

Aspirus Infection Prevention Support

Stop the spread of germs and preventing the growth of new infections



Aspirus Infection Prevention

- This module will cover the following topics:
 - Infection Control and Standard Precautions.
 - HealthCare Associated Infections.
 - Work Practice Controls to prevent infection.
 - Hand and Environmental hygiene.
 - Bloodborne Pathogens.
 - Signs for Transmission-Based Precautions: Contact, Enteric, Airborne, & Droplet.

Aspirus Infection Prevention

Infection Control

- Infections or germs can be transferred quickly between people and surfaces.
- Standard precautions are infection control practices used to prevent transmission of diseases. Used:
 - For all individuals whether they appear ill or not.
 - To keep infections from spreading to you and others.

Healthcare-Associated Infections

HAIs

- Any infection that develops after the third day of an admission is defined as Healthcare-Associated Infection (HAI).
- Most HAIs are passed to a person by touch. They could come from staff or a visitor.
- Hand hygiene is the best practice for preventing HAIs.

Bloodborne Pathogens

- Bloodborne pathogens are viruses that can be found in the human blood.
- They can be spread in the workplace by:
 - Touching the eyes, nose or mouth with dirty hands.
 - Contact with open areas of the skin such as cuts, bites or blisters.
 - Getting stuck with a used needle or sharp object.

Bloodborne Pathogens

- There are 3 Bloodborne Pathogen viruses found in the blood:
 - Hepatitis B: Attacks the liver and can be stopped by a vaccine.
 - We are at greatest risk for contracting Hepatitis B in the event of exposure.
 - **Hepatitis B vaccine is available free of charge.**
 - Immunity lasts a lifetime and has no recommendations for a routine booster.
 - If high risk exposure to patient with HBV, booster may be recommended.
 - Not recommended if health care worker has documented immunity to HBV.
 - Hepatitis C: Attacks the liver and can't be stopped by a vaccine.
 - HIV: Attacks the body's immune system and can't be stopped by a vaccine.

Aspirus Infection Prevention Infection Control

- Aspirus has an Infection Control Plan to educate staff and patients.
- Each facility and/or department has an Exposure Control Plan.
 - They outline methods to infectious materials such as standard & transmission precautions, work practice controls, Hepatitis B vaccination, post-exposure management and training.
 - **EACH employee** is responsible for knowing where to find your Exposure Control Plan. See PolicyStat or other policy portal to find your plan.

Aspirus Infection Prevention

Know who your Infection Preventionist is

- Each facility has an infection prevention subject matter expert who helps support practices that reduce and eliminate infection harm to staff and patients.
- They report infections to the quality and performance team (QAPI) team. QAPI helps detect problems, finds ways to fix them, and continually watches and assesses the quality of care. This process improves care and outcomes.
- This is located on the Intranet under Work Tools & Resources and Infection Prevention Resources.

The screenshot displays the Aspirus Health Intranet interface. At the top, the Aspirus Health logo is visible. Below it, a navigation bar includes links for System Info, Life & Career, Work Tools & Resources (highlighted with a red box and a red circle containing the number 1), Documents & Forms, and Key Initiatives. On the left side, there are sections for MY ROLES (with a help icon), MY QUICK LINKS (with an edit icon), and a list of links including Code of Conduct Booklet, Cafeteria Menu, and Document & Form Library. The main content area is titled 'Infection Prevention Resources' (with a red circle containing the number 2) and features a red callout box that says 'Find your local Infection Prevention Contact' with an arrow pointing to the 'Infection Preventionist Contacts +' link. Below this, there is a section for 'Monkeypox' with an information icon, an update date of 'July 27, 2022 Update', and a link to 'First Case in Aspirus Service Area' and a 'Quick Reference Guide'. At the bottom, there is a graphic with 'Infectious agent' (listing Bacteria, Fungi, Viruses, Parasites) and a table titled 'Isolation Precautions' with columns for STANDARD, CONTACT, AIRBORNE, DROPLET, and ASYMIC, and a row for COVID-19 (Asymptomatic, Symptomatic).

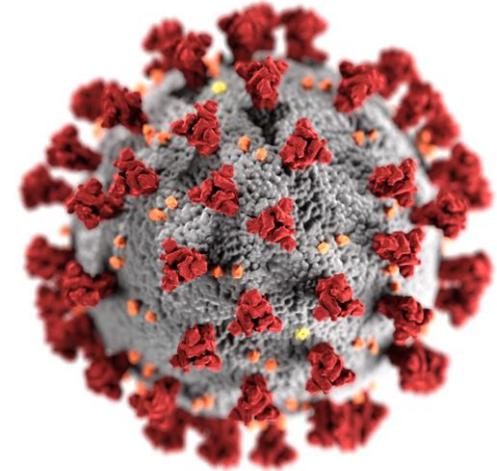
Respiratory Pathogen Symptoms

SARS CoV2 (COVID 19)

See Isolation Procedures – Standard and Transmission Based Precautions (System) policy and Discontinuation of Transmission Based Precautions and Disposition of Patients with COVID-19 in Healthcare Settings (System) in PolicyStat.

Symptoms:

- Cough
- Fever
- Muscle pains
- Sore throat
- Shortness of breath or difficulty breathing
- Chills, repeated shaking with chills
- Headache
- New loss of taste or smell
- Most people will have mild illness; however, the risk of new mechanical ventilation has been the course with compromised patients



Aspirus Infection Control

Work Practice Controls

- In patient care areas do not:
 - Eat or drink.
 - Apply lip balm, cosmetics, or handle contact lenses.
 - Store food in refrigerators with patient care supplies or other potentially contaminated products.
- Always:
 - Perform hand hygiene. **The single most IMPORTANT factor for preventing the spread of infection is proper hand hygiene.**
 - Maintain a visibly clean environment.
 - Cover your mouth and nose with a tissue when coughing or sneezing.
 - Report pest issues immediately.
- Know Aspirus policy and protocol for work illness.



Hand Washing

Protects you and those receiving the care you provide.

- Studies have shown that healthcare workers' hands are the #1 mode of transmission for Healthcare Associated Infections (HAIs).
- Regular handwashing is one of the best ways to remove germs, avoid getting sick and prevents the spread of germs to others.
- Current guidelines from the CDC recommend use of:
 - Soap and water for washing visibly soiled hands.
 - Alcohol-based hand rubs for routine decontamination of hands between patient contacts.



Hand Washing

- Use soap and water when hands are visibly dirty including:
 - Before and after each work shift.
 - Before eating, drinking or handling of food.
 - After using the restroom or if visibly dirty.
 - After blowing your nose or sneezing.
 - For Enteric Contact Isolation Precautions. This must be performed on both entry and exit.

Hand Washing

Focus on Technique to wash hands



Soap and Water

- Wet hands with warm water. Use warm, not hot water and apply soap to give a good lather.
- Rub hands together vigorously for at least 15-20 seconds. Use the “ABC” song and “Happy Birthday” to estimate 20 seconds.

Alcohol Rub

- Apply the rub to the palm of one hand.
- Rub over all surfaces of the hands and fingers.
- Rub hands together until they are dry.

Aspirus Infection Prevention Cleaning Matrix

- Know what equipment you are responsible for cleaning and how to clean it properly.
- Some facilities may utilize the Cleaning Matrix which is grid of patient or department use equipment that provides guidance on:
 - Who is responsible for cleaning, how often it needs to be cleaned, what to clean with.
 - Contact times – times disinfectant should remain wet to be effective.
 - Both common equipment and unit/department specific matrices are available.
- There may be product variance based on supply availability.
- If unfamiliar with the cleaning product or it isn't listed on the matrix, refer to the label for appropriate use on surface or equipment to be cleaned and contact (wet) time.

Example of AWH Cleaning Matrix

Common Equipment Cleaning Matrix

Item	Frequency	Responsibility	Cleaning Material
Accucheck/Glucometer and iStats	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Arjo Lifting Equipment	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Barcode Scanners/Mobile Meds/Epic handhelds	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Bladder Scanner	After each use	Clinical Staff	Orange Wipe
Carts for patient belongings	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Dopplers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
EVA walkers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Hover Machine/HoverMatt	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Manual blood pressure cuffs	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Otoscope/Ophthalmoscope	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable BP equipment/DinaMap	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Ultrasound/Sonosite	After each use	Clinical Staff	Sonowipes
Scales	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Stethoscopes	After each use	Clinical Staff	Alcohol
Thermometers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Finger Pulse Oximeter	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Phones	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Walkers	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Wheel Chairs	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Charge Phones	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Department Keys	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Vocera	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Medication Drawers	At Discharge	Clinical Staff	Purple Wipe, Orange if enteric
Telemetry box/monitor	At Discharge	Clinical Staff	Purple Wipe, Orange if enteric
Unit Specific Equipment	Before Being put away	Clinical Staff	Purple Wipe, Orange if enteric
Computers on Wheels	Daily/After in Patient's Rooms	Clinical Staff	Purple Wipe, Orange if enteric
Crash Cart	After each use	Clinical staff - if not opened/SFD - if opened	Clinical - Orange wipe, Purple wipe; SFD - Oxycide
Commodes	Daily, When visibly soiled, At Discharge	Clinical staff-when visibly soiled/EVS - daily, discharge	Purple wipe, Orange wipe, Oxycide
Cords/Monitor Cables	After every patient use	EVS	Purple Wipe, Orange if enteric
Patient Fall Alarms/Posey Alarms and cables	At Discharge	EVS	Oxycide
Suction Canisters (exterior Canister)	At Discharge	EVS	Oxycide
Isolation Carts	At Discharge, before putting away	EVS	Oxycide
Nurse Alcoves - keyboard, phones	Daily	EVS	Oxycide
Bedside Vital Monitor (Dinamap)	Daily/At discharge	EVS	Oxycide
Cardiac monitors/GE monitors	Daily/At discharge	EVS	Alcavis
Pyxis Equipment and Keyboard; Medication Refrigerators	Daily	Pharmacy	Orange Wipe
Blood Warmers	After each use	SFD	Oxycide
Wound vac	After each use	SFD	Purple Wipe
A-N Impulse™ (boots)	After every patient use	SFD	Oxycide
Feeding Pump/Kangaroo Pump	After every patient use	SFD	Orange Wipe
Hot/ice Machine (K. Pad)	After every patient use	SFD	Oxycide
IV/PCA Pump	After every patient use	SFD	Dispatch
Portable Suction Machine	After every patient use	SFD	Oxycide
SCD Machine	After every patient use	SFD	Oxycide
IV Pole	At Discharge	SFD	Purple Wipe, Oxycide

Contact Times

Purple wipe: 2 minutes, Orange wipe: 4 minutes, Alcohol: until dry

Aspirus Infection Prevention

Cleaning Responsibility- Know where to find Instructions For Use (IFU)

OnBase

OnBase is used by employees to access patient education, job descriptions, complete Employee Health tests and perform invoice approvals.

