

E&A - Preventing Bloodborne and Airborne Pathogens

1. Content

1.1 Welcome




Notes:

1.2 Learning Outcomes

Learning Outcomes

- 1 Identify various pathogens and the illnesses they may cause.
- 2 Describe how diseases are transmitted.
- 3 Identify 5 disease prevention practices.
- 4 Explain the purpose of the OSHA protection standards.
- 5 Describe what is meant by Standard Precautions.
- 6 Explain the purpose of an Exposure Control Plan.
- 7 Demonstrate how to safely put on and take off available PPE.



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Notes:

Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Learning Outcomes

Learning Outcomes

- 1 Identify various pathogens and the illnesses they may cause.
- 2 Describe how diseases are transmitted.
- 3 Identify 5 disease prevention practices.
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1.3 Bloodborne and Airborne Pathogens

Understanding Pathogen Transmissions, 1 of 3

	Pathogenic Condition	Symptom Recognition	Description	Transmission	Vaccination or Treatment
✓ Bacteria, viruses, fungi may cause illness. They may cause illness. They may cause illness.	"Common Cold" (Rhinovirus, Influenza, Parainfluenza, Adenovirus, and others)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Rhinoviruses and a few others. Coronavirus are thought to be a cause of the "Common Cold". Colds due to typical Human Coronavirus are highly contagious but only result in severe symptoms or secondary infections.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces (Coronaviruses can remain active on surfaces for days).	No vaccine available at time of writing. Typically resolves without treatment within a few days.
✓ Pathogens can live on periods of time.	"Common Cold" (Rhinoviruses A & B Virus Group)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Rhinoviruses and a few others. Rhinoviruses are thought to be the primary cause of the "Common Cold". Colds due to Rhinoviruses may result in secondary infections which may increase illness severity and duration.	Airborne aerosol from coughing and sneezing. Direct contact with infected droplets on surfaces may be possible.	No vaccine available at time of writing. Typically resolves without treatment within a few days.
✓ These pathogens can...	Chickenpox (Varicella Zoster, Herpesvirus 3 - VZV)	Fever, fatigue, rash, and fluid-filled itchy blisters on body.	Traditionally seen as a childhood illness, it is increasingly less common due to vaccination availability. In addition to its primary symptoms, it may result in pneumonia, brain swelling, and other complications. The virus may remain dormant in the body and causes Shingles in older adults.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces, skin blisters or mucous secretions.	Vaccine available. Treatment of symptoms available if infected.
✓ Some pathogens can...	Herpes Infections (Herpesvirus Group)	Some or abortions, fever-blister, rash, fever, swollen glands, runny nose, diarrhea, swollen eyelids, fatigue & non-specific symptoms.	There are a variety of Herpesviruses, including Herpes Simplex 1 & 2, Epstein-Barr, Shingles (Chickenpox), Kaposi's sarcoma, among others. Infections from Herpesviruses are a frequent cause of viral meningitis.	Most Herpesviruses require direct person-to-person contact or contact with body substances. Some, like HIV can be airborne.	Only Chickenpox vaccine is available. Treatment of symptoms available if infected.
✓ Medications such as...	Hepatitis Infections (Hepatitis A, B & C Virus Group)	Jaundice (yellowing skin and eyes), fever, fatigue, nausea, vomiting, abdominal pain, joint pain, dark urine, loss of appetite.	Each virus type can cause serious diseases of the liver, including cirrhosis and cancer. Hepatitis B is the most common in this group due to situational or employment exposure.	Bloodborne and direct contact with body substances including blood, saliva, vomit, semen, vaginal fluids, and mucous secretions.	Vaccines are available for Hepatitis A & B. Effective treatments available with early diagnosis.
✓ Not all infections can...	Human Coronavirus (SARS-CoV-2)	Mild to-severe infection of the respiratory and other body systems. Flu-like symptoms, cough, fever, diarrhea, rash, hyposmia, circulatory disorders, blood disorders, organ failure, altered taste and smell ability.	SARS-CoV-2 causes COVID-19, which became a worldwide pandemic in 2020. This disease may present with or without symptoms, with many cases requiring hospitalization. The elderly, those with compromised immune systems, or other chronic conditions are most susceptible for severe illness.	Airborne aerosol from coughing, sneezing and talking. Direct contact with droplets on surfaces. Emerging evidence of bloodborne and body substance transmission.	At time of writing, multiple vaccines are in development and some promising treatments are being explored.




Chart 1 (Slide Layer)

Pathogen Transmissions, 1 of 3

- ✓ Bacteria, viruses, fungi may cause illness. The other bodily fluids.
- ✓ Pathogens can live on periods of time.
- ✓ These pathogens can
- ✓ Some pathogens can
- ✓ Medications such as bacterial or viral infect
- ✓ Not all infections can

Pathogenic Condition	Symptom Recognition	Description	Transmission	Vaccination or Treatment
"Common Cold" (Human Coronavirus group, "typical" HCoV)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Rhinoviruses and a few others, Coronaviruses are thought to be a cause of the "Common Cold". Colds due to typical Human Coronaviruses are highly contagious but rarely result in severe symptoms or secondary infections.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces (Coronaviruses can remain active on surfaces for days).	No vaccine available at time of writing. Typically resolves without treatment within a few days.
"Common Cold" (Rhinoviruses A & B Virus Group)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Coronaviruses and a few others, Rhinoviruses are thought to be the primary cause of the "Common Cold". Colds due to Rhinoviruses may result in secondary infections which may increase illness severity and duration.	Airborne aerosol from coughing and sneezing. Direct contact with infected droplets on surfaces may be possible.	No vaccine available at time of writing. Typically resolves without treatment within a few days.
Chickpox (Varicella Zoster, Herpesvirus 3 - HSV)	Fever, fatigue, rash, and fluid-filled, itchy blisters on body.	Traditionally seen as a childhood illness, it is increasingly less common due to vaccination availability. In addition to its primary symptoms, it may result in pneumonia, brain swelling, and other complications. The virus may remain dormant in the body and causes Shingles in older adults.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces, skin blisters or mucous secretions.	Vaccine available. Treatment of symptoms available if infected.
Herpes Infections (Herpesvirus Group)	Sore or ulcerations, fever-blister, rash, fever, swollen glands, runny nose, diarrhea, swollen eyelids, fatigue & non-specific symptoms.	There are a variety of Herpesviruses, including Herpes Simplex 1 & 2, Epstein-Barr, Shingles (Chicargo), Rosacea, Kaposi's sarcoma, among others. Infections from Herpesviruses are a frequent cause of viral meningitis.	Most Herpesviruses require direct person-to-person contact or contact with body substances. Some, like HSV can be airborne.	Only Chickpox vaccine is available. Treatment of symptoms available if infected.
Hepatitis Infections (Hepatitis A, B & C Virus Group)	Jaundice (yellowing skin and eyes), fever, fatigue, nausea, vomiting, abdominal pain, joint pain, dark urine, loss of appetite.	Each virus type can cause serious diseases of the liver, including cirrhosis and cancer. Hepatitis B is the most common in the group due to situational or employment exposures.	Bloodborne and direct contact with body substances including blood, saliva, vomit, semen, vaginal fluids, and mucous secretions.	Vaccines are available for Hepatitis A & B. Effective treatments available with early diagnosis.
Human Coronaviruses (Newly-discovered SARS, MERS-CoV, SARS-CoV-2)	Mild-to-severe infection of the respiratory and other body systems. Flu-like symptoms, cough, fever, diarrhea, rash, hypoxia, circulation disorders, blood disorders, organ failure, altered taste and smell ability.	SARS-CoV-2 causes COVID-19, which became a worldwide pandemic in 2020. This disease may present with or without symptoms, with many cases requiring hospitalization. The elderly, those with compromised immune systems, or other chronic conditions are most susceptible for severe illness.	Airborne aerosol from coughing, sneezing, and talking. Direct contact with droplets on surfaces. Emerging evidence of bloodborne and body substance transmission.	At time of writing, multiple vaccines are in development and some promising treatments are being explored.






Chart 2 (Slide Layer)

Pathogen Transmissions, 2 of 3

Pathogenic Condition	Symptom Recognition	Description	Transmission	Vaccination or Treatment
Human Immunodeficiency Virus / AIDS Infections (HIV)	Headache, fever, fatigue, sore throat, rash, muscle, and joint pain. Compromised immune system. Secondary infections.	HIV attacks the white blood cells, destroying the body's ability to fight infection, resulting in secondary infections becoming potentially life-threatening.	Bloodborne and direct contact with body substances. HIV is typically sexually transmitted.	At time of writing, no vaccine available with some promising treatments being explored.
Human Papillomavirus Infections (HPV Group)	Warts, rash, skin irritations in the infected area. Frequently no symptoms are seen.	There are over 100 types of HPV with most being harmless. However, some strains are linked to the development of various cancers and other life-threatening conditions.	Bloodborne and direct contact with body substances. The most dangerous strains are sexually transmitted.	Vaccine series are available for ages 9-45 for HPV strains associated with cancers. Treatment for symptoms is available.
Influenza (Influenzavirus A,B,C)	Fever, runny nose, sore throat, muscle and joint pain, headache, coughing, and fatigue.	Depending on the strain, influenza may present mild-to-severe symptoms, with some requiring hospitalization. "Flu-season" is typically the Fall and Winter months each year.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces.	Annual vaccine available. OTC treatment regimens and antiviral treatment for severe cases.
Ingested Bacterial Infections (E. coli, Salmonella, Shigella)	Abdominal cramping, diarrhea, bloody stool, gas, loss of appetite, nausea, vomiting, fatigue, chills, dehydration, and fever.	Infections caused by E. coli, Salmonella and Shigella have similar symptoms, which are frequently mild-to-moderate. Prolonged or severe symptoms require medical attention and possibly hospitalization.	Direct contact with contaminated surfaces, handling, or ingestion of infected raw or undercooked food.	No vaccines are available at time of writing. Antibiotics for treatment for severe cases are available. Generally, will self-resolve.
Measles (Measles, Morbillivirus)	Blistery red rash, fever, cough, sore throat, white spots in the mouth, secondary infections.	Measles is an infection of the respiratory system resulting in a red rash covering the body. It is immunosuppressive and may result in secondary infections including pneumonia, swelling of the brain, and blindness.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces.	Vaccine available. Symptom treatments available if infected.
Meningitis (Meningitis, Bacteria)	Fever, vomiting, headache, stiff neck, confusion, sound and light sensitivity, cold extremities, leg pain and abnormal skin color.	Meningitis can be caused by viruses (including many mentioned in this section), bacteria, fungi, or parasite that results in inflammation of the meninges (membranes) covering the brain and spinal cord.	Transmission is dependent on the pathogen and may include: bloodborne, airborne aerosol, direct contact with droplets on surfaces, or oral ingestion. There are also non-pathogenic causes.	Vaccines for some pathogens linked to Meningitis are available. Anti-inflammatory drugs combined with antibiotics or antivirals if infected.




Chart 3 (Slide Layer)

Pathogen Transmissions, 3 of 3

Pathogenic Condition	Symptom Recognition	Description	Transmission	Vaccination or Treatment
Mumps (Mumps Orchovirus)	Facial swelling, fatigue, muscle aches, headache, fever.	Mumps infections are characterized by severe inflammation of glands. In severe cases, this can result in meningitis and infertility.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces.	Vaccine available. Anti-inflammatory and OTC drugs for treatment if infected.
Protozoan Infections (Giardia and Cryptosporidium)	Fever, abdominal cramping, cough, runny nose, severe diarrhea, nausea, fatigue, dehydration.	Protozoan parasites like Cryptosporidium and Giardia are found on surfaces, soil, food, or water that has been contaminated with the feces of an infected host animal or human. The cycle repeats when a new host ingests the contamination.	Direct contact with contaminated surfaces or soil; handling or ingestion of infected raw or undercooked food or ingestion of infected liquid.	Symptomatic treatments available. Generally, it will pass on its own within two weeks.
Rubella (Rubella virus)	Itching rash covering the body, fatigue, muscle aches, headache, fever, common cold-like symptoms.	Also known as German measles, it has symptoms similar to both Mumps and Measles. Secondary infections including pneumonia and swelling of the brain.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces.	Vaccine available. Anti-inflammatory and OTC drugs for treatment if infected.
Tetanus (Clostridium tetani)	Fever, headache, sweating, muscle spasms, difficulty swallowing, breathing difficulty, difficulty with urination and defecation, high blood pressure and tachycardia.	Tetanus infection symptoms are caused by the Tetanus neurotoxin which interferes with neuromuscular control. This results in rigid to severe muscle spasms which may become life-threatening.	Direct contact with common Clostridium tetani endospores through an exposed open wound, puncture wounds, heroin drug use, and animal bites.	Vaccine available with a booster recommended every 10 years. Antibiotics if infected.
Tuberculosis (Mycobacterium tuberculosis)	Bad cough lasting weeks, chest pain, coughing up blood or sputum, fatigue, loss of appetite, and nail clubbing.	The majority of those infected may not show any symptoms. Those with the active disease will show severe lung infection. In cases of weakened immune system, this infection may spread to several other body systems.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces.	A vaccine is available but rarely used in North America. Antibiotics if infected.
Candidiasis Yeast Infections (Candida fungi)	Skin - cracked, dry and/or red itchy skin, chaffing, Nails - discolored, thick, cracked nail and nail bed; Mouth - white discolored areas of the tongue and throat, difficulty swallowing, sore throat; Genitals - burning sensation, red itchy skin, inflammation, discharge, odor.	One of the most common chronic pathogenic infections, yeast infections can affect anywhere on the body. While rare, yeast infections in the blood or internally are life-threatening and require hospitalization. A normal immune system and good hygiene will typically prevent most yeast infections.	Direct contact with Candida fungi combined with a moist environment that promotes growth. Infections of mucous membranes or broken skin may lead to internal infections.	Antifungal treatments are available.

Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Understanding Pathogens

Pathogen Transmissions, 1 of 3

- Bacteria, viruses, fungi may cause illness. These other bodily fluids.
- Pathogens can live on periods of time.
- These pathogens can...
- Some pathogens can...
- Medications such as...
- Not all infections can...


Pathogenic Condition	Symptom Recognition	Description	Transmission	Vaccination or Treatment
Common Cold (various Coronaviruses (non- SARS-CoV-2), Rhinovirus)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Rhinoviruses and a few others, Coronaviruses are thought to be a cause of the "Common Cold". Colds due to typical human Coronaviruses are highly contagious but rarely result in severe symptoms or secondary infections.	Airborne aerosol from coughing and sneezing. Direct contact with droplets on surfaces (Coronaviruses can remain active on surfaces for days).	No vaccine available at time of writing. Typically resolves without treatment within a few days.
Common Cold (Rhinovirus A & B Virus Group)	Congestion, cough, runny nose, fever, sore throat, swollen glands and non-specific symptoms.	Along with Coronaviruses and a few others, Rhinoviruses are thought to be the primary cause of the "Common Cold". Colds due to Rhinoviruses may result in secondary infections which may increase illness severity and duration.	Airborne aerosol from coughing and sneezing. Direct contact with infected droplets on surfaces may be possible.	No vaccine available at time of writing. Typically resolves without treatment within a few days.
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Human Coronavirus (SARS-CoV-2)	Mild to severe infection of the respiratory and other body systems. Flu-like symptoms, cough, fever, diarrhea, rash, hypoxia, circulation disorders, blood disorders, organ failure, altered taste and smell ability.	SARS-CoV-2 causes COVID-19, which became a worldwide pandemic in 2020. This disease may present with or without symptoms, with many cases requiring hospitalization. The elderly, those with compromised immune systems, or other chronic conditions are most susceptible for severe illness.	Airborne aerosol from coughing, sneezing, and talking. Direct contact with droplets on surfaces. Emerging evidence of bloodborne and body substance transmission.	At time of writing, multiple vaccines are in development and some promising treatments are being explored.

1.4 How Diseases are Transmitted

How Diseases are Transmitted

There are three conditions that must be met for disease transmission to occur:

- 1 The pathogen must be present in adequate quantity to cause disease.
- 2 A person must be susceptible to the pathogen.
- 3 The pathogen must enter the body through an opening such as the eyes, nose, mouth, skin cuts, abrasions, bites, or needlestick puncture.



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Transmission Types (Slide Layer)

Transmission Types

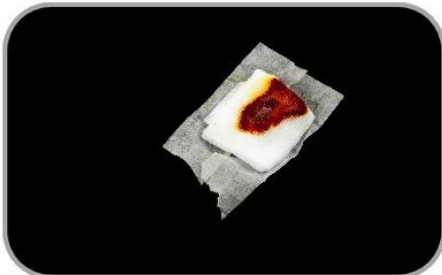
BLOODBORNE PATHOGEN AIRBORNE PATHOGEN DIRECT CONTACT INDIRECT CONTACT SKIN PENETRATION

Airborne pathogens pose a transmission risk if unprotected infected persons exhale by talking, shouting, coughing, or sneezing.

Disease transmission can occur when the skin is penetrated by an infectious source, such as an insect bite or sting.

Personal protective equipment can also allow for disease transmission.

Examples of diseases spread in this manner include malaria and West Nile virus spread through mosquito bites.



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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: How Diseases are Transmitted

How Diseases are Transmitted

✓ There are three conditions that must be met for disease transmission to occur:

- 1 The pathogen must be present in adequate quantity to cause disease.
- 2 A person must be susceptible to the pathogen.
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1.5 OSHA Protection Standards

OSHA Protection Standards

OSHA EMPLOYER REQUIREMENTS

- ❖ Identifying duties that you will perform that fall within the protection offered by the standards
- ❖ Establishing an Exposure Control Plan that includes protective measures to follow to minimize the chance of disease transmission
- ❖ Seeking your input into engineering and work practice controls
- ❖ Offering access to the Hepatitis B vaccination
- ❖ Creating a system of recordkeeping that tracks required training and exposure incidents
- ❖ Creating protocols to follow in the event of an exposure incident
- ❖ Implementing a schedule for cleaning and decontaminating the workplace
- ❖ Implementing a system to identify and properly dispose of soiled material
- ❖ Ensuring confidentiality of your medical records and any exposure incidents



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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: OSHA Protection Standards

OSHA Protection Standards

OSHA EMPLOYER REQUIREMENTS

- ❖ Identifying duties that you will perform that fall within the protection offered by the standards
- ❖ Establishing an Exposure Control Plan that includes protective measures to follow to minimize the chance of disease transmission
- ❖ Seeking your input into engineering and work practice controls
- ❖ Offering access to the Hepatitis B vaccination
- ❖ Creating a system of recordkeeping that tracks required training and exposure incidents
- ❖ Creating protocols to follow in the event of an exposure incident
- ❖ Implementing a schedule for cleaning and decontaminating the workplace
- ❖ Implementing a system to identify and properly dispose of soiled material
- ❖ Ensuring confidentiality of your medical records and any exposure incidents



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1.6 Disease Prevention Practices

Disease Prevention Practices

Administrative Controls

- 1 Administrative Controls
 - ✓ Standardized safety measures that assume that all bodily fluids may be infectious, so precautions must always be taken.
 - ✓ Standard precautions can be applied to Engineering and Work Practice Controls and to the use of Personal Protective Equipment (PPE).
 - ✓ Another example of an engineering control is the use of hand and eye washing stations. When washing stations are not feasible, other options must be available, such as antiseptic hand cleaner or eye irrigation bottles.



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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Disease Prevention Practices

Disease Prevention Practices

Administrative Controls

- 1 Administrative Controls
- Standardized safety measures that assume that all bodily fluids may be infectious, so precautions must always be taken.
- Standard precautions can be applied to Engineering and Work Practice Controls and to the use of Personal Protective Equipment (PPE).
- Another example of an engineering control is the use of hand and eye washing stations. When washing stations are not feasible, other options must be available, such as antiseptic hand cleaner or eye irrigation bottles.



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1.7 Work Practice Controls

Work Practice Controls

- Steps for putting on and removing PPE safely.
- controls.
- Steps for cleaning up sharp items and contaminated spills.
- Examples include properly using washing stations, sharps containers, and
- Handwashing and any other appropriate decontamination procedures immediately following the removal of soiled PPE.
- Requiring that you clean and disinfect equipment and surfaces if soiled.




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Notes:

Glove Removal (Slide Layer)

Proper Glove Removal

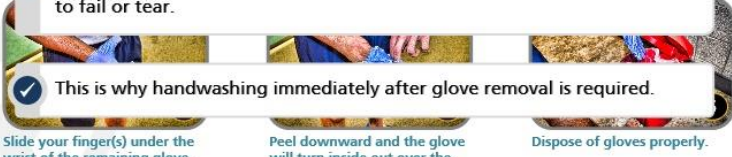


✓ Because of increased concerns of latex allergies, you are most likely to have non-latex gloves available when providing emergency care.

Pinch the outside of the glove. Peel downward and the glove will turn inside out over the top of the first glove. Secure this glove in your gloved hand.

✓ Regardless if you use latex or non-latex gloves, none have been found to be impermeable to bacteria and viruses. And all gloves have the potential to fail or tear.

✓ This is why handwashing immediately after glove removal is required.




Slide your finger(s) under the wrist of the remaining glove. Peel downward and the glove will turn inside out over the top of the first glove. Dispose of gloves properly.

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Hand Washing (Slide Layer)

Proper Hand Washing




- 1 Wet your hands with warm water.
- 2 Apply soap.
- 3 Rub your hands vigorously for at least 20 seconds, covering all surfaces.
- 4 Rinse with warm water.
- 5 Dry thoroughly.

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Spill Cleanup (Slide Layer)

Cleaning Spills Mixed with Sharp Objects



1 Use a broom, dustpan or piece of cardboard to properly remove the broken glass and deposit it in the proper container.

2 Use a disinfectant to clean the surface of any remaining blood. If you must make a disinfectant, prepare a mixture of 1 part bleach to 9 parts water.

3 If using the bleach mixture, flood the area with the mixture for approximately 15 minutes. If using a commercial disinfectant, follow the provided product use directions for general disinfection or the specific disinfection requirements necessary for a particular pathogen of concern.

4 Wipe up the remaining solution and dispose of it in a labeled biohazard container.

If you are cleaning up a spill mixed with sharp objects such as broken glass and needles, DO NOT pick these up with your hands.


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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Work Practice Controls

Work Practice Controls

- ✓ Steps for putting on and removing PPE safely.
- ✓ controls.
- ✓ Steps for cleaning up sharp items and contaminated spills.
- ✓ Examples include properly using washing stations, sharps containers, and
- ✓ Handwashing and any other appropriate decontamination procedures immediately following the removal of soiled PPE.
- ✓ Requiring that you clean and disinfect equipment and surfaces if soiled.



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1.8 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE)

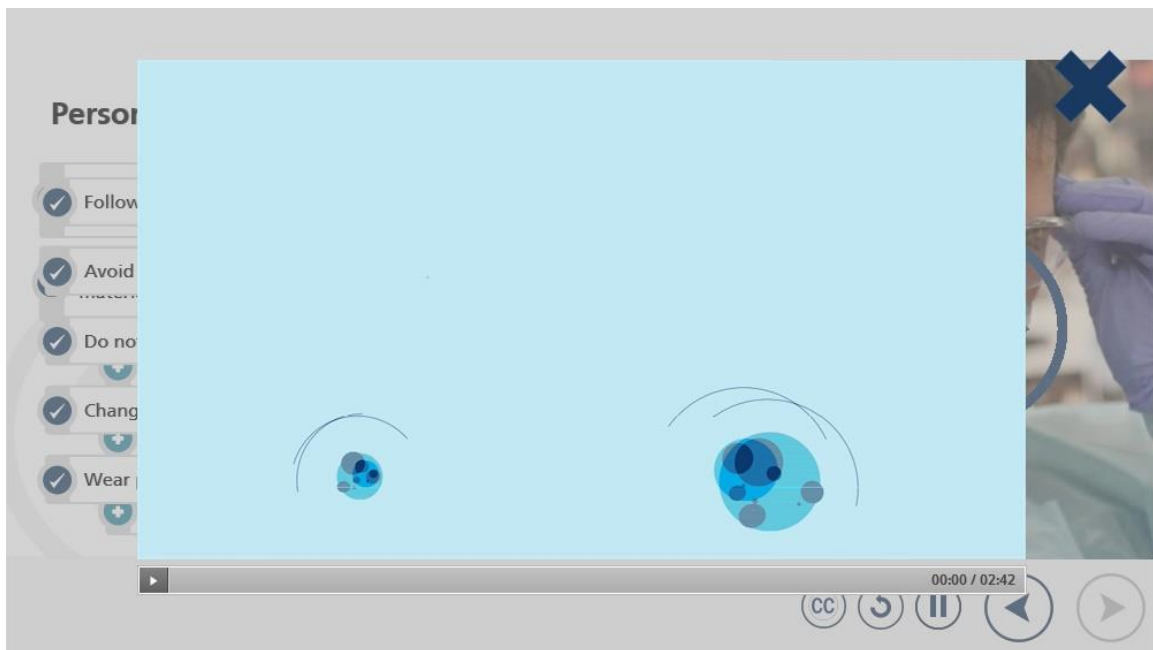
- ✓ Follow the all appropriate precautions when using PPE.
- ✓ Avoid handling items such as radios when wearing soiled gloves.
Materials such as:
- ✓ Do not eat, drink or touch your mouth, nose or eyes when giving care.
breathing devices face masks
- ✓ Change gloves before providing care to additional patients.
Suction devices Gowns
- ✓ Wear protective coverings to avoid blood splatter from serious bleeding.
Medical exam gloves Eye protection



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Video (Slide Layer)

Person



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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Personal Protective Equipment

Personal Protective Equipment (PPE)

- ✓ Follow the all appropriate precautions when using PPE.
- ✓ Avoid handling items such as radios when wearing soiled gloves.
- ✓ Do not eat, drink or touch your mouth, nose or eyes when giving care.
 - breathing devices
 - face masks
- ✓ Change gloves before providing care to additional patients.
 - Suction devices
 - Gowns
- ✓ Wear protective coverings to avoid blood splatter from serious bleeding.
 - Medical exam gloves
 - Eye protection



MODULE PROGRESS ●●●●●●●●●●

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1.9 If an Exposure Occurs

If an Exposure Occurs

GUIDELINES TO FOLLOW IF YOU SUFFER AN EXPOSURE

- ✓ If you suffer an occupational exposure, follow the guidelines for immediate care and report the incident according to your facility's Exposure Control Plan.
- 5 Seek immediate follow-up care with a qualified health care professional according to your facility's Exposure Control Plan. The evaluation will determine the best course of treatment. facility to how to report
- ✓ The plan also details how your employer will maintain records according to OSHA requirements.



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Preventing Bloodborne and Airborne Pathogens: If an Exposure Occurs

If an Exposure Occurs

GUIDELINES TO FOLLOW IF YOU SUFFER AN EXPOSURE

- ✓ If you suffer an occupational exposure, follow the guidelines for immediate care and report the incident according to your facility's Exposure Control Plan.
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- ✓ The plan also details how your employer will maintain records according to OSHA requirements.



MODULE PROGRESS


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1.10 Summary

Key Terms

- ✓ Engineering controls
- ✓ Standard precautions
- ✓ Pathogen
- ✓ Exposure Control Plan
- ✓ Occupational exposure
- ✓ Work practice controls
- ✓ Other Potentially Infectious Material (OPIM)
- ✓ Bloodborne pathogens standard
- ✓ Personal Protective Equipment (PPE)
- ✓ Occupational Safety and Health Administration (OSHA)



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Notes:

Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Summary

Key Terms

- ✓ Engineering controls
- ✓ Standard precautions
- ✓ Pathogen
- ✓ Exposure Control Plan
- ✓ Occupational exposure
- ✓ Work practice controls
- ✓ Other Potentially Infectious Material (OPIM)
- ✓ Bloodborne pathogens standard
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- ✓ Occupational Safety and Health Administration (OSHA)



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2. Knowledge Check

2.1 Which of the following is a condition that must be met for disease transmission to occur?

(Multiple Choice, 10 points, unlimited attempts permitted)

Which of the following is a condition that must be met for disease transmission to occur?

- The pathogen must be present in adequate quantity to cause disease
- A person must be susceptible to the pathogen
- The pathogen must enter the body through an opening such as the eyes, nose, mouth, skin cuts, abrasions, bites, or needlestick puncture
- All of these are conditions needing to be met



Correct	Choice
	The pathogen must be present in adequate quantity to cause disease
	A person must be susceptible to the pathogen
	The pathogen must enter the body through an opening such as the eyes, nose, mouth, skin cuts, abrasions, bites, or needlestick puncture
X	All of these are conditions needing to be met


Correct (Slide Layer)

Which of the following is a condition that must be met for disease transmission to occur?

- The pathogen must be present in adequate quantity to cause disease
- A person must be susceptible to the pathogen
- The pathogen must be present in the nose, mouth, skin
- All of these are conditions needing to be met

Great Job!
THAT WAS CORRECT

CONTINUE




Incorrect (Slide Layer)

Which of the following is a condition that must be met for disease transmission to occur?

- The pathogen must be present in adequate quantity to cause disease
- A person must be susceptible to the pathogen
- The pathogen must be present in the nose, mouth, skin
- All of these are conditions needing to be met

Sorry.
THAT WAS INCORRECT

CONTINUE




Try Again (Slide Layer)

Which of the following is a condition that must be met for disease transmission to occur?

- The pathogen must be present in adequate quantity to cause disease
- A person must be susceptible to the pathogen
- The pathogen must enter the body through an opening such as the eyes, nose, mouth, skin cuts, abrasions, bites, or needlestick puncture
- All of these are conditions needing to be met

Sorry.
THAT WAS INCORRECT

TRY AGAIN




Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 1 of 7)

Which of the following is a condition that must be met for disease transmission to occur?

- The pathogen must be present in adequate quantity to cause disease
- A person must be susceptible to the pathogen
- The pathogen must enter the body through an opening such as the eyes, nose, mouth, skin cuts, abrasions, bites, or needlestick puncture
- All of these are conditions needing to be met



MODULE PROGRESS

ELLISEDUCATION SERVICES

CC SUBMIT

2.2 Match each disease with the type of pathogen it is.

(Drag and Drop, 10 points, unlimited attempts permitted)

Match each disease with the type of pathogen it is.
DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

BLOODBORNE

BLOODBORNE

AIRBORNE

AIRBORNE

Drag Item	Drop Target
HEPATITIS B OR C	BLOODBORNE
TUBERCULOSIS	AIRBORNE
HIV	BLOODBORNE
MEASLES	AIRBORNE
COVID-19	AIRBORNE

Drag and drop properties
Snap dropped items to drop target (Stack random)

Delay item drop states until interaction is submitted

Incorrect (Slide Layer)

Match each disease with the type of pathogen it is.
DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

HIV COVID-19 MEASLES BLOODBORNE

TUBERCULOSIS HEPATITIS B OR C AIRBORNE

BLOODBORNE AIRBORNE

Sorry.
THAT WAS INCORRECT

CONTINUE

The screenshot shows a dark blue interface for a matching exercise. On the left, there are five grey circles containing the names of diseases: HIV, COVID-19, MEASLES, TUBERCULOSIS, and HEPATITIS B OR C. On the right, there are two grey circles containing the types of pathogens: BLOODBORNE and AIRBORNE. A feedback overlay is positioned in the center, featuring a red asterisk icon, the text 'Sorry. THAT WAS INCORRECT', and a 'CONTINUE' button. The overlay is semi-transparent, allowing the background elements to be partially visible.

Try Again (Slide Layer)

Match each disease with the type of pathogen it is.
DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

HIV COVID-19 MEASLES BLOODBORNE
TUBERCULOSIS HEPATITIS B OR C AIRBORNE
AIRBORNE

Sorry.
THAT WAS INCORRECT

TRY AGAIN

Correct (Slide Layer)

Match each disease with the type of pathogen it is.
DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

HIV COVID-19 MEASLES BLOODBORNE
TUBERCULOSIS HEPATITIS B OR C AIRBORNE
AIRBORNE

Great Job!
THAT WAS CORRECT

CONTINUE

Review (Slide Layer)

Match each source of codes, laws, and standards with its description.

DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

BLOODBORNE

BLOODBORNE

HEPATITIS B OR C

HIV

AIRBORNE

TUBERCULOSIS

MEASLES

AIRBORNE

COVID-19

MENINGITIS

Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 2 of 7)

Match each disease with the type of pathogen it is.

DRAG CIRCLE ON LEFT TO THE CORRECT CIRCLE ON RIGHT.

HIV

COVID-19

MEASLES

TUBERCULOSIS

HEPATITIS B OR C

BLOODBORNE

BLOODBORNE

AIRBORNE

AIRBORNE

MODULE PROGRESS

ELLISEDUCATION SERVICES

CC


SUBMIT

2.3 You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

(Multiple Response, 10 points, unlimited attempts permitted)

You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

- Engineering controls
- Ambulatory practices
- Work practice controls
- Personal Protective Equipment
- Standard precautions



Next button: 

Correct	Choice
X	Engineering controls
	Ambulatory practices
X	Work practice controls
X	Personal Protective Equipment
X	Standard precautions



Correct (Slide Layer)

You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

- Engineering controls
- Personal Protective Equipment
- Standard precautions

Great Job!
THAT WAS CORRECT

CONTINUE





Incorrect (Slide Layer)

You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

- Engineering controls
- Personal Protective Equipment
- Standard precautions

Sorry.
THAT WAS INCORRECT

CONTINUE







Try Again (Slide Layer)

You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

- Engineering controls
- Personal Protective Equipment
- Standard precautions

Sorry.
THAT WAS INCORRECT

TRY AGAIN







Progress (Slide Layer)


Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 3 of 7)



You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.

- Engineering controls
- Ambulatory practices
- Work practice controls
- Personal Protective Equipment
- Standard precautions



MODULE PROGRESS 

 ELLISEDUCATION SERVICES


 

2.4 Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

(Multiple Response, 10 points, unlimited attempts permitted)

Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

- Flush your eyes with water if blood splash enters your eyes
- Document what happened with your supervisor
- Report the exposure to the CDC
- Follow your facility's exposure control plan
- Wash any contaminated skin with soap and water



▶

Correct	Choice
X	Flush your eyes with water if blood splash enters your eyes
X	Document what happened with your supervisor
	Report the exposure to the CDC
X	Follow your facility's exposure control plan
X	Wash any contaminated skin with soap and water



Correct (Slide Layer)

Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

- Flush your eyes with water if blood splash enters your eyes
- Document what happened
- Report the exposure
- Follow your facility's exposure control plan
- Wash any contaminated skin with soap and water

Great Job!
THAT WAS CORRECT

CONTINUE





Incorrect (Slide Layer)

Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

- Flush your eyes with water if blood splash enters your eyes
- Document what happened
- Report the exposure
- Follow your facility's exposure control plan
- Wash any contaminated skin with soap and water

Sorry.
THAT WAS INCORRECT

CONTINUE





Try Again (Slide Layer)

Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

- Flush your eyes with water if blood splash enters your eyes
- Document what happened with your supervisor
- Report the exposure to the CDC
- Follow your facility's exposure control plan
- Wash any contaminated skin with soap and water

Sorry.
THAT WAS INCORRECT

TRY AGAIN




Progress (Slide Layer)





Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 4 of 7)

Which of the following steps should you take if you suffer a work related exposure? Select all that apply.

- Flush your eyes with water if blood splash enters your eyes
- Document what happened with your supervisor
- Report the exposure to the CDC
- Follow your facility's exposure control plan
- Wash any contaminated skin with soap and water




MODULE PROGRESS




2.5 Which of the following are examples of engineering controls? Select all that apply.

(Multiple Response, 10 points, unlimited attempts permitted)



Which of the following are examples of engineering controls? Select all that apply.

- Biohazard waste containers
- Washing stations
- Steps for removing used medical exam gloves
- Spill clean up kits
- Sharps containers



Correct	Choice
X	Biohazard waste containers
X	Washing stations
	Steps for removing used medical exam gloves
X	Spill clean up kits
X	Sharps containers

Correct (Slide Layer)

Which of the following are examples of engineering controls? Select all that apply.

- Biohazard waste containers
- Spill clean up kits
- Sharps containers
- Medical exam gloves

Great Job!
THAT WAS CORRECT

CONTINUE

Navigation arrow icon

Detailed description: This screenshot shows a quiz question in Articulate Storyline. The question asks for examples of engineering controls. Three options are checked: Biohazard waste containers, Spill clean up kits, and Sharps containers. A green feedback box with a checkmark icon says 'Great Job! THAT WAS CORRECT' and includes a 'CONTINUE' button. The background features a dark blue header and a light blue footer with a navigation arrow icon.

Incorrect (Slide Layer)

Which of the following are examples of engineering controls? Select all that apply.

- Biohazard waste containers
- Spill clean up kits
- Sharps containers
- Medical exam gloves

Sorry.
THAT WAS INCORRECT

CONTINUE

Navigation arrow icon

Detailed description: This screenshot shows the same quiz question as above. However, the 'Medical exam gloves' option is also checked, which is incorrect. A red feedback box with an 'X' icon says 'Sorry. THAT WAS INCORRECT' and includes a 'CONTINUE' button. The background features a dark blue header and a light blue footer with a navigation arrow icon.

Try Again (Slide Layer)

Which of the following are examples of engineering controls? Select all that apply.

- Biohazard waste containers
- Washing stations
- Steps for removing used medical exam gloves
- Spill clean up kits
- Sharps containers

Sorry.
THAT WAS INCORRECT

TRY AGAIN

MODULE PROGRESS

ELLISEDUCTION SERVICES

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Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 5 of 7)

Which of the following are examples of engineering controls? Select all that apply.

- Biohazard waste containers
- Washing stations
- Steps for removing used medical exam gloves
- Spill clean up kits
- Sharps containers

MODULE PROGRESS

ELLISEDUCTION SERVICES

CC SUBMIT

2.6 The _____ outlines
_____ to eliminate or minimize exposure incidents. It

will also detail how your employer maintains records according to _____ requirements.

(Word Bank, 10 points, unlimited attempts permitted)

The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according to _____ requirements.


DRAG CORRECT RESPONSE TO THE EMPTY BOX BELOW.

Exposure Control Plan, protective measures, OSHA

Pathogen Action Plan, protective measures, OSHA

Exposure Control plan, protective measures, CDC

Pathogen Action Plan, protective measures, CDC



Correct	Choice
X	Exposure Control Plan, protective measures, OSHA
	Pathogen Action Plan, protective measures, OSHA
	Exposure Control plan, protective measures, CDC
	Pathogen Action Plan, protective measures, CDC

Incorrect (Slide Layer)

The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according to _____ requirements.

DRAG CORRECT RESPONSE TO THE EMPTY BOX BELOW.

Exposure Control Plan, p


Pathogen Action Plan, p

Exposure Control plan, protective measures, CDC

Pathogen Action Plan, protective measures, CDC

Sorry.
THAT WAS INCORRECT

CONTINUE

A white rectangular overlay with a red border and a red 'X' icon on the left. It contains the text 'Sorry. THAT WAS INCORRECT' and a 'CONTINUE' button.

Correct (Slide Layer)

The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according to _____ requirements.

DRAG CORRECT RESPONSE TO THE EMPTY BOX BELOW.

Exposure Control Plan, p


Pathogen Action Plan, p

Exposure Control plan, protective measures, CDC

Pathogen Action Plan, protective measures, CDC

Great Job!
THAT WAS CORRECT

CONTINUE

A white rectangular overlay with a green border and a green checkmark icon on the left. It contains the text 'Great Job! THAT WAS CORRECT' and a 'CONTINUE' button.

Try Again (Slide Layer)

The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according to _____ requirements.

DRAG CORRECT RESPONSE TO THE EMPTY BOX BELOW.

Exposure Control Plan, f


Pathogen Action Plan, p

Exposure Control plan, protective measures, CDC

Pathogen Action Plan, protective measures, CDC

Sorry.
THAT WAS INCORRECT

TRY AGAIN



Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 6 of 7)

The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according to _____ requirements.

DRAG CORRECT RESPONSE TO THE EMPTY BOX BELOW.


Exposure Control Plan, protective measures, OSHA

Pathogen Action Plan, protective measures, OSHA

Exposure Control plan, protective measures, CDC

Pathogen Action Plan, protective measures, CDC

MODULE PROGRESS




ELLISEDUCTION SERVICES

CC SUBMIT

2.7 Select all that are examples of Personal Protective Equipment.

(Multiple Response, 10 points, unlimited attempts permitted)

Select all that are examples of Personal Protective Equipment.



- Breathing Devices
- Suction Devices
- Face Masks
- Gowns
- Eye Protection

Correct	Choice
X	Breathing Devices
X	Suction Devices
X	Face Masks
X	Gowns
X	Eye Protection

Correct (Slide Layer)

Select all that are examples of Personal Protective Equipment.

- Breathing Devices
- Gowns
- Eye Protection

Great Job!
THAT WAS CORRECT

CONTINUE

The screenshot shows a dark blue background with a white line-art illustration of two hands, one holding a small cluster of white dots. A white feedback box with a green checkmark icon is overlaid on the left. The text inside the box reads "Great Job! THAT WAS CORRECT". To the right of the box is a grey button with the word "CONTINUE" in white. In the background, there is a list of three items, each with a checked checkbox: "Breathing Devices", "Gowns", and "Eye Protection".

Incorrect (Slide Layer)

Select all that are examples of Personal Protective Equipment.

- Breathing Devices
- Gowns
- Eye Protection

Sorry.
THAT WAS INCORRECT

CONTINUE

The screenshot shows the same dark blue background and white line-art illustration as the previous slide. A white feedback box with a red 'X' icon is overlaid on the left. The text inside the box reads "Sorry. THAT WAS INCORRECT". To the right of the box is a grey button with the word "CONTINUE" in white. In the background, there is a list of three items, each with a checked checkbox: "Breathing Devices", "Gowns", and "Eye Protection".


Try Again (Slide Layer)

Select all that are examples of Personal Protective Equipment.

- Breathing Devices
- Suction Devices
- Face Masks
- Gowns
- Eye Protection

Sorry.
THAT WAS INCORRECT

TRY AGAIN



Progress (Slide Layer)

Preventing Bloodborne and Airborne Pathogens: Knowledge Check (Question 7 of 7)

Select all that are examples of Personal Protective Equipment.

- Breathing Devices
- Suction Devices
- Face Masks
- Gowns
- Eye Protection

MODULE PROGRESS


ELLISEUCATION SERVICES

CC SUBMIT



2.8 Results Slide

(Results Slide, 0 points, 1 attempt permitted)



Congratulations!
You've completed Preventing Bloodborne and Airborne Pathogens.

CC REVIEW EXIT COURSE

Results for
2.1 Which of the following is a condition that must be met for disease transmission to occur?
2.2 Match each disease with the type of pathogen it is.
2.3 You learned about several Disease Prevention Practices that mitigate your exposure to diseases. Select all that you learned about in this module.
2.4 Which of the following steps should you take if you suffer a work related exposure? Select all that apply.
2.5 Which of the following are examples of engineering controls? Select all that apply.
2.6 The _____ outlines _____ to eliminate or minimize exposure incidents. It will also detail how your employer maintains records according

to _____ requirements.

2.7 Select all that are examples of Personal Protective Equipment.

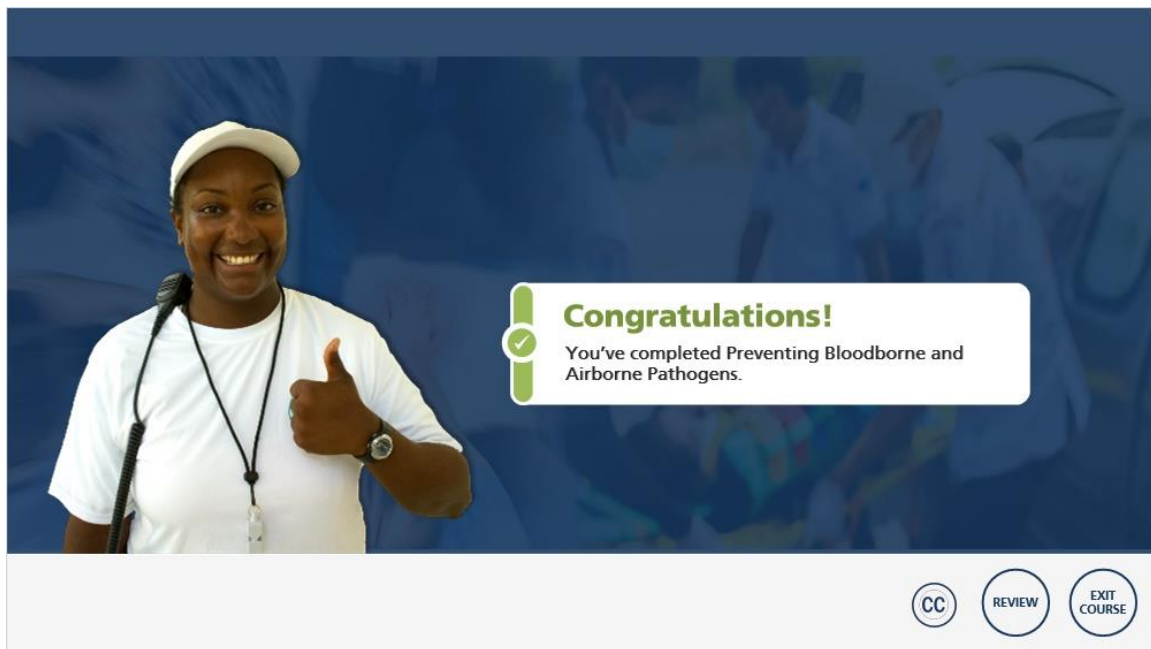
Result slide properties

Passing

60%

Score

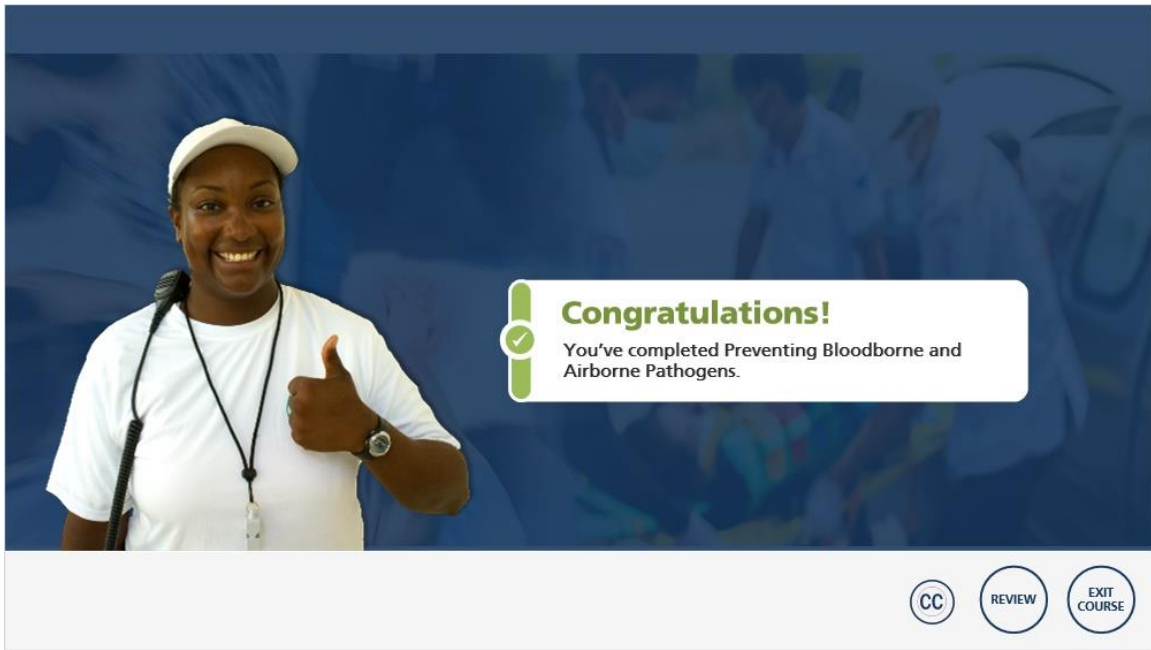
Failure (Slide Layer)



Congratulations!
You've completed Preventing Bloodborne and Airborne Pathogens.

CC REVIEW EXIT COURSE

Success (Slide Layer)



A slide layer for a success message. On the left, a woman in a white lab coat and cap gives a thumbs up. On the right, a white box contains the text: **Congratulations!** You've completed Preventing Bloodborne and Airborne Pathogens. The background is a blue-tinted image of a group of people in a classroom.

Congratulations!
You've completed Preventing Bloodborne and Airborne Pathogens.

CC REVIEW EXIT COURSE

Progress (Slide Layer)



A slide layer for a progress message. At the top, a blue banner reads "Preventing Bloodborne and Airborne Pathogens: Congratulations". On the left, the same woman from the success slide gives a thumbs up. On the right, a white box contains the text: **Congratulations!** You've completed Preventing Bloodborne and Airborne Pathogens. The background is the same blue-tinted classroom image.

Preventing Bloodborne and Airborne Pathogens: Congratulations

Congratulations!
You've completed Preventing Bloodborne and Airborne Pathogens.

MODULE PROGRESS ●●●●●●●●●●

ELLISEDUCATION SERVICES

CC REVIEW EXIT COURSE