INFECTION CONTROL

SELF-STUDY LEARNING

MODULE No. 1

Includes:

- Learning Objectives
- OSHA Regulations for Bloodborne Pathogens and Tuberculosis
- General Safety Statements
- General Principles of Infection
- Bloodborne Pathogens: Types, Epidemiology, Transmission Modes, Signs & Symptoms,
  Hepatitis B Vaccine: Efficacy, Administration, Available at No Cost, Declination
- Methods of Compliance: Protection Against Transmission of Bloodborne Pathogens
- Standard/Universal Precautions
- Work Practice and Engineering Controls
- Handwashing
- Personal Protective Equipment
- Latex Allergy
- Needle/Sharps Handling and Disposal
- Care of Your Uniforms
- Decontamination and Sterilization
- Handling Linen
- Contaminated Patient Care Equipment
- Cleaning Up Spills
- Handling Wound Dressings
- Signs, Labels, and Color Coding
- Emergency Procedures: What To Do If You Are Exposed to Bloodborne Pathogens
- General Tuberculosis Information: Epidemiology, Transmission, Signs and Symptoms,
  Protective Measures and Exposure Follow-up
- Post-test Answer Sheet (*Must be turned in to Synergy to receive credit for completing the module*)
- Bloodborne Pathogens (Hepatitis B) Form (*Must be turned in to your local SYNERGY office*)

Infection Control Self-Study Learning Module Objectives
**General Bloodborne Pathogens Training**

- Understand general principles of infection, including transmission, control and role of handwashing
- Know where an accessible copy of the bloodborne pathogen regulatory text is located
- Obtain general understanding of the epidemiology, transmission and symptoms of bloodborne diseases
- Understand SYNERGY exposure control plan (Bloodborne Pathogen and Tuberculosis) and how the plans may be accessed
- Identify tasks and situations that may involve exposure to blood and other potentially infectious materials
- Understand the use and limitations of methods that will prevent or reduce exposure, including engineering controls, work practices, and personal protective equipment
- Describe the types, basis for selection, proper use, location, removal, decontamination and disposal of personal protective equipment
- Understand basic concepts of latex allergy
- Understand the signs, labels and color coding system
- Understand the appropriate actions to take, persons to contact, and procedure to follow in an emergency involving exposure to bloodborne pathogens and/or other potentially infective material
- Understand medical follow-up and post-exposure evaluation
- Understand the benefits, safety, method of administration and no cost of the Hepatitis B vaccine

**General Tuberculosis Training**

- Understand the cause of TB, transmission modes and signs and symptoms of the disease
- Understand how to identify a potential TB patient
- Understand the difference between TB disease and TB infection
- Understand the precautions to take in presence of a suspected or confirmed TB patient (such as engineering controls, respirator masks)
- Understand TB skin testing and meaning of positive and negative test results
- Obtain general understanding of the use of TB respirator masks, fit testing and checks
- Understand exposure and follow-up procedures for tuberculosis
OSHA REGULATIONS: BLOODBORNE PATHOGENS AND TB

- OSHA stands for the Occupational Safety and Health Administration and is a branch of the Federal Government's Department of Labor.
- OSHA develops standards that are enacted into law, and can survey any workplace without prior notice. Employers are required to follow OSHA standards.
- OSHA has developed two standards outlining infection control activities, the Bloodborne Pathogens Standard and the Occupational Exposure to Tuberculosis Standard. For both of these standards, health care employers are required to develop Exposure Control Plans to identify employees at risk for occupational exposure to bloodborne pathogens and tuberculosis so that appropriate training, prevention, and exposure management can be provided. These OSHA standards and SYNERGY's plans can be found in the Quality Improvement Manual located in your local SYNERGY office.
- SYNERGY provides general training in compliance with OSHA standards. Because SYNERGY operates throughout the country in various healthcare settings, site-specific training will have to be provided by the facility to which you accept assignment. For example, SYNERGY will train you on types of bloodborne pathogens and the basic types of personal protective equipment. However, each facility conducts its own risk assessment and will have instituted specific policies and procedures consistent with its internal findings, which may be more involved than the general training provided by SYNERGY.