 [Go To OnBase](#)

 [CME, Travel & Expense Reimbursement](#)

 [Go To Manufacturer Instructions For Use \(IFU\) Database](#)

 [Approve Invoices \(prior to 8/9/22\)](#)

 [Approve Invoices \(new\)](#)

Manufacturer Instructions For Use (IFU)

Every supply and piece of equipment used on patients has IFUs that must be followed. Use the link above to the OnBase IFU database to easily access IFUs for key supplies and equipment. Please note that this will not replace the OneSource application for surgical equipment IFUs.

[See additional details](#)

[IFU FAQs](#)

Policies & Procedures

All Aspirus business units are now using **PolicyStat** for accessing and managing policies.

[Go to PolicyStat](#)

Manufacturer Instructions For Use (IFU):

Identify what product is used to clean specific equipment
Learn the contact time of solution for proper cleaning

Care and Handling of Contaminated Reusable Instrumentation

How should contaminated reusable instruments be handled?

- Disposable instruments should be disposed of in the appropriate disposal container.
- At Point of Use:
 - Gross soil should be removed as soon as possible.
 - Instruments are contained in a puncture resistant, leak-proof, closeable container with a Biohazard label attached.
- In designated area, immediately spray the instruments with an enzymatic product
 - Make sure to use the product and appropriate PPE according to manufacturer's IFU.
 - Make sure each instrument is in the "open position" to allow for saturation of all parts.
- Outside of container should be disinfected if contamination occurs prior to transport to Central Sterile Processing (CSP).
- Some locations may utilize an inventory list for CSP.

Environmental Hygiene

Biohazard Label Requirements

Use the standard BIOHAZARD Label

- Potentially Infectious Liquid: Red bag with biohazard label
- Blood specimens: Biohazard label on storage bag and/or containers
- Sharps containers and/or Refrigerators, coolers where blood or other potentially infectious material (OPIM) is stored or transported: Biohazard label
- Soiled (dirty) Utility rooms
- Staff are accountable for ensuring sharp devices are in working order & using them properly. Replace sharps container when 2/3 full.

Transport for CAUTI Reduction

Prior to transporting a patient:

- Empty the drainage bag and tubing to avoid urine backflow.

During transport:

- Make sure that the urinary bag hangs below the level of the patient's bladder so that urine flows out of the bladder.
- The bag should not touch the floor, and the patient should carry the bag below the level of the bladder when walking.

Transmission-Based Precautions

- Transmission-Based Precautions are always used with Standard Precautions to prevent adverse events and transmission of infectious disease to keep everyone safe.
- They help stop germs from spreading. There are four categories of transmission precautions:
 - **Contact Precautions:** Germs travel by direct (skin to skin) or indirect contact (touching people's items).
 - **Enteric Precautions:** Germs travel by direct (skin to skin) or indirect contact (touching people's items). Requires a unique cleaning protocols and hand hygiene with soap and water.
 - **Droplet Precautions:** Droplets released into air & travel a short distance.
 - **Airborne Precautions:** Particles released into air and travel a long distance and inhaled by other people.

Isolation Precautions

Review Signs **BEFORE** entering a patient room

Appropriate Precautions for all

- To help stop the spread of infection, Contact Precautions signs are used in patient care areas. As a patient or a visitor, it is important to understand these signs.
- **Always** wear the PPE identified on isolation signage, use hand hygiene and clean and disinfect as required.



Contact Precautions

STOP **Visitors:** **STOP**

PLEASE CHECK WITH STAFF BEFORE ENTERING.

-  All **STAFF** must wear a **GOWN** and **GLOVES** and remove when leaving the patient room.
-  All **STAFF** and **VISITORS** must use **HAND SANITIZER** or wash hands with **SOAP AND WATER** when entering and leaving the patient room.
- 
 - Staff to use **disposable** or **dedicated** patient equipment, if possible.
 - Clean equipment with **approved disinfectant**.

If you have any questions, please ask the nursing staff. Thank you!

Isolation Precautions

Signs

Enteric Contact Precautions



Visitors:



PLEASE CHECK WITH STAFF BEFORE ENTERING.



All STAFF must wear a GOWN and remove when leaving patient room.



All STAFF and VISITORS must wash hands with SOAP and WATER when entering and leaving patient room.



- Use disposable or dedicated patient equipment, if possible.
- Clean equipment with sporicidal disinfectant (sodium hypochlorite/bleach).

If you have any questions, please ask the nursing staff. Thank you!

Droplet Precautions



Visitors:



PLEASE CHECK WITH STAFF BEFORE ENTERING.



- All STAFF must wear a FACE MASK and remove when leaving the patient room.
- VISITORS recommended to wear a FACE COVERING when entering the room.
- PATIENT must wear a FACE COVERING if leaving the room.



All STAFF and VISITORS must use HAND SANITIZER or wash hands with SOAP AND WATER when entering and leaving the room.



- Use disposable or dedicated patient equipment, if possible.
- Clean equipment with approved disinfectant.

If you have any questions, please ask the nursing staff. Thank you!

Isolation Precautions

Signs

Airborne Precautions



Visitors:



PLEASE CHECK WITH STAFF BEFORE ENTERING.



All STAFF must wear a N95 RESPIRATOR or PAPR.



All STAFF and VISITORS must use HAND SANITIZER or wash hands with SOAP AND WATER when entering and leaving the patient room.



- VISITORS should wear a FACE COVERING when entering the room.
- PATIENTS must wear FACE COVERING if leaving room. *(limit patient transport to necessity)*
- KEEP DOOR CLOSED

Airborne, Contact, Droplet Precautions



Visitors:



PLEASE CHECK WITH STAFF BEFORE ENTERING.



- ALL STAFF must wear a N95 and face shield or PAPR with gown and gloves and remove when leaving the patient room.
- Use a negative pressure room, if available.
- PATIENT must wear a FACE COVERING if leaving the room.



All STAFF and VISITORS must use HAND SANITIZER or wash hands with SOAP AND WATER when entering and leaving the patient room.



- Staff to use disposable or dedicated patient equipment, if possible.
- Clean equipment.

If you have any questions, please ask the nursing staff. Thank you!

Aspirus Infection Prevention

All staff have a responsibility to use safety precautions to stop the spread of infections.

1. Proper hand hygiene is the single most **IMPORTANT** factor for preventing the spread of infection.
2. **Everyone** has an Exposure Control Plan. Each employee is responsible for knowing this information.
3. Additional Infection Prevention information, including resources and your infection preventionist, is available on the Intranet.
4. Review Isolation Signs before entering a patient room and follow guidelines.

SQ: Infection Control and Prevention Basics, Clinical

RESTRICTIONS ON USE OF STORYBOARDS

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- inform auditors or legal representatives, if requested as part of a documentation requirement

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HealthStream™

Welcome to **SQ: Infection Control and Prevention Basics, Clinical**.

Select **START MODULE** to begin.

Be sure to click on the interactive elements to advance.

Introduction

Infection Control

Hand Hygiene

Preventing the Spread of Infection

Healthcare-Associated Infections

Module Conclusion

Introduction



Regular practice and review can help all healthcare workers follow policies and regulations.

Stopping the spread of germs and preventing the growth of new infections is the duty of all staff.

This module will review the following:

- Infection control
- Hand hygiene

- Preventing the spread of infection
- Healthcare-associated infections

Please look at the important terms before beginning.

Select "*" to expand.

Glossary —

Airborne infection isolation room (AIIR)

A private room set up for negative air pressure used to isolate people with airborne diseases

Aseptic technique

The method of doing something that reduces the risk of infection; may be called "sterile" technique in certain situations

Hand hygiene

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

Immune system

A system of cells, tissues, and organs that help the body fight infections

Isolation

Precautions to keep people separated when they have spreadable infections

Other potentially infectious materials (OPIM)

Human body fluids that can spread infection

Safety precautions

Steps created to protect healthcare workers from bacteria

Transmission

Infection Control

Infections (germs that cause problems in the body) can be transmitted (transferred) quickly between people. Finding an infection early in a person can prevent others from being harmed.

Infection control is a group of guidelines used to stop the spread of infection. Review and follow the infection control procedures.



Signs and symptoms of infection may include the following:

- Cough, nasal drainage, or chest congestion (fluid in the lungs)
- Fever
- Pain, swelling, drainage, and redness on the body near medical device sites, surgical incisions, or wounds
- Change in the color or smell in urine
- Lower back or stomach pain
- Diarrhea



Vaccines help prevent and control the spread of infections.

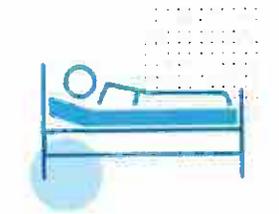
Ask people what vaccines they have had on admission.

There are vaccines available for:

- Influenza (flu)
- Pneumonia
- SARS-CoV-2 (COVID-19)

- Shingles
- Chickenpox

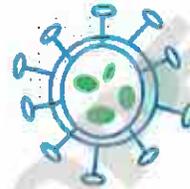
If an infection in a person is suspected or known, their plan of care may include:



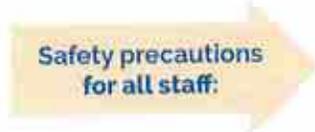
Place the person in an isolation/private room (physically separate from other people).



Have the person use respiratory hygiene (e.g., facemask).



Evaluate to find the site of infection.



Place an isolation sign outside the person's door.



Use personal protective equipment (PPE).

Some infections need more testing to confirm the type of germ.

Choose the best option and select **SUBMIT**.

An x-ray technician is about to enter a person's room. There is an isolation sign on the door, and the door is closed. There is PPE on a table outside of the room. What should the x-ray technician do next?

- Walk into the person's room.
- Ask the nurse for details about the person's isolation.

SUBMIT

Staff Reporting

Share the person's infection information with other staff. Explain the precautions being used.

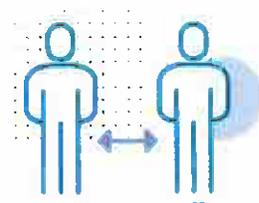
Report this information when:



Transporting a person for testing



Cleaning people's rooms and equipment



Changing staff assignments

Reporting information can reduce the risk to others.

Infection Control Programs

An infection control program is made of policies and procedures to help decrease infections.

The infection control team:

- Teaches staff, the people receiving care, and visitors about the risks of infections.
- Talks to staff, the people receiving care, and visitors about actions they can take to prevent infections.
- Checks that policies are developed with current medical facts.
- Monitors the number of infections in the facility.

Healthcare worker's role in the infection control program is to:

- Stay educated about infections.
- Follow the infection policy and procedures.
- Use safety precautions with the job (hand hygiene and PPE).
- Report any concerns that are seen or found.



Complete the content above before moving on.

Hand Hygiene

Hand hygiene is the best way to prevent the spread of infection.

There are two methods that can be used:

- 1 Wash hands with soap and water.
- 2 Use an alcohol-based hand rub (ABHR).

Both methods lower the chance of passing germs to a coworker or the people receiving care.



ABHR is preferred when the hands are not clearly dirty, including:

- Before and after contact with people receiving care and care areas
- Before and after contact with a person's medical items
- After removing gloves
- After washing hands with non-antibacterial soap and water



Use soap and water when hands are clearly dirty, including:

- Before eating
- After using the restroom
- After contact with blood or other potentially infectious material (OPIM)
- After contact with an isolation area or people receiving care

Always using hand hygiene the right way will protect the people receiving care, visitors, and healthcare workers.

Preventing the Spread of Infection

Transmission-Based Precautions are steps to keep everyone safe while working. They help stop the spread of germs from person to person. The precautions being used for a person will be based on the method of transmission (how the germs travel).

There are three transmission methods:

- 1 Contact
- 2 Droplet
- 3 Airborne

Let's review each one...



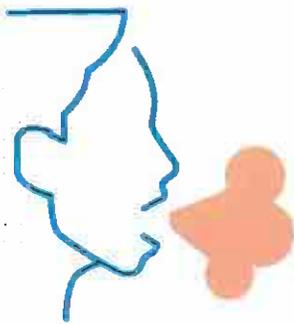
Contact

Germ travel by direct contact (skin to skin) or indirect contact (touching people's items).



Droplet

Droplets are released into the air when a person coughs, sneezes, or talks. They travel a short distance, then fall on surfaces. People breathe them in (if close) or touch the surfaces.



Tiny particles are released into the air by coughing, sneezing, or talking. They travel in the air for long distances and can be inhaled by other people.

Airborne

As reviewed earlier, using infection safety precautions is a part of the healthcare workers' role in the infection control program.

Take a moment and think about the activities being done at the facility every day.

Are they putting anyone at risk for exposure to germs?

How many times a day is a doorknob, a phone, or a computer touched?

How many times a day do healthcare workers wash their hands or use ABHR?

If one person forgets to use a precaution such as using hand hygiene, it could affect many people. Germs could pass to others from touching a dirty doorknob.

Safety precautions to use when caring for people with each transmission method include the following:

Select each + to view the text.

Contact Precautions

- Wear the needed PPE when entering the isolation room.

- If transport is needed, disinfect any item the person touches (e.g., wheelchair).
- Use equipment that can be thrown away or assigned to the person.
- Clean and disinfect the room and all equipment (e.g., light switches, monitors, bedrails).

Droplet Precautions —

- Have the person wear a mask in the room.
- Wear a mask and other needed PPE for your job when entering the isolation room.
- If transport is needed, have the person wear a mask, and disinfect any item they touch.

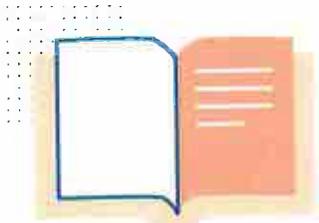
Airborne Precautions —

- Have the person wear a mask in the airborne infection isolation room (AIIR), and keep the door closed.
- Put on an N95 or higher-level respirator (specialized masks) before entering the room.
- If transport is needed, have the person wear a surgical mask.
- Any staff who are at high risk for the infection should not enter the room.

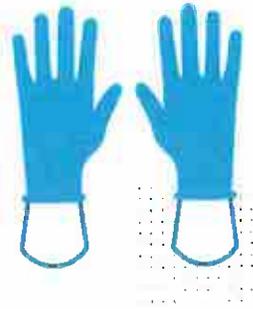
If work exposes a person to any disease that has a vaccine, they should be vaccinated.

Remember, once a healthcare worker has entered a person's isolation room, they are at risk.

They can decrease their risk by always:



Reviewing the type of precautions of the person before entering



Protecting themselves with PPE



Using hand hygiene before and after you provide care

Review the policies and procedures for isolation.



Complete the content above before moving on.

Healthcare-Associated Infections

Sometimes germs are transmitted to a person even if an infection control plan is in place.

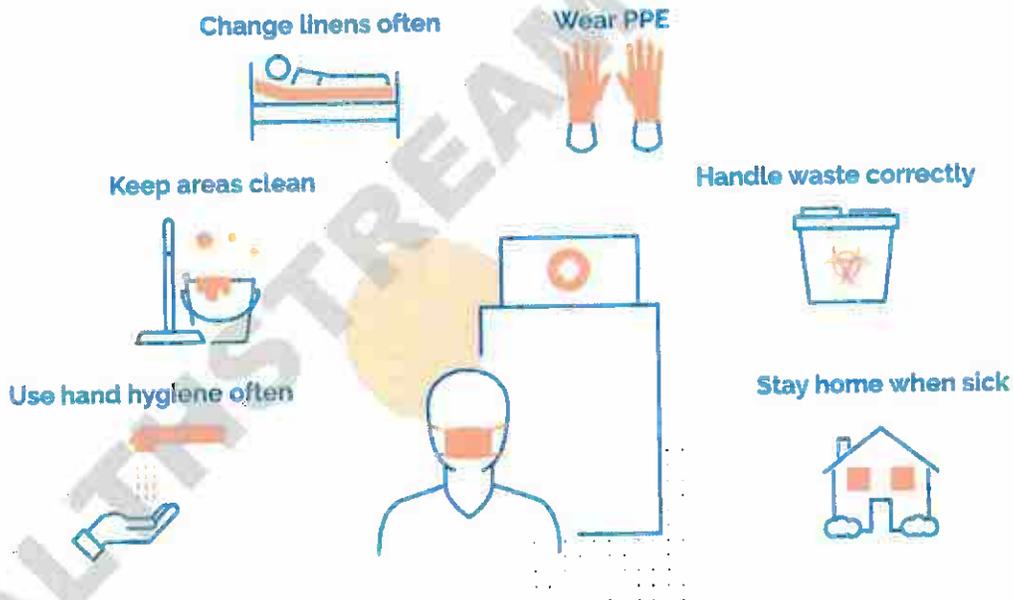


A person was admitted for surgery. Today is day three of their stay. They have a fever and are not doing well. Tests are ordered to rule out an infection. If an infection is confirmed, this will be noted as a healthcare-associated infection (HAI).

Infections that develop on or after the third day of admission are HAIs.

HAI's are most often spread by contact transmission, meaning the germs are passed to a person through touch. The germs could come from visitors, staff, or other people receiving care.

To prevent HAI's, all staff can do the following:



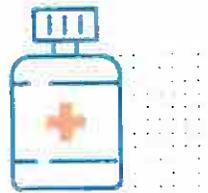
Clinical Activities

HAI's can come from clinical activities, too.

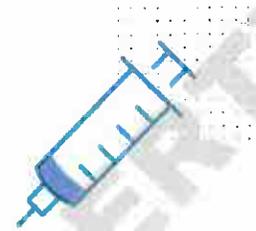
Here are some tips to follow when using:



Blood glucose monitoring devices – Always clean these between people if using the same device.



Vials of medicine – Always use aseptic technique when drawing up medicine.



Syringes/needles – Only use a syringe or needle for one person.

A person had a urinary catheter (device to help urine flow) placed by a nurse three days ago. Today that person has a high fever and abdominal pain. Their urine was tested. The lab results showed a urine infection. Because of the timing, this is considered an HAI.



HAIs linked to devices can be common. Other devices include:

- Central lines (devices in a vein used for fluids and medicines)
- Ventilators (devices that assist breathing)

Medical devices should only be used when clinically needed.

Teaching

Clinical staff has the chance to teach the people receiving care and their visitors how to help stop HAIs.

Teach the people receiving care to:	Teach visitors to:
Use hand hygiene often.	Use hand hygiene before they enter and leave the room.
Put personal items in a drawer or closet.	Use the public restroom, not the one in the person's room.
Ask for a clean pillowcase or blanket if it falls on the floor.	Avoid sitting on the person's bed or touching equipment.
Remove slippers or socks before putting their feet on the bed.	Stay home if they are sick.

Many people have weak immune systems. The immune systems of the very young or older adults have a hard time fighting infection. Good infection control practices can help protect these people.



Complete the content above before moving on.

Module Conclusion

All staff is responsible for the prevention and control of infection.

This module has reviewed the following:

- Infection control
- Hand hygiene
- Preventing the spread of infection
- Healthcare-associated infections

References

Centers for Disease Control and Prevention. (2016, January 7). *Infection control: Transmission-based precautions*. <https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html>

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SQ: Bloodborne Pathogens and Standard Precautions, Clinical

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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

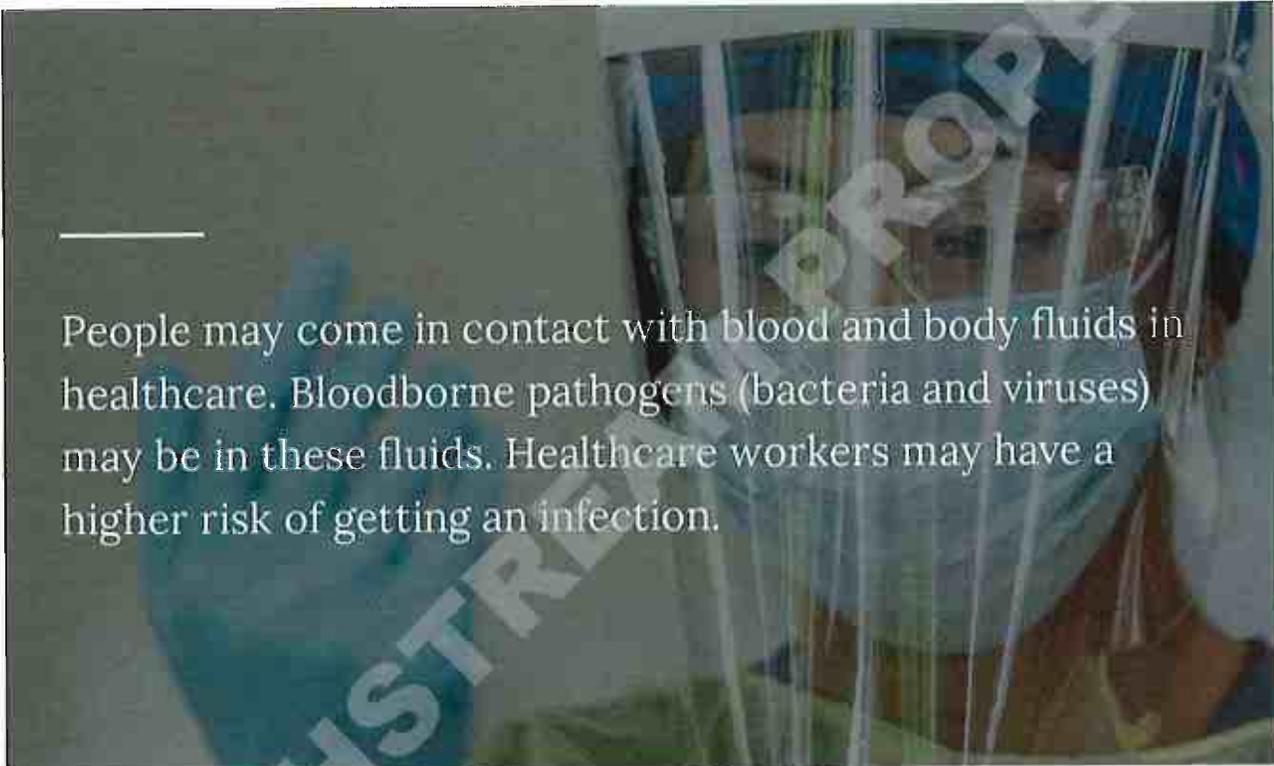
Risks of Exposure

Using Standard Precautions

Response to Exposure

Module Conclusion

Introduction



People may come in contact with blood and body fluids in healthcare. Bloodborne pathogens (bacteria and viruses) may be in these fluids. Healthcare workers may have a higher risk of getting an infection.

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 the important terms before beginning.

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?



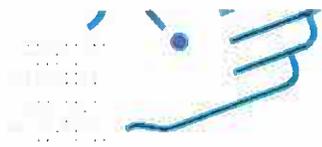
Bloodborne pathogens are bacteria and viruses that can be found in human blood. They may also be in other fluids in the body.

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

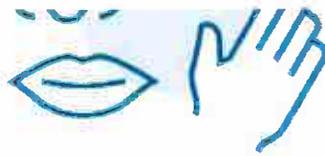


How do pathogens spread in the workplace?





Getting stuck by a used needle or another sharp object



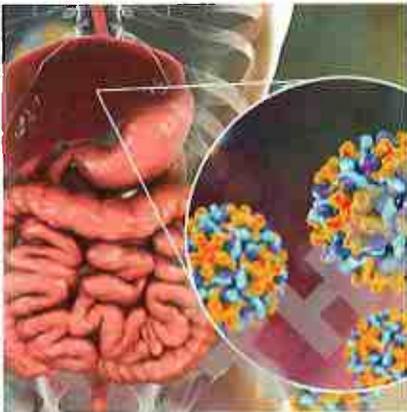
Touching the eyes, nose, or mouth when hands are dirty



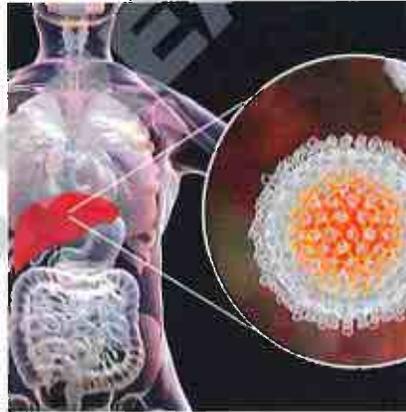
Contact with open areas of the skin such as cuts, bites, blisters, or other wounds

Most Common Pathogens in the Blood

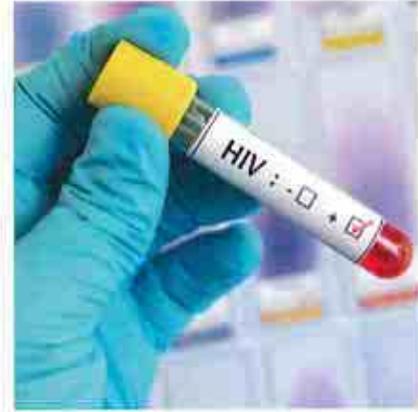
Here are three viruses found in the blood:



Hepatitis B virus (HBV) is a virus in the blood that attacks the liver. The disease can be stopped by a vaccine.

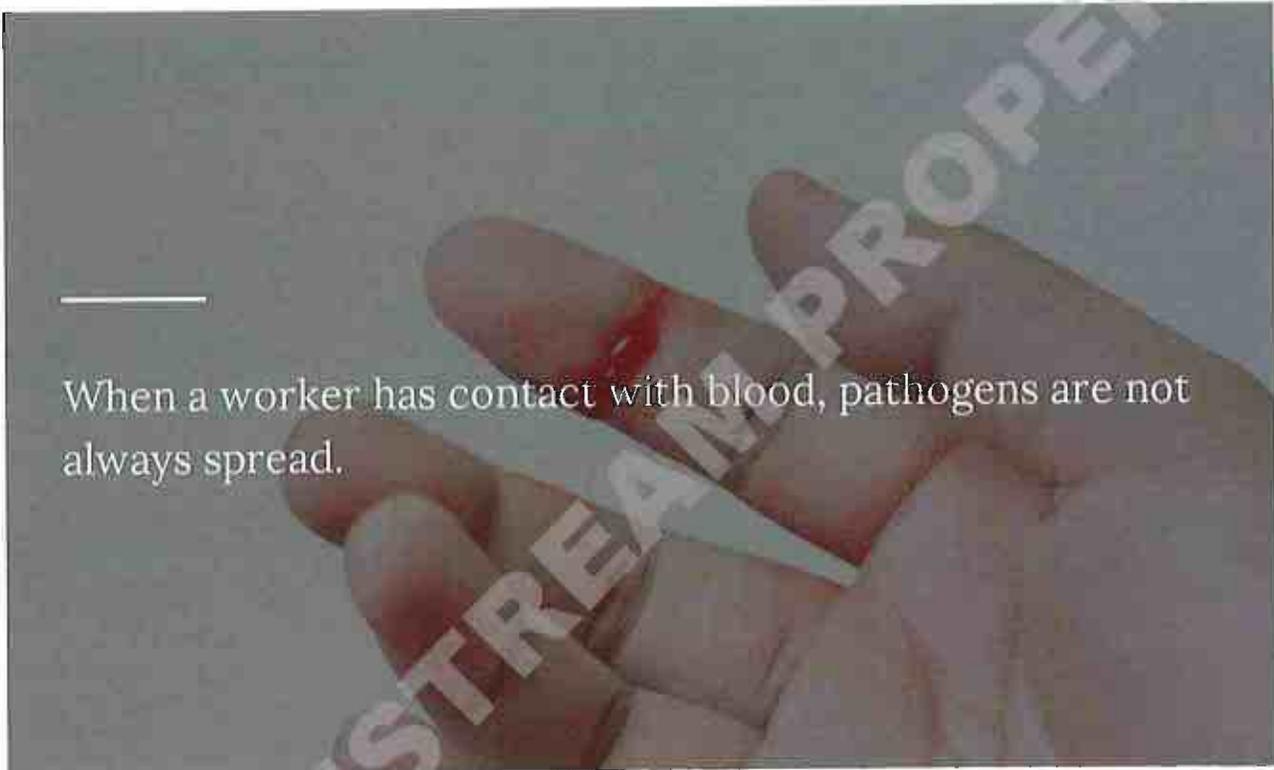


Hepatitis C virus (HCV) is a virus in the blood that attacks the liver. The disease cannot be stopped by a vaccine.

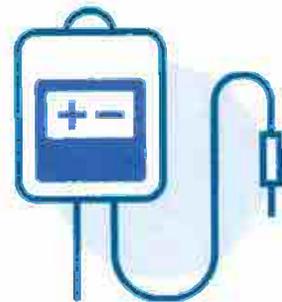


Human immunodeficiency virus (HIV) attacks the body's immune system. The disease cannot be stopped by a vaccine.

Risks of Exposure



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.

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**

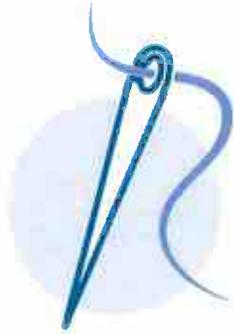
PPE

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

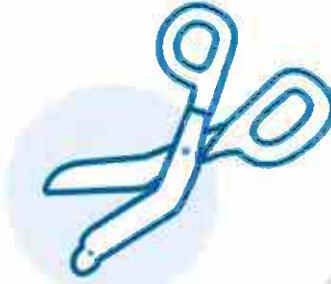


Surgical staff working in the operating room have the highest risk of injury from surgical tools.

Injuries in the operating room likely occur when:



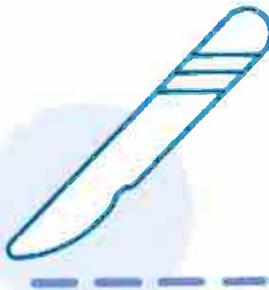
The needle is guided by the fingers while closing a wound.



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



You use your hands 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.

HEALTHSTREAM PROPERTY

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.



 Follow these steps when washing hands with soap and water:

- 1** Wet hands
- 2** Wash hands with soap for 20 seconds, rubbing hands firmly to build up lather, including all areas of the hands and fingers
- 3** Rinse with clean water
- 4** Dry completely with a clean towel
- 5** Use towel to turn off water
- 6** Be careful not to contaminate hands after washing them



Always wash hands with soap and water:

- 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.



Follow these steps when using an ABHR:

- 1 Put alcohol rub in hands.
- 2 Rub hands together, covering all areas of the hands and fingers until they feel dry.

This should take about 20 seconds.



Before and After with ABHR

Always do hand hygiene with ABHR before:

- Contact with treatment areas and equipment

Always do hand hygiene with ABHR after:

- Contact with blood or body fluids
- 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 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.

HEALTHSTREAM PROPERTY



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

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



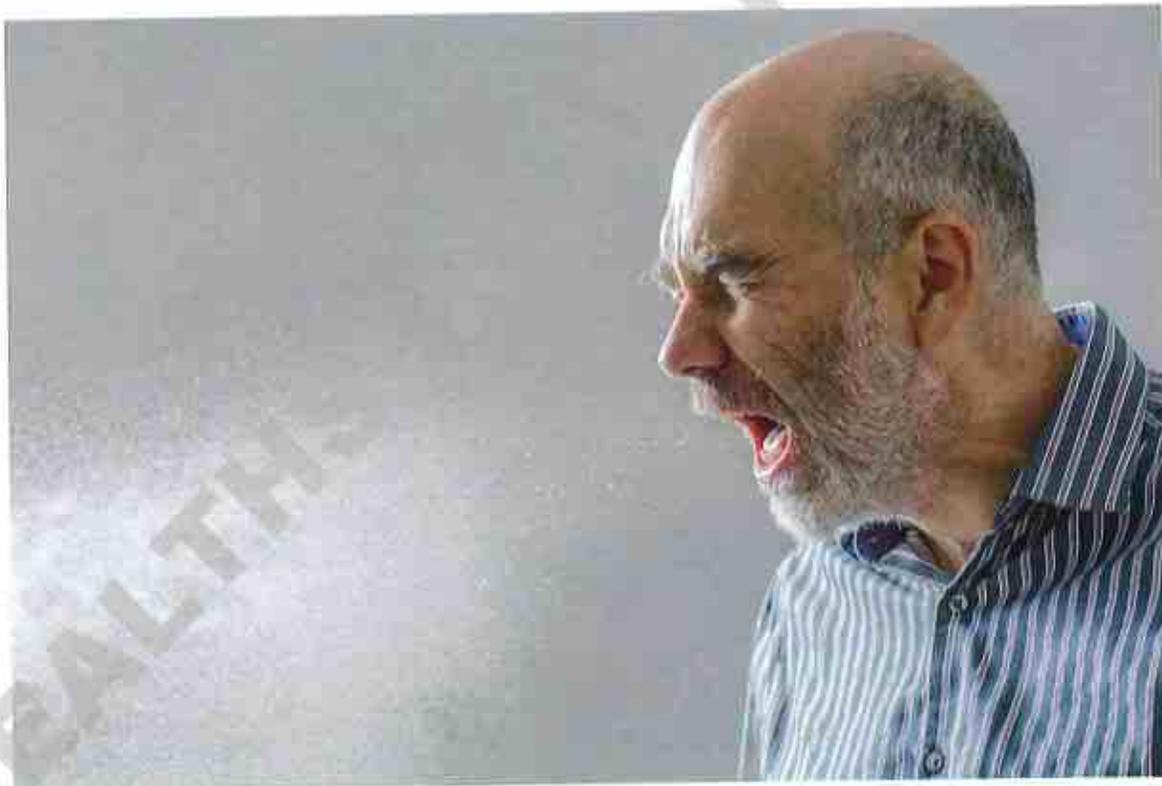
When working with dirty cloth materials:

- 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

Please select each image to view the text. Safe injection practices include the following:



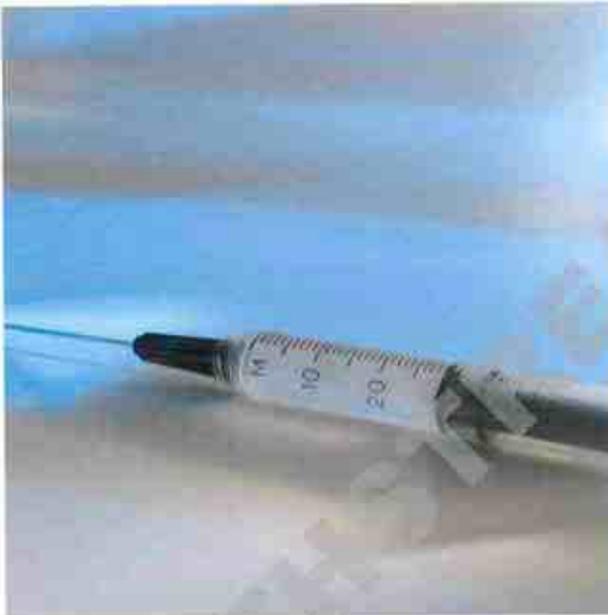
- Use single-dose vials whenever possible.
- Do not use medicines that are single-dose for more than one person.
- Do not combine single-dose vials or ampules for later use.



- 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

① Always wear a surgical mask during lumbar, spinal, or epidural puncture procedures.

Blood Glucose Monitoring Devices



When using blood glucose devices:

- 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.



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 clean water.



IDENTIFY

Identify the source person of the exposure.



NOTIFY

Notify the supervisor.

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.



 The exam and follow-up should review:

- The possibility of **taking medicine** to help prevent infection
- How to prevent **possible spread** of infection to friends and family
- Any specific **signs and symptoms** noticed

After evaluation:

- The provider will send a written report to the employer.
- The employer will give the person a copy of the report.

CONTINUE

HEALTHSTREAM PROPERTY

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. (2016, January 26). *Standard precautions for all patient care*. <https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html>

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

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

SQ: Infection, Healthcare-Associated, Clinical

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Welcome to **SQ: Infection, Healthcare-Associated, Clinical**.

Select **START MODULE** to begin.

Be sure to click on the interactive elements to advance.

Introduction

Infection Control and Antibiotic Stewardship Programs

Resistant Infectious Threats

CMS Reportable Infections

How to Protect People from HAIs

Module Conclusion

Introduction

This module will review the following:

- Infection control and antibiotic stewardship programs
- Infections that need reporting
- Infections of urgent concern
- How to protect people from infections

Please look at the important terms before beginning.

Select "+" to expand.

Glossary

Antibiotic

A medicine that stops the growth of or kills germs

Antibiotic-resistant bacteria

Germs that change and are not killed by a medicine that was made to kill them

Antibiotic-resistant infection

A type of infection caused by a germ that is not killed by a medicine that was made to kill them

Antibiotic stewardship program (ASP)

A program that includes a group of individuals that work together to improve how antibiotics are ordered by providers and used for individuals

Central line

A venous access device inserted into and kept in the vena cava, innominate, or subclavian veins. Used to infuse fluids, medications, or gain access to the heart to measure pressures in the venous circulation

Healthcare-associated infection (HAI)

A preventable infection that develops on or after the third day while receiving medical care

Infection control program (ICP)

A program that includes a group of individuals that create policies and practices to prevent infections

Multidrug-resistant organisms (MDROs)

Germs that change and are not killed by more than one medicine made to kill them

Nationally recognized guidelines

Set of standards that are widely accepted

Pneumonia

Inflammation of the lungs, usually from infection by bacteria, viruses, or fungi

Quality assessment and performance improvement (QAPI)

A program with methods to identify problems and provide solutions to improve the safety and quality of medical care in healthcare settings

Sepsis

A systemic inflammatory response to infection. It usually involves fever or hypothermia, tachycardia, tachypnea, and evidence of inadequate blood flow to the organs

Let's get started!



Complete the content above before moving on.

Infection Control and Antibiotic Stewardship Programs

Infection control programs and antibiotic stewardship programs (ICPs and ASPs), play a vital role in healthcare safety. They work together to reduce and prevent healthcare-associated infections (HAIs) and antibiotic resistance.

Different people lead these programs. The two leaders will work closely together.



Infection Control Leader (Infection Preventionist/Infection Control Professional):

- Directs the infection control program
- Ensures that infection control policies and procedures follow national guidelines
- Records the actions of the program including tracking, prevention, control, and monitoring activities

- Reports HAIs and other infections to the quality assessment and performance improvement (QAPI) team
- Works with other healthcare leaders, the ASP, and QAPI teams
- Offers competency-based training to staff



Antibiotic Stewardship Leader:

- Directs the antibiotic stewardship program and monitors antibiotic use

- Records actions such as post-prescription review, feedback, and preauthorization
- Regularly reports information on antibiotic use and resistance to prescribers, pharmacists, nurses, and hospital leadership
- Connects with other healthcare leaders and improvement teams
- Offers case-based training to staff
- Connects with the infection control program

These programs are most effective when they:

- Have a leader who is an expert in the area
- Have strong senior leadership support
- Include the QAPI program
- Use national guidelines and best practices
 - The Centers for Disease Control and Prevention (CDC) guidelines
- Provide training to staff

Infection control and QAPI programs work closely together and help provide the ASP information. The role of the ASP

is to improve the use of antibiotics.
When antibiotics are overused, it can
lead to antibiotic-resistant infections.



Complete the content above before moving on.

HEALTHSTREAM PROPER

Resistant Infectious Threats

Antibiotic-resistant bacteria are a serious concern in healthcare. The CDC tracks antibiotic resistance and provides reports on its website.

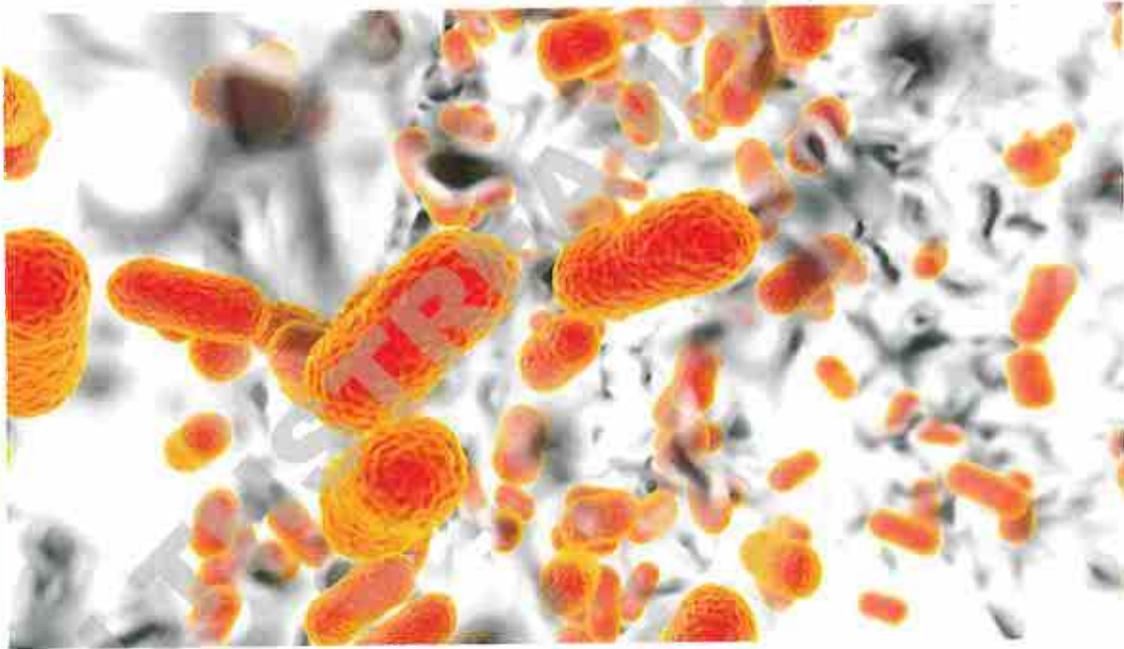
The report sorts infectious threats into four groups:



Here are five urgent antibiotic-resistance threats:

Carbapenem-resistant *Acinetobacter*

This mostly affects the person's lungs, causing pneumonia. It may also cause a wound, bloodstream, and urinary tract infections. It is spread through soiled surfaces or shared medical equipment. Almost all infections happen in people who recently received healthcare.



Candida auris

This newly emerging, multidrug-resistant fungus causes severe illness. It affects many body systems, including the heart, brain, eyes, and blood. It is spread easily from person to person or through soiled surfaces.



Carbapenem-resistant Enterobacterales (CRE)

Escherichia coli (*E.coli*) and *Klebsiella pneumoniae* are two examples of germs that are resistant to carbapenem medicines. CRE affects the bloodstream, lungs, and urinary system. It is resistant to almost all antibiotics and limits treatment options. Many people die from CRE. It is spread through contact with stool or wounds with CRE.



Drug-resistant *Neisseria gonorrhoeae*

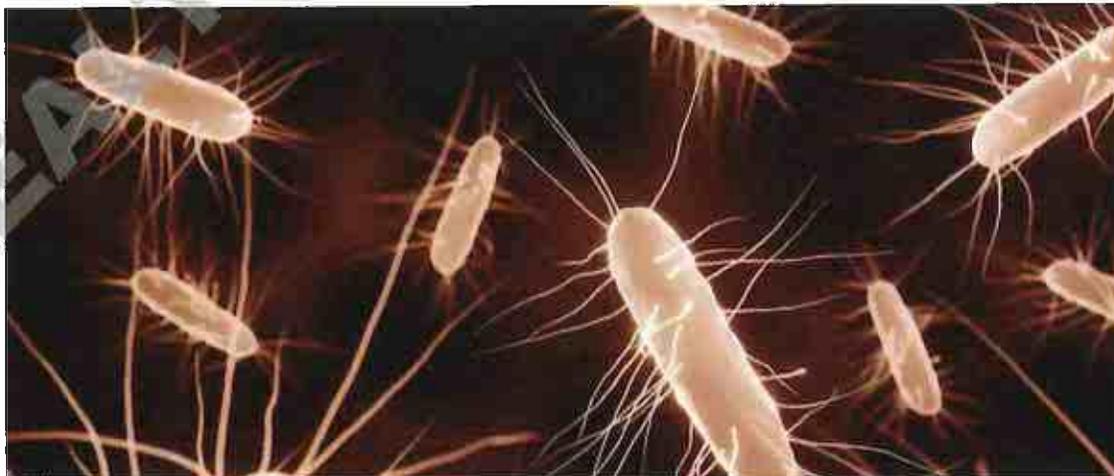
Neisseria gonorrhoeae causes gonorrhea, a **sexually transmitted disease (STD)**. It is spread through contact with an infected partner's penis, vagina, mouth, or anus. It can result in life-threatening ectopic pregnancy and infertility and can increase the risk of getting and giving human immunodeficiency virus (HIV).





***Clostridioides difficile* (*C. difficile*)**

C. difficile is a common cause of antibiotic-associated diarrhea. It causes damage to the intestinal tract and may result in sepsis. It is spread through contact with fecal matter. Its spores can be spread to people via the hands of workers who have touched a contaminated surface or item such as a toilet or bathtub.



CMS Reportable Infections

Centers for Medicare & Medicaid Services (CMS) requires certain healthcare organizations to report some persistent infections.

Reportable Hospital Infections

- Central line-associated bloodstream infection (CLABSI)
- Catheter-associated urinary tract infection (CAUTI)
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- *Clostridioides difficile* infection (*C. difficile*)
- Surgical site infection (SSI)



Reported Data

- Data is compared across the nation
- Helps healthcare organizations work towards decreasing bad infections
- Helps healthcare organizations improve how they prevent and control infections
- Data is entered into the CDC's National Healthcare Safety Network (NHSN)
- CDC uses data to provide progress reports
- CDC uses data to guide infection prevention activities in healthcare settings
- Reports are available on the CDC website

During the COVID-19 pandemic, data entry into NHSN was optional for a short time. There were fewer data entries across all HAIs.

How to Protect People from HAIs

HAIs are preventable. Healthcare workers can help stop HAIs by doing the following:

- 1 Preventing the spread of germs
- 2 Improving antibiotic use
- 3 Knowing about infections in the local area

Below are ways to keep both staff and the people in their care safe.



Follow policies from the infection control team on preventing the spread of germs. Keeping areas clean and using infection prevention activities like handwashing can protect patients.

Vaccination protects healthcare workers from influenza, COVID-19, and other diseases. It also helps to prevent a rapid spread. Some healthcare organizations are required to report data on vaccinated staff within their organization.

Questions may be asked on admission to screen for people at risk. Individuals may also be asked about recent travel or medical care received in another setting.

If a person has an infection

The QAPI team and the infection control team will work together to review the data. They will offer strategies on how to avoid future HAIs.

In-person visits may be limited for family, friends, and others if there are infection control problems on a unit.



Educate the person on how to prevent the spread to others.



Alert other staff involved in the person's care about the infection. Make sure everyone uses the appropriate PPE.



Tell staff about the infection and PPE when you transfer the person to a different unit or to another facility.

The antibiotic stewardship and QAPI teams work with the infection control team to monitor infections to prevent further HAIs and improve antibiotic use. These teams also use current information provided by CMS, the CDC, and local health departments to track infections.

The Nurses' Role in Antibiotic Stewardship

Nurses can play a key role in antibiotic stewardship when they are prescribed.

- Testing and diagnosis, for example:

- Tell practitioners about symptoms that may need a urine culture
- Collect culture correctly to prevent specimen contamination
- Make sure cultures are collected before starting antibiotics
- Speak up about antibiotics used, why, and timeframes, for example:
 - Watch and report the response of the antibiotic, including culture results, and check if the correct antibiotic was chosen
 - When a person can handle and switch to oral antibiotics
 - Teach about possible harmful effects related to antibiotic use, for example, C.difficile infection

Choose the best option and select SUBMIT.

A nurse has a person with a new HAI. What can the nurse do to help prevent the spread of infection?

- Teach the person how to prevent the spread of their infection to others.
- Do not tell the person that has the infection because it will upset them.

- Ask the person what they think they should do.
- Have the person eat with the door closed.

SUBMIT

 Complete the content above before moving on.

HEALTHSTREAM PROPERTY

Module Conclusion

This module has reviewed the following:

- Antibiotic-resistant infections that are an urgent threat in healthcare
- Five reportable infections required by CMS
- How infection control and QAPI programs work together with the ASP to prevent HAIs and protect people

References

Centers for Disease Control and Prevention. (2014, March 26). *Types of healthcare-associated infections*. <https://www.cdc.gov/hai/infectiontypes.html>

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SQ: Infection, Tuberculosis

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HealthStream™

Welcome to **SQ: Infection, Tuberculosis**.

Select **START MODULE** to begin.

Be sure to click on the interactive elements to advance.

Introduction

Tuberculosis Overview

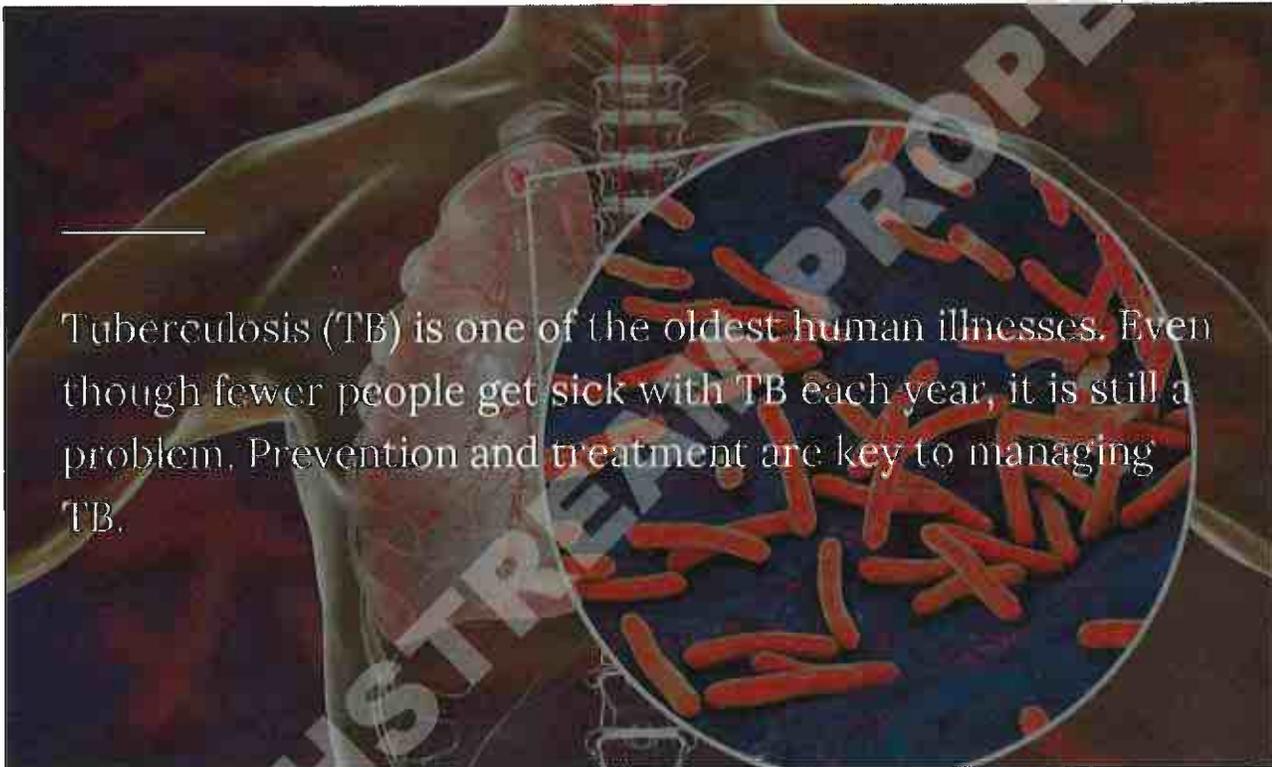
Risk Factors and Symptoms

Testing and Treatment

Prevention

Module Conclusion

Introduction



Tuberculosis (TB) is one of the oldest human illnesses. Even though fewer people get sick with TB each year, it is still a problem. Prevention and treatment are key to managing TB.

This module will review the following:

- Transmission of tuberculosis (TB)
- Risk factors for TB infection
- Measures to prevent TB

Please look at the important terms before beginning.

Select "+" to expand.

Glossary —

Airborne precautions

Activities used by healthcare workers to prevent and reduce the spread of germs through the air

Human immunodeficiency virus (HIV)

A virus that attacks cells that help the body fight infection

Immune system

The network of cells, tissues, and organs that work together to protect the body against disease

Infection

A disease caused by germs

NIOSH-certified

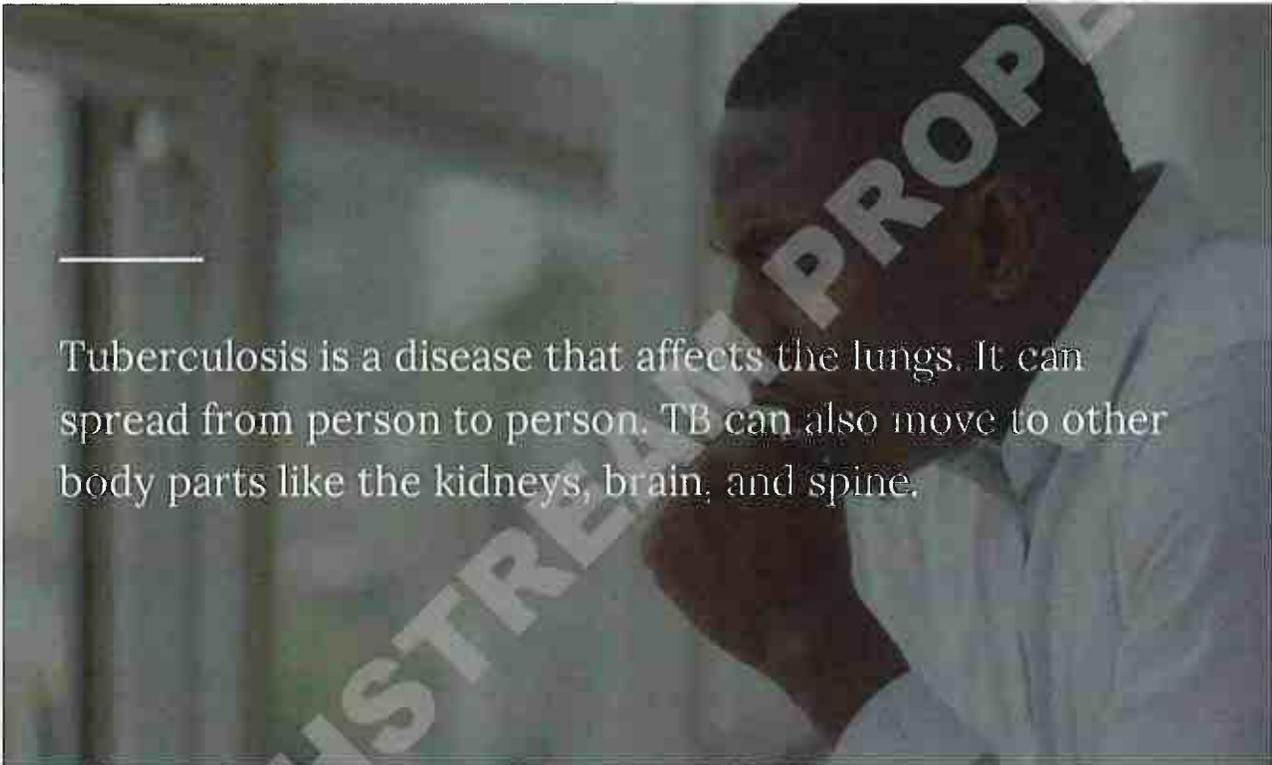
Approved by the National Institute for Occupational Safety and Health

Let's get started!



Complete the content above before moving on.

Tuberculosis Overview

A photograph of a man in a white shirt coughing into his elbow. The image is overlaid with a large, semi-transparent watermark that reads "HEALTHSTREAM PROPERTY".

Tuberculosis is a disease that affects the lungs. It can spread from person to person. TB can also move to other body parts like the kidneys, brain, and spine.

The primary germ that causes TB is *Mycobacterium tuberculosis*.

TB spreads through the air. Tiny droplets filled with germs spray into the air when someone with active TB coughs, sneezes, laughs, speaks, or sings.

People nearby may breathe in these droplets and become infected.

There are two states of TB: latent TB infection and active TB disease.

Latent TB infection (LTBI) happens when a person's body stores inactive germs after exposure to TB. The infected person has no symptoms and cannot spread TB to others. The person may test positive for TB but have a normal chest X-ray.

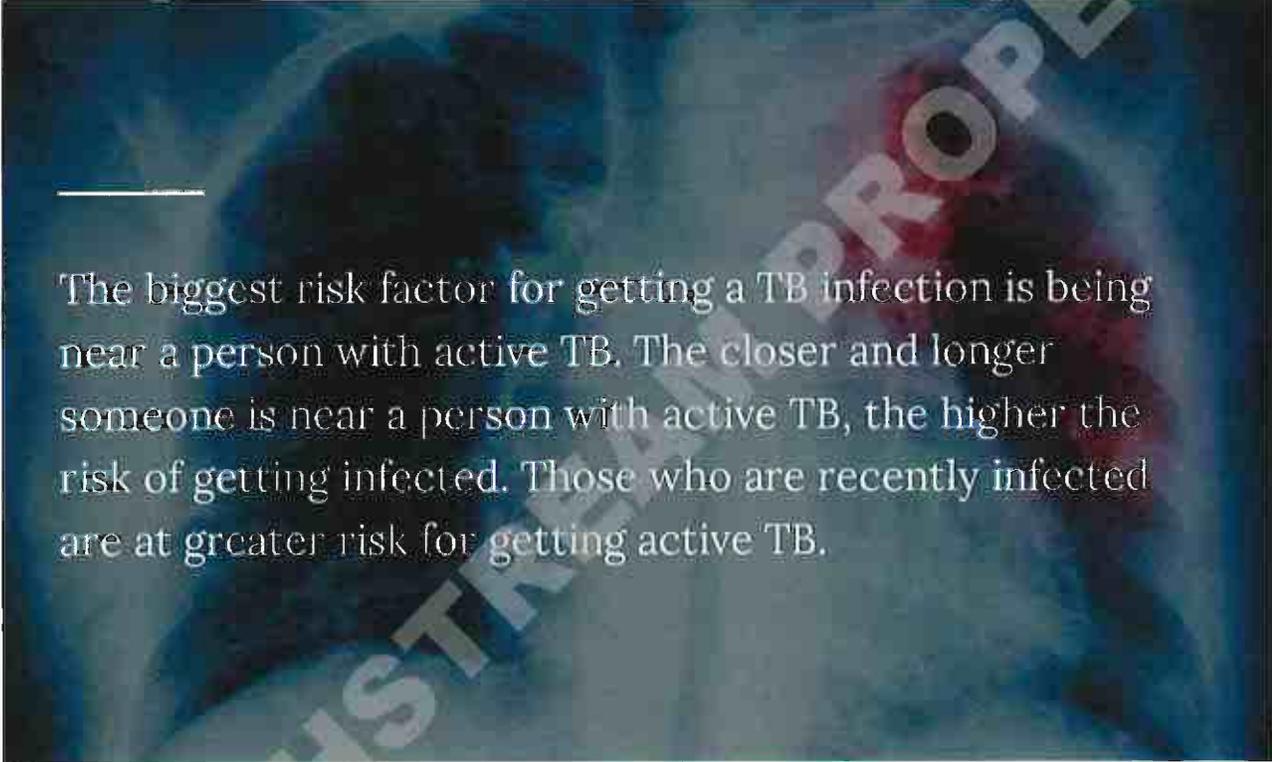


Active TB disease happens when the TB germs attack a person's immune system and spread. This changes LTBI to active TB. This person usually feels sick with coughing and fever. They can spread TB to others.



CONTINUE

Risk Factors and Symptoms



The biggest risk factor for getting a TB infection is being near a person with active TB. The closer and longer someone is near a person with active TB, the higher the risk of getting infected. Those who are recently infected are at greater risk for getting active TB.

Other risk factors include:

Weak immune systems

People who are already sick may be more likely to get TB. This is true for people with human immunodeficiency virus (HIV), diabetes, or cancer.

Babies and young children are at risk because their immune systems are still developing.



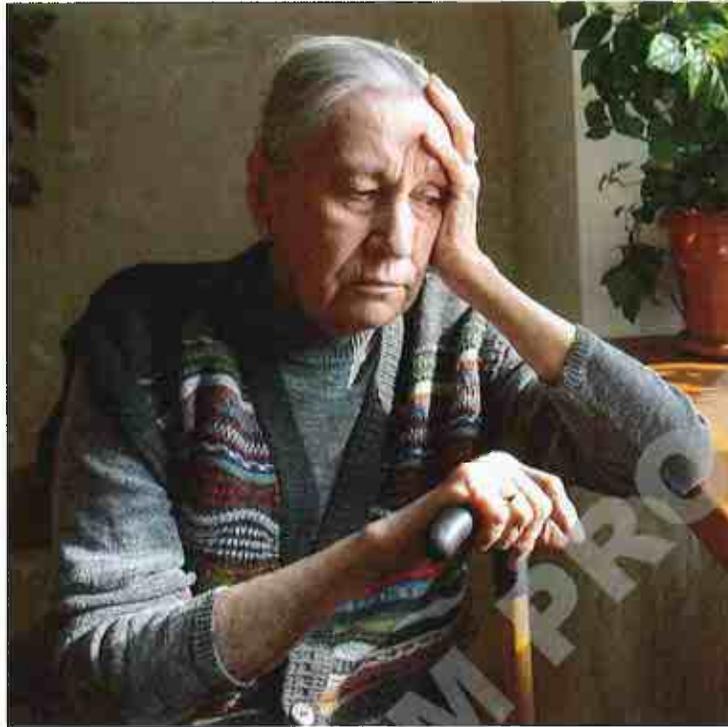
Areas with high infection rates

People are more likely to get TB if they are exposed to people who have come from areas of the world with many cases of active TB. A person is also at high risk if they live or travel to an area with many cases of active TB.



Poor nutrition and substance use

People without medical care or good food may not have healthy bodies to fight off a TB infection. Drugs or other substances can weaken the immune system and put someone at risk.



Living and working conditions

People who live or work in prisons, homeless shelters, hospitals, or nursing homes may be more likely to get TB. Some places have too many people in the space or weak air movement.



Here are some common symptoms of active TB:





Coughing that lasts more than three weeks



Coughing up blood



Fatigue



Chest pain



Loss of appetite or weight loss



Fever, chills, and night sweats

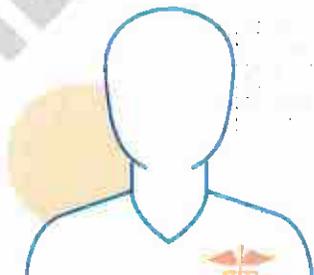


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Testing and Treatment

Treating people with LTBI is key to preventing the spread of TB. TB tests help detect people with LTBI. Test anyone at high risk for TB.

High-risk individuals include:





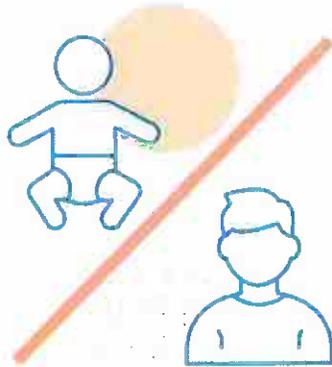
Healthcare workers



People from a country
where TB is common



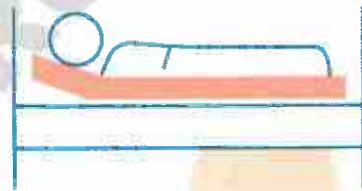
People with HIV



Babies and young children



Older people



People who have a weak
immune system

Screening Questions for Risk Factor

Healthcare workers that answer yes to the following are at increased risk of TB:

1. Has the healthcare worker been a resident ≥ 1 month in a country with a high TB rate? This is including all countries except, Australia, Canada, New Zealand, the United States, and countries in western or northern Europe.
2. Is the healthcare worker now or will be immunosuppressed? This includes HIV, organ transplant, treatment with a medicine that suppresses the immune system, and chronic steroids.
3. Has the healthcare worker been in close contact with a person that has infectious TB since the last TB test?

Types of TB Tests

There are two kinds of TB tests: skin and blood. The skin test is the most common. A small amount of TB protein goes just under the skin on the forearm. If a bump shows up 48 to 72 hours later, the person may have latent or active TB. A chest X-ray can help confirm active TB disease.

The CDC makes recommendations in four areas:

Screening

Test newly hired healthcare workers for TB. The test should include a risk assessment, symptom screening, and a blood or skin test for those without prior TB or LTBI. This baseline testing allows for comparison if a person were to be exposed in the future. Employees do not need an annual TB test unless exposed or there are ongoing transmission risks. Healthcare workers with documented prior LTBI or TB disease do not need another test for infection after exposure.



Post-exposure testing

Test healthcare workers exposed to TB. If the first test is negative, do another test eight to 10 weeks after their last exposure. Should a worker be suspected of having TB, notify the local health department immediately.



Treatment of positive TB test

Treat a healthcare worker who tests positive for TB or has untreated LTBI. Treatments lasting three to four months are easier to complete than longer courses of treatment. Healthcare workers who are not treated or did not complete LTBI treatment require annual screening and education about the risks and benefits to treatment.



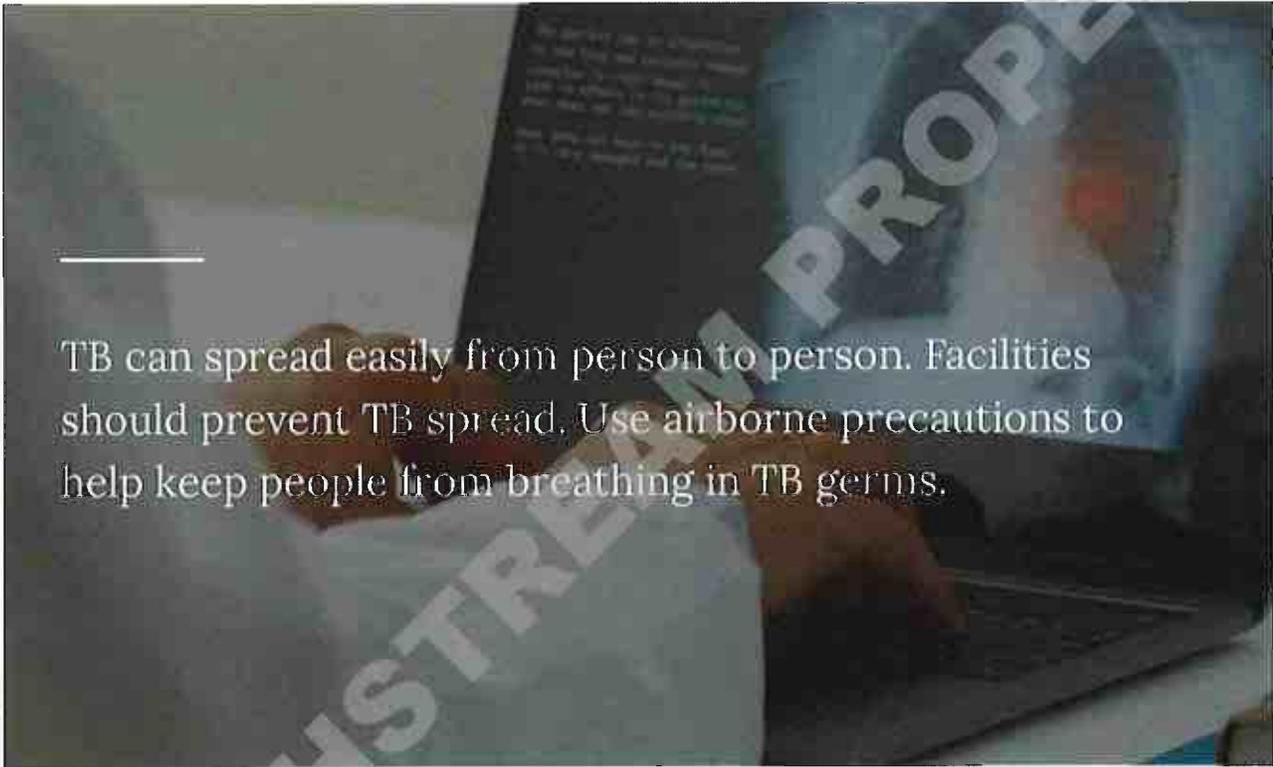


TB education

Educate all healthcare workers about TB every year. Include information about TB risk factors, signs and symptoms of TB disease, and infection control policies and procedures.



Prevention



TB can spread easily from person to person. Facilities should prevent TB spread. Use airborne precautions to help keep people from breathing in TB germs.

Airborne Precautions

- Place people with TB in rooms designed to remove air through a vent to the outside.

- Always clean your hands before entering and when leaving a person's room.
- Always close the person's door.
- Put on a well-fitted N-95 or higher mask/respirator before entering the room. Take off the mask/respirator after leaving the room. The facility is responsible for providing:
 - Different types of masks/respirators so every healthcare worker can find one that fits correctly.
 - Masks/respirators that work for all types of hazards a healthcare worker might face.
 - Masks/respirators that are NIOSH-certified.



Vaccination

There is a vaccine for TB called bacille Calmette-Guérin (BCG). BCG is common in countries with high rates of TB. It is not common in the United States. A person vaccinated with BCG may have a positive TB skin test even if they do not have TB. The BCG vaccine does not affect a TB blood test.



Consider the BCG vaccine for children or healthcare workers who face continual TB exposure.

Choose the best option and select SUBMIT.

When should healthcare workers be tested for TB?

- After hire, then once a year
- After hire, then only if exposed to TB
- Only once a year
- Only if exposed to TB

SUBMIT



Complete the content above before moving on.

Module Conclusion

Preventing the spread of TB is vital for healthcare workers and the community. Knowing signs and symptoms as well as correct testing and treatment for TB help lower infection rates.

This module has reviewed the following:

- Transmission of tuberculosis (TB)
- Risk factors for TB infection
- Measures to prevent TB

For more data on TB and how to prevent it, visit the CDC website.

References

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<https://www.cdc.gov/nchhstp/newsroom/2019/recommendations-for-tb-screening.html>

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Slide 1 - Title

Slide \$\$cpInfoCurrentSlide\$\$

*Hazardous
Materials & Waste*



Next >

The slide content is contained within a white rectangular frame with a grey border. On the left side of the frame, there is a light grey rounded rectangle containing the text 'Hazardous Materials & Waste' in a black, italicized serif font. To the right of this text, four trash bins are arranged in a cluster: a red bin on the left, a yellow bin at the top center, a blue bin at the bottom center, and a black bin on the right. At the bottom center of the frame, there is a small blue button with the text 'Next >' in white.

Slide 2 - Requirements

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$



Please allow 10 minutes to meaningfully participate in this course



This course does not use audio

« Back

Next »

Slide 3 - objectives

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Objectives

This course will help you:

- dispose of hazardous materials appropriately, and
- report and respond to exposures and spills appropriately



◀ Back

Next ▶

Slide 4 - objectives

Hazardous Materials & Waste

Slide \$\$splInfoCurrentSlide\$\$

Hazard Communication

Staff should refer to product labels to ensure they understand the hazards and warnings.

	<ul style="list-style-type: none">• Oxidizers		<ul style="list-style-type: none">• Flammables• Self Reactives• Pyrophorics• Self-Heating• Emits Flammable Gas• Organic Peroxides		<ul style="list-style-type: none">• Explosives• Self Reactives• Organic Peroxides
	<ul style="list-style-type: none">• Acute toxicity (severe)		<ul style="list-style-type: none">• Corrosives		<ul style="list-style-type: none">• Gases Under Pressure
	<ul style="list-style-type: none">• Carcinogens• Respiratory Sensitizers• Reproductive Toxicity• Target Organ Toxicity• Mutagens• Aspiration Toxicity		<ul style="list-style-type: none">• Environmental Toxicity		<ul style="list-style-type: none">• Irritant• Skin Sensitizer• Acute Toxicity (harmful)• Narcotic Effects• Respiratory Tract• Hazardous to Ozone Layer

« Back

Next »

Slide 5 - title_waste_types

Hazardous Materials & Waste

Slide \$\$sInfoCurrentSlide\$\$

Types of Waste



« Back

Next »

Slide 6 - waste_yellow

Hazardous Materials & Waste

Slide \$\$spltInfoCurrentSlide\$\$

Yellow Waste

Yellow waste is generated during preparation and administration of hazardous drugs. In order to qualify as Yellow Waste, they must have only trace amounts of hazardous drug in or on them.

Examples of Yellow Waste include:

- PPE and other barriers
- Chemotherapy (Group 1) empty bags, vials, and IV tubing

Trace chemo sharps are disposed of in a yellow sharps container that is marked for disposal by incineration.



« Back

Next »

Slide 7 - waste_biohazard_non_sharp

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Regulated Medical Waste (Red)

Infectious waste includes blood, blood products, most other body fluids and any body fluid that is visibly contaminated with blood or impossible to differentiate from other body fluids.

Used dressings, gloves, and other supplies contaminated with infectious waste that is drippable, pourable, or squeezable must be disposed of in red bags.



« Back

Next »

Slide 8 - waste_biohazard_non_sharp

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Red waste should be bagged where it is generated and then transported to the soiled utility room.



Always tie red waste bags using a single knot, similar to tying a balloon.

Never use a two-handed knot, similar to tying a shoelace, as this leaves the bag partially open.



« Back

Next »

Slide 9 - waste_sharps

Hazardous Materials & Waste

Slide \$\$\$plInfoCurrentSlide\$\$

Dispose of all sharps in red containers designed for this purpose. This includes needles, syringes with needles attached, and broken ampules.

Intact vials are not considered sharps.



← Back

Next →

Slide 10 - waste_black

Hazardous Materials & Waste

Slide \$\$sInfoCurrentSlide\$\$

Examples of Black Waste include:

- warfarin and all other P-Listed black waste
- nicotine patches
- vaccines and eye drops containing thimerosal (mercury)
- insulin
- all partial chemotherapy (Group 1) IV bags and vials, as well as items used to clean up spills



« Back

Next »

Slide 11 - waste_blue

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Some sites separate Blue Waste, such as:

- non-hazardous medication
- open oral medication
- partial IV bags and vials

If your site does not use Blue Waste containers, these items are disposed of as Black Waste.



« Back

Next »

Slide 12 - waste_batteries

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Battery recycle pails will be kept in the soiled utility rooms or nurses station in patient areas.

The pail is labeled with a collection start date.

EVS will collect the pail when it is 3/4 full and no later than one year from the collection start date.

Staff should cover battery terminals with tape before placing them in the bucket. The bucket should remain covered.



« Back

Next »

Slide 13 - waste_gloves

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

When handling hazardous drug waste containers, staff must wear a single pair of chemotherapy gloves.

Hold the container away from your body when transporting it. Use a cart for heavier containers.



« Back

Next »

Slide 14 - waste_sanitizers

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Due to their high alcohol content, hand sanitizers (both gels and aerosols) and sani-cloth wipes are ignitable and require special handling.

Please try to use all excess liquid to clean a work surface to minimize the amount wasted.

These containers should be put in the Soiled Utility room where Environmental Services staff will pick them up for disposal.



« Back

Next »

Slide 15 - waste_regular

Hazardous Materials & Waste

Slide \$\$spltInfoCurrentSlide\$\$

While there are several types of medications and clinical items that require special handling, there are some items that can be disposed of in the regular trash.

These include:

- empty needle-less syringes
- most oral medication packages
- EKG electrodes



« Back

Next »

Slide 16 - title_spill_exposure

Hazardous Materials & Waste

Slide \$\$cpInfoCurrentSlide\$\$

Spill & Exposure
Response



« Back

Next »

Slide 17 - spill_preparedness

Hazardous Materials & Waste

Slide \$\$spltInfoCurrentSlide\$\$

For responses to hazardous spills, please follow your facility-specific emergency response guide.



« Back

Next »

Slide 18 - exposure

Hazardous Materials & Waste

Slide \$\$spltInfoCurrentSlide\$\$

Exposures

If you are involved in an exposure to hazardous materials, you should:

- report it to the person in charge on-site
- obtain the SDS or ask someone to obtain it for you
- use the SDS to guide first-aid in treating the exposure
- contact an Emergency Department as needed



◀ Back

Next ▶

Slide 19 - safety_zone

Hazardous Materials & Waste

Slide \$\$\$plInfoCurrentSlide\$\$

SafetyZone

All spills and exposures should be documented in SafetyZone.

This helps ensure this specific incident is resolved appropriately and provides information that can help prevent recurrence.



← Back

Next →

Slide 20 - End

Hazardous Materials & Waste

Slide \$\$\$plInfoCurrentSlide\$\$

Resources

- [MSDS Online](#)
- [Hazard Communication Program](#)

Questions on the content of this training? Please contact [John Norris \(Environmental Services\)](#)

Questions on the functionality of this training? Please contact [Organizational Learning & Development](#)

« Back

Continue »