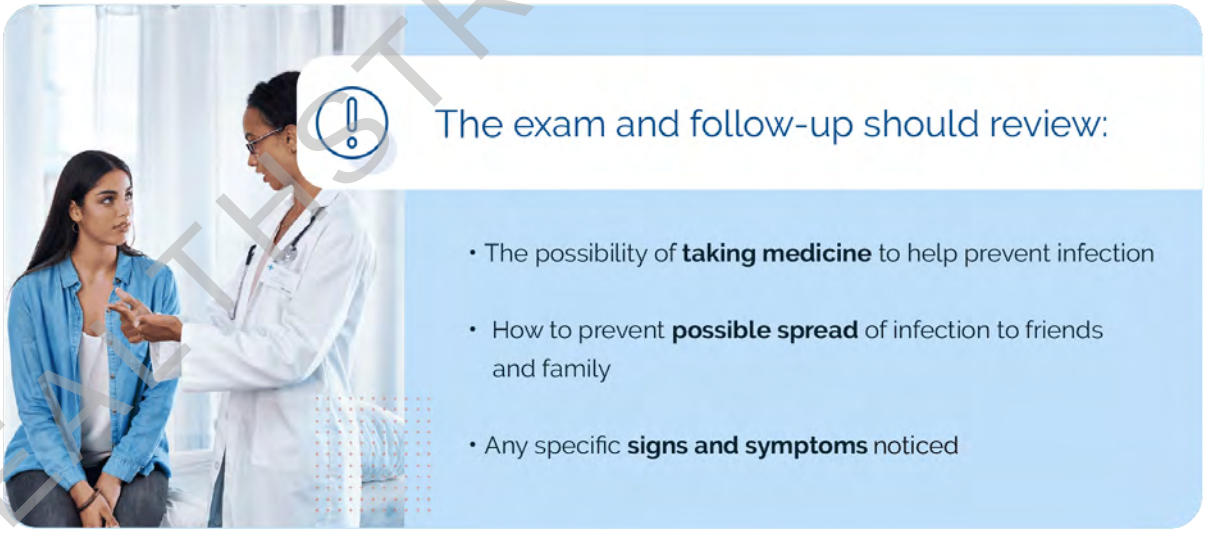
Notify the supervisor.

clean water, saline, or sterile liquid.

Quick action can decrease the risk of infection after exposure!

After an exposure a person may:

- Communicate with a medical expert.
- Be offered counseling, treatment, and follow-up care.



After evaluation:

- The provider will send a written report to the employer.

- The employer will give the person a copy of the report.

CONTINUE

Module Conclusion

This module has reviewed the following:

- Bloodborne pathogen risks to healthcare workers and the people under their care
- Protective measures to reduce exposure risk
- Actions to take in the event of exposure

References

Centers for Disease Control and Prevention. (2016a, January 26). *Standard precautions for all patient care*. https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html

Centers for Disease Control and Prevention. (2016b, October 11). *Bloodborne infectious diseases: HIV/AIDS, Hepatitis B, Hepatitis C*. https://www.cdc.gov/niosh/topics/bbp/controls.html

Centers for Disease Control and Prevention. (2019, April 29). *Hand hygiene in healthcare settings*. https://www.cdc.gov/handhygiene/

Occupational Safety and Health Administration. (n.d.-a). *Bloodborne pathogens and needlestick prevention*. https://www.osha.gov/SLTC/bloodbornepathogens/index.html

Occupational Safety and Health Administration. (n.d.-b). *Quick reference guide to the bloodborne pathogens standard*. https://www.osha.gov/SLTC/bloodbornepathogens/bloodborne_quickref.html

Occupational Safety and Health Administration. (2011, January). *OSHA fact sheet: OSHA's bloodborne pathogens standard*. https://www.osha.gov/OshDoc/data_BloodborneFacts/bbfact01.pdf

Occupational Safety and Health Administration. (2015, February 11). *Sharps safety for healthcare settings*. https://www.cdc.gov/sharpssafety/index.html

Occupational Safety and Health Administration. (2019, May 14). *1910.1030 - Bloodborne pathogens*. https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030

University of Tennessee Knoxville. (n.d.). *Bloodborne pathogens*. https://biosafety.utk.edu/biosafety-program/the-biosafety-program/biosafety-manual/10-bloodborne-pathogens/

U.S. Food & Drug Administration. (2021, April 29). *Sharps disposal containers in health care facilities*. https://www.fda.gov/medical-devices/safely-using-sharps-needles-and-syringes-home-work-and-travel/sharps-disposal-containers-health-care-facilities

U.S. Food and Drug Administration. (2022, April 5). *Reprocessing of reusable medical devices*. https://www.fda.gov/medical-devices/products-and-medical-procedures/reprocessing-reusable-medical-devices

This is the end of the module. To exit and return to the Activity Details, select **EXIT**.