GENERAL SAFETY STATEMENTS

- You will be asked to review the Infection Control Self-Study Learning Module at least once every year.
- Healthcare Associates are required to have pre-employment and annual health profiles. The profile includes TB screening unless medically contraindicated.
- Notify your facility supervisor and SYNERGY of any exposure incidents. Use facility-approved procedures for all job functions and report all unsafe or hazardous conditions.
- For the protection of patients and yourself, please report the following conditions, as you may not be able to work if you have them. You may also need a doctor's note before you can return to work:
  - Signs of respiratory illness
  - Temperatures greater than 101 degrees Fahrenheit
  - Persistent vomiting or diarrhea
  - Wounds or skin infections, open lesions, cold sores
  - Conjunctivitis (eye infection)
  - Other communicable diseases
  - Casts and bandages that prevent effective handwashing

GENERAL PRINCIPLES OF INFECTION

Infection is the most common cause of human disease. Infections are produced by pathogenic organisms, such as bacteria and viruses, which can cause disease. Examples of such diseases include the common cold, hepatitis and AIDS.

Infection starts when a microbe (a virus or bacteria) enters body tissues, multiplies and causes harmful effects. The severity of the infection depends on many things, such as microbe characteristics and the way in which it enters the body and spreads.

The body reacts to infection by producing an inflammatory response. The classic signs and symptoms are pain, heat, redness, and swelling.

How Infections are Transmitted or Spread: Infectious organisms are transmitted (spread) by several routes and the same organism can be transmitted by more than one route. Three main routes of transmission are:

- Contact Transmission is the most common way infections are transmitted. It has two subgroups:
  - Direct transmission: Direct contact and physical transfer of microorganisms between a susceptible host and an infected person.
b. **Indirect transmission**: Contact of a susceptible host with a contaminated object, such as contaminated instruments, needles, or contaminated hands that are not washed.

- **Droplet Transmission** occurs when large droplets containing microorganisms generated from the infected person are propelled a short distance through the air and deposited on a susceptible person's eye membranes, nasal mucosa, or mouth. **Droplet transmission is not the same as airborne transmission.**

- **Airborne Transmission** occurs by the spread of aerosols, tiny droplets, of either airborne droplet nuclei that remain suspended in the air for long periods of time or by dust particles containing the infectious agent. Special air handling and ventilation are required.

### Preventing the Spread of Infections: Isolation (Transmission-Based) Precautions

Isolation (Transmission-Based) Precautions apply to patients with known or suspected communicable infections and to patients colonized with resistant microbes. These precautions fall into three categories and address the three routes transmission of infection discussed above. **The three types of transmission-based precautions are:** **Contact Precautions, Droplet Precautions, and Airborne Precautions.** *(Please note that the Centers for Disease Control (CDC) recommends that Transmission-Based precautions be used in addition to Standard/Universal Precautions.)*

- **Contact Precautions** are used to prevent the transmission of infections that are spread through direct contact with the patient's skin or indirect contact with contaminated items or surfaces. **Handwashing** is of critical importance after removing gloves or touching any surface. **Examples of diseases for which contact precautions are used:**
  - MRSA (methicillin-resistant *Staphylococcus aureus*)
  - VRE (vancomycin-resistant *Enterococcus*)
  - **Escherichia coli (E. coli)**
  - Hepatitis A
  - Herpes simplex

#### CONTACT PRECAUTIONS SUMMARY

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<tr>
<th>BEFORE CARE</th>
<th>DURING CARE</th>
<th>AFTER CARE</th>
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<tbody>
<tr>
<td>Private room.</td>
<td>Limit transport of patient or resident to essential purposes only.</td>
<td>Bag linen to prevent contamination of self, environment or outside of bag.</td>
</tr>
<tr>
<td>Wash hands.</td>
<td>Patient/resident should wear mask appropriate for disease.</td>
<td>Discard infectious trash to prevent contamination of self, environment or outside of bag.</td>
</tr>
<tr>
<td>Wear gown if soiling is likely.</td>
<td>Limit use of non-critical care equipment to a single patient/resident.</td>
<td>Wash hands when finished.</td>
</tr>
<tr>
<td>Wear gloves when entering room. Change after contact with infective material.</td>
<td><strong>Clostridium difficile</strong> enteric infection abies</td>
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- **Droplet Precautions** are used to prevent the spread of organisms that are carried in large droplets and which are generated by the infected person during coughing, sneezing, talking or during cough-inducing procedures that produce aerosolization ("misting") of body fluids. Large droplets can travel up to 3 feet before settling to the floor or other surfaces. **Droplet Precautions are not the same as Airborne Precautions.** **Examples of diseases spread by large droplets:**
  - Invasive *Haemophilus influenzae* type b and *Neisseria meningitidis* disease, including meningitis, pneumonia, epiglottitis and sepsis
  - Diphtheria (pharyngeal)
  - **Mycoplasma pneumonia**
  - Pneumonic plague
  - Streptococcal pharyngitis, pneumonia, or scarlet fever in infants and young children
  - Pertussis (whooping cough)
  - Influenza
- Mumps
- Parvovirus
- Rubella (German measles)

### DROPLET PRECAUTIONS SUMMARY

**Use in addition to Standard/Universal Precautions**

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<tbody>
<tr>
<td>Private room.</td>
<td>Limit transport of patient or resident to essential purposes only.</td>
<td>Bag linen to prevent contamination of self, environment or outside of bag.</td>
</tr>
<tr>
<td>Maintain 3 feet of spacing between patient/resident and visitors.</td>
<td>Patient/resident should wear mask appropriate for disease.</td>
<td>Discard infectious trash to prevent contamination of self, environment or outside of bag.</td>
</tr>
<tr>
<td>Wash hands.</td>
<td>Limit use of non-critical care equipment to a single patient/resident.</td>
<td>Wash hands when finished.</td>
</tr>
<tr>
<td>Wear gown and gloves if soiling is likely.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mask/faceshield for staff and visitors within 3 feet of patient/resident.</td>
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### Airborne Precautions

Airborne Precautions are used to prevent transmission of organisms that are carried in air currents by tiny droplet or dust particles. Organisms spread in this way can be suspended or held in the air for long periods of time and can be spread in air currents. They can infect susceptible hosts near or far from the infected patient. Special ventilation in a negative pressure isolation room is needed. Personal protective equipment, such as a mask, is worn to prevent inhalation of the tiny droplets or dust particles. **Additional precautions are required for patients with known or suspected pulmonary tuberculosis, such as a particulate respirator mask.**

**Examples of airborne diseases:**

- Suspected or confirmed pulmonary or laryngeal tuberculosis
- Varicella (chicken pox)
- Rubeola (measles)

**DO NOT ENTER** the patient's room if you are not immune to chicken pox or measles if an alternative immune worker is available. If immune worker is not available, wear respiratory protection. **Always follow facility protocol.**

### BLOODBORNE PATHOGENS

This section of the learning module is designed to provide general understanding of bloodborne pathogens, common modes of their transmission, methods of prevention, and other pertinent information.
The Occupational Safety and Health Administration's (OSHA) standard on occupational exposure to bloodborne pathogens applies to all workers with potential or actual occupational (on the job) exposure to blood or other potentially infectious materials. OSHA defines occupational exposure as reasonably anticipated skin, eye, mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that may occur when an employee performs his/her duties. Parenteral or percutaneous means piercing the skin or mucous membranes such as a needlestick, cut or abrasion.

Employee jobs are categorized as follows:

- **Category I** jobs are those where employees perform tasks that involve coming in contact with blood, body fluids, or tissues as a part of normal daily activities. Examples: staff nurses, healthcare assistants, laboratory technicians, and respiratory care providers.

- **Category II** jobs are those where employees have a chance of coming in contact with blood, body fluid, or tissues, but not as a part of normal daily activities. Examples: unit secretaries and monitor technicians.

- **Category III** jobs are those where there is no chance of coming into contact with blood or other potentially infectious materials. Examples: medical administrative workers in insurance companies.

If you can reasonably anticipate having contact with blood and/or other potentially infectious materials as part of your job duties, regardless of the degree of exposure or use of protective equipment, you MUST read this summary of OSHA's Bloodborne Pathogen Standard.

**Bloodborne Diseases:** Bloodborne pathogens are microorganisms, such as viruses or bacteria, that are carried in blood and can cause disease in people. There are many different bloodborne pathogens. Examples of bloodborne pathogens include malaria, syphilis, brucellosis, Hepatitis B (HBV), Hepatitis C (HCV) and the Human Immunodeficiency Virus (HIV). Although this module will focus on HBV, HCV, and HIV, it is important to know which bloodborne pathogens you may be exposed to at work.

- **Hepatitis B (HBV) Infection:** Approximately 300,000 people are infected with Hepatitis B virus (HBV) annually in the U.S. Of these cases, a small percentage are fatal. An individual will have a 10-30% chance of sero-conversion (getting HBV) after a needlestick exposure.

  Hepatitis B is a virus that infects the liver. While there are several different types of hepatitis, Hepatitis B is transmitted primarily through "blood to blood" contact. Hepatitis B initially causes inflammation of the liver, but it can lead to more serious conditions such as cirrhosis and liver cancer. **There is no cure or specific treatment for HBV**, but many people who contract the disease develop antibodies which help them get over the infection and protect them from getting it again. It is important to note, however, that there are different kinds of hepatitis. Infection with HBV will not stop someone from getting another type of hepatitis.

The Hepatitis B virus is very durable and can survive in dried blood for up to seven days. For this reason, Hepatitis B virus is the primary concern for healthcare workers who may come into contact with blood or other potentially infectious materials.

**Symptoms of Hepatitis B Virus (HBV) Infection**

The incubation period is 4-28 weeks. The symptoms of HBV are like mild "flu." Initially there may be fatigue, possible stomach pains, loss of appetite, and nausea. As the disease continues to develop, jaundice (a distinct yellowing of the skin and eyes), and darkened urine will often occur. However, people who are infected with HBV will often show no symptoms for some time. After exposure, it can take 1-9 months before symptoms become noticeable.
**Hepatitis B Vaccination**: SYNERGY employees who may have exposure to bloodborne pathogens (such as nurses, lab. techs, etc.) will be offered the Hepatitis B vaccine series **at no cost** (your local SYNERGY office will refer you to a proper source), **unless**:

- They have previously received the complete vaccine series
- Antibody testing has revealed they are immune
- The vaccine is contraindicated for medical reasons

(Pregnant employees should consult their obstetrician before immunization.)

Although the vaccine must be offered to you by SYNERGY, you do not have to accept the offer. You may opt to decline the vaccination series, in which case you will be asked to sign a declination form. Even if you decline the initial offer, you may choose to receive the series at anytime during your employment thereafter with SYNERGY. For example, if you are exposed to blood or other potentially infectious materials while on the job for SYNERGY, you may request a Hepatitis B vaccination at that time (if you have not received the vaccine previously). If the vaccine is administered immediately after exposure, it is extremely effective at preventing the disease.

**The Hepatitis B vaccination is given in a series of three (3) shots**. The second shot is given one month after the first, and the third shot follows five months after the second. This series gradually builds up the body's immunity to the Hepatitis B virus. The vaccine is made from yeast cultures. There is no danger of contracting the disease from getting the shots, and, once vaccinated, a person does not need to receive the series again. There are booster shots available, and in some instances, these may be recommended by your healthcare provider. **The Hepatitis B vaccine does not protect against other types of hepatitis, such as Hepatitis C.**

- **Hepatitis C Virus (HCV) Infection**: Hepatitis C is a liver disease caused by the hepatitis C virus (HCV). Hepatitis C infection is a major cause of chronic liver disease in the United States and worldwide. **HCV presents an occupational risk to persons whose work involves handling human blood and body fluids.** Like other bloodborne diseases, the infection is spread by contact with the blood of an infected person.

**Needle stick injuries are the most common cause of occupational HCV exposure. No vaccine is available for hepatitis C and no cure is known.** A blood test is available for hepatitis C screening which shows if a person has been infected with HCV, but it does not distinguish between new or old infection and cannot distinguish between persons who are infectious and those who are not.

About 40% of all persons who get hepatitis C do not know they are infected. About half of all persons who get hepatitis C never fully recover and can carry the virus for the rest of their lives. These persons have chronic hepatitis C, and some may eventually develop cirrhosis of the liver and are also at an increased risk for liver cancer. Hepatitis C is now the leading reason for liver transplantation in the U.S.

**Symptoms of HCV Infection**
The incubation period is 2 weeks to 6 months. Persons with **acute HCV infection** typically either have no symptoms or have a mild illness such as loss of appetite, malaise, fever, extreme fatigue and/or abdominal pain. Jaundice (yellowing of the skin and eyes) may also occur. **Chronic liver disease** usually progresses slowly without signs or symptoms during the first two or more decades after infection.

- **Human Immunodeficiency Virus (HIV): "AIDS"**, or acquired immune deficiency syndrome, is caused by a virus called the human immunodeficiency virus, or HIV. Once a person has been infected with HIV, it may be many years before AIDS actually develops. HIV attacks the body's immune system, weakening it so that it cannot fight other deadly diseases. AIDS is a fatal disease, and while treatment for it is improving, there is no known cure.
Estimates on the number of people infected with HIV vary, but some estimates suggest that an average of 35,000 people are infected every year. Many people are not aware they are infected with HIV.

The HIV virus is fragile and will not survive long outside of the human body. HIV is a concern to workers in the healthcare field who are exposed to blood or other potentially infectious materials. **HIV infection has been reported after occupational exposure to HIV-infected blood through needle sticks or cuts; splashes in the eyes, nose, or mouth; and skin contact. Exposures from needle sticks or cuts appear to cause the most infections.** It is estimated that the chances of contracting HIV in a workplace environment through a needle stick is about 3 to 4 per 1,000. **HIV infection usually follows three broad stages:**

- **First stage:** When a person is actually infected with HIV; there may be few or no signs of illness for many years.
- **Second stage:** When individual may begin to suffer swollen lymph glands or other lesser diseases which begin to take advantage of the body’s weakened immune system. The second stage is believed to eventually lead to AIDS.
- **Third and final stage, AIDS:** The body becomes unable to fight off life-threatening diseases and infections.

**Symptoms of HIV Infection**
In some individuals, a flu-like illness occurs within 1-6 weeks after exposure to the virus. Fever, sweats, malaise, muscle pains, loss of appetite, nausea, diarrhea, and a sore throat are common symptoms. After a long, symptom-free (latent) period of up to 7-10 years, HIV infected individuals may begin to have symptoms with the development of enlarged lymph nodes, malaise, headache or diarrhea. AIDS develops when the HIV has destroyed many of the immune cells that protect us. Individuals with AIDS develop certain types of tumors or infections caused by "opportunistic" bacteria, fungi, viruses, and parasites that rarely cause infections in otherwise healthy people. These opportunistic infections are the usual cause of death.

**Transmission of Bloodborne Pathogens:** Bloodborne pathogens such as HBV, HCV, and HIV can be transmitted through contact with infected human blood and other potentially infectious body fluids, such as:

- Semen
- Vaginal Secretions
- Cerebrospinal Fluid
- Synovial Fluid
- Pleural Fluid
- Peritoneal Fluid
- Amniotic Fluid
- Saliva (in dental procedures)
- Any body fluid that is visibly contaminated with blood

**HBV, HCV, and HIV are most commonly transmitted through:**

- Sexual contact
- Sharing of hypodermic needles
- From mothers to their babies before or at birth
- Accidental puncture from contaminated needles, broken glass, or sharps
- Contact between broken or damaged skin and infected body fluids
- Contact between mucous membranes and infected body fluids

In health care work, transmission is most likely to occur because of accidental puncture from contaminated needles, broken glass, or other sharps; contact between broken or damaged skin and infected body fluids; or contact between mucous membranes and infected body fluids. Anytime there is **blood-to-blood** contact with infected blood or body fluids, there is a slight potential for transmission of bloodborne pathogens.
Unbroken skin forms a barrier against bloodborne pathogens. However, infected blood can enter your system through open sores, cuts, abrasions, acne and any sort of damaged or broken skin, such as sunburn or blisters.

Bloodborne pathogens may also be transmitted through the mucous membranes of the eyes, nose and mouth. For example, a splash of contaminated blood to your eye, nose, or mouth could result in transmission.

**METHODS OF COMPLIANCE:**
Protection Against Transmission of Bloodborne Pathogens

**Standard Universal Precautions:** Standard/Universal Precautions were developed to protect healthcare workers from the risk of on-the-job exposure to infectious organisms and require the use of protective barriers, called personal protective equipment (PPE), to prevent contact with infectious organisms that may be present in blood and body fluids. Types of PPE include gloves, masks, eye protection, moisture resistant gowns, and other apparel as needed. **Because you do not always know what diseases or pathogens a patient may have, protect yourself by using Standard/Universal Precautions. Act as if every patient if infected with HIV/AIDS or Hepatitis.**

### STANDARD/UNIVERSAL PRECAUTIONS SUMMARY

**Please Note:** Standard/Universal Precautions do not eliminate the need for category or disease-specific isolation precautions, such as airborne precautions for pulmonary tuberculosis.

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<tbody>
<tr>
<td>Used for all patients regardless of diagnosis where there is actual or anticipated contact with blood, bodily fluids, secretions, excretions, non-intact skin, or mucous membranes.</td>
<td>Wear gloves when touching body substances, mucous membranes, non-intact skin, and contaminated items. Change frequently after contact with potentially infected material.</td>
<td>Place needles in Sharps Container. Do not bend, break or recap needles.</td>
</tr>
<tr>
<td>Wash hands.</td>
<td>Mask/face shield is indicated if splashing of body substances is likely.</td>
<td>Discard items contaminated with blood and other potentially infectious materials in labeled biohazard bag/container.</td>
</tr>
<tr>
<td>Wear gown if soiling is likely.</td>
<td>Use facility approved ventilation device (e.g., pocket mask) instead of mouth-to-mouth resuscitation.</td>
<td>Disinfect and sterilize reusable equipment according to facility approved protocol.</td>
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**Work Practices and Engineering Controls:**

- **Work practice controls** reduce the likelihood of exposure to bloodborne pathogens by altering or changing the manner in which a task is performed. If you are working in an area where there is reasonable likelihood of exposure, you should never:
  - Eat
  - Drink
  - Smoke
  - Apply cosmetics or lip balm
  - Handle contact lenses

- **Other general safety guidelines include the following:**
  - No food or drink should be kept in refrigerators, freezers, shelves, cabinets, or on counter tops where blood or potentially infectious materials are present.
  - NEVER pipette or suction these materials by mouth.
  - Cover open wounds and broken skin.
  - Use resuscitation bags, mouthpieces, etc., whenever possible, for mouth-to-mouth breathing (CPR).
  - If you have an uncooperative patient, get help to prevent accidents.

- **Engineering controls** means controls (e.g., sharps disposal containers, self-
sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove bloodborne pathogens hazard from the workplace.

We encourage you to provide input into the identification, evaluation, and selection of effective engineering and work practice controls.

**Handwashing**: Infectious organisms can be easily transmitted from one person to another. In most cases, hand washing lowers the spread of all but airborne infections and is one of the most important practices used to prevent transmission of bloodborne pathogens.

**Hand washing is necessary at the following times:**
- When coming on duty
- Before eating and after using bathroom facilities
- Between patients, **always**!
- Before handling food or medications
- After removal of gloves (even if double-gloved)
- Whenever hands are soiled
- After any exposure incident to the hands, wrists, and arms
- Before performing a sterile or invasive procedure
- Before taking care of particularly susceptible patients, such as newborns
- Before and after touching wounds
- After touching objects that are likely to be contaminated with pathogenic microorganisms (whether you were wearing gloves or not)
- After taking care of patients with infections
- Between procedures on the same patient

You should familiarize yourself with the location of the handwashing facilities nearest to you in any facility in which you are assigned. If you are working in an area without access to such facilities or if you are unable to wash your hands promptly, you may use antiseptic cleanser or antiseptic towelettes provided by the facility. If this alternative is used, hands should still be washed with soap and running water as soon as possible.

**Technique for ROUTINE hand washing:**
- With your hands angled downward under the faucet, adjust the water temperature to comfortably warm.
- Remove rings, if possible, and your watch
- Wet your hands and wrists and apply soap from a dispenser.
- Hold your hands below elbow level to prevent water from running up your arms and back down, contaminating the clean areas.
- Work up a lather by scrubbing with soap for 10-15 seconds.
- Clean beneath fingernails, around cuticles and knuckles, on the backs of hands, and along the sides of fingers and hands.
- Avoid splashing water on yourself or the floor.
- Avoid touching the sink or faucets (they are considered contaminated).
- Rinse hands and wrists well.
- Pat hands dry with a paper towel; avoid rubbing, which can cause chapping.
- Cover faucet handle with a dry paper towel to you turn off the water.
- Frequent hand washing may chap and irritate your skin; use a facility approved moisturizing lotion. (Do not use petroleum-based lotions as studies have shown that they reduce the effectiveness of latex gloves.)
- Hands or other exposed skin should be thoroughly washed with antibacterial soap as soon as possible following an exposure incident. (See the Emergency Procedures section for further information.)

**Personal Protective Equipment (PPE):** You should wear appropriate personal protective equipment (PPE), such as gloves, gown, mask, etc., anytime exposure to bloodborne pathogens is a possibility.

The facility to which you are assigned must provide you with the appropriate personal protective equipment to perform your duties and is responsible for maintaining the PPE. If you are not provided with the appropriate PPE, notify your facility supervisor(s) immediately.

**Examples of activities that may cause exposure and common routes of exposure to bloodborne pathogens:**

- Recapping needles
- Needlestick injuries
- Administering injections
- Drawing blood
- Collecting linens and trash
- Exposure to used needles that were not disposed of properly
- Starting IV’s
- Needles poking out of overfilled sharps containers
- Blood contacting broken skin due to rips/tears in gloves
- Contact with broken skin due to not wearing gloves

**General guidelines for selection and use of PPE:**

- PPE should be readily accessible and in the correct sizes.
- PPE should not permit blood or other potentially infectious material to pass through or reach your clothes, undergarments, skin, eyes, mouth, or mucous membranes for the duration of the task under conditions of normal use.
- Always wear personal protective equipment when you anticipate contact with blood or other potentially infectious material ("exposure situations").
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to bloodborne pathogens.
- Remove PPE before leaving the work assignment.
- Discard PPE according to facility protocol.

**Please review the following general PPE descriptions and guidelines for use:**

- **GLOVES:** Gloves should be worn to provide a protective barrier for hands if contact with blood, body fluids, secretions, excretions, mucous membranes, non-intact skin, or items soiled with those materials is anticipated.

  Gloves reduce the incidence of contamination of hands, but they cannot prevent injuries caused by needles or other sharp instruments.

  Gloves should be made of latex, nitril, rubber, or other material that does not let wetness through. If glove material is thin or
flimsy, double gloving can provide an additional layer of protection. If you know you have cuts or sores on your hands, you should cover these with a bandage as an additional precaution before putting on your gloves.

**Tips on wearing gloves:**

- **Hand washing is of critical importance even with the use of gloves.** Gloves can have tears you can't see. Because of this, you should wash your hands before and after giving patient care.
- You should always inspect your gloves for tears or punctures before putting them on. **If a glove is damaged, don't use it!**
- If your gloves become torn, remove them immediately and dispose of them properly. Then wash your hands thoroughly with soap and water and put on a new pair of gloves.
- **NEVER** re-use surgical or examination gloves.
- Change gloves between body sites.
- When wearing two pairs of gloves, consider both contaminated and change both at the same time.
- Have an additional pair of gloves available to replace any gloves that become contaminated or torn.
- When taking contaminated gloves off, make sure you don't touch the outside of the gloves with bare skin and dispose of them properly.

**If you have a latex allergy, be sure to wear neoprene gloves or another available alternative.**

**Latex Allergy**

Natural rubber latex allergy is a growing concern as an occupational disease among health care workers. Latex allergy develops from exposure to natural rubber latex, a plant substance that is used to manufacture medical gloves and other medical devices. Since the late 1980's, the dramatic increase in the use of latex gloves as a barrier against bloodborne infections has contributed to the number of latex allergies. Workers at risk of latex allergy from ongoing latex exposure include nurses, aides, respiratory therapists, dental, operating room employees, laboratory technicians, and housekeeping personnel, among others.

Latex allergy can result from repeated exposure to proteins in natural rubber latex through skin contact or inhalation. Most gloves are powdered with cornstarch to make it easier to put them on and take them off. However, cornstarch absorbs protein allergens from latex gloves, deposits them on skin, mucous membranes and wounds, and mists allergens, which can provoke symptoms in many latex allergic people. Continued exposure to latex allergens increases sensitization and worsens allergic reactions. There is no treatment for latex allergy except complete avoidance of latex.

**High Risk Groups for Latex Allergy:**

- Health care workers
- Persons with spina bifida or urological anomalies
- Individuals with a personal or family history of allergies
- Latex allergy is also associated with allergies to certain foods such as avocados, potatoes, bananas, tomatoes, chestnuts, kiwi fruit, and papaya.

**NEVER** use oil-based salves or lotions (petrolatum, mineral oil, lanolin, etc.) with latex gloves as oil breaks down the glove barrier, and releases additional allergens.
Symptoms of Allergic Reaction to Latex: Reaction usually begins within minutes of exposure to latex, but they can occur hours later and can produce various symptoms. These may include:
- Skin rash and inflammation
- Respiratory irritation
- Asthma
- Shock (rare)
- Swollen red skin, rash, itching, hives
- Tearing, itching, or burning eyes

General Guidelines for Risk Reduction:
- Use powder-free gloves that are low in protein and chemical allergens.
- Wear gloves that are appropriate to the task.
- Clean work areas contaminated with latex dust frequently.
- If you develop symptoms of latex allergy, avoid direct contact with latex gloves and products until you can see a physician.
- Wash, rinse, and dry hands after removing gloves.
- Wear synthetic gloves or cotton liners with latex work gloves for wet work.
- If you have latex allergy, consult with your physician and tell your supervisor at all facilities to which you are assigned that you have latex allergy. A non-latex alternative must be provided to you.

EYE PROTECTION & FACE PROTECTION: Bloodborne pathogens can be transmitted through the thin membranes of the eyes. Anytime there is a risk of splashing or vaporization (misting) of contaminated fluids, goggles or other eye protection should be used. Health care workers who wear prescription eyeglasses should have side pieces to prevent splashes when the head is turned. Goggles worn over prescription eyeglasses offer better protection than prescription eyeglasses with side shields.

A faceshield can also be used to provide full-face protection and can protect against splashes to the eyes, nose and mouth. Goggles can be worn with a surgical mask to achieve a similar result.

MASKS & RESPIRATOR PROTECTION:

Masks are worn to protect the mouth and nose from exposures and may be worn with other PPE to provide additional protection. Masks should be changed between patients and whenever soiled or wet. A surgical mask is generally worn by healthcare workers to provide protection against spread of infectious caused by large-particle droplets that are transmitted by close contact. There are different types of surgical masks, including fluid resistant. Surgical masks are NOT appropriate respiratory protection for airborne diseases such as tuberculosis.

A respirator mask is not the same thing as a surgical mask. A particulate respirator mask is used to prevent transmission of airborne diseases such as tuberculosis. It must be especially fitted and checked for proper fit on you. It prevents you from breathing tiny particles that may cause disease. (Please refer to the Tuberculosis section of the module for more information on particulate respirator masks.)

GOWNS & OTHER PROTECTIVE APPAREL:
Gowns and other protective apparel prevent contamination of clothing and protect the skin. Gowns are indicated if soiling with blood, body fluid, secretions, and excretions is likely, such as when providing care associated with splashes. If your gown becomes grossly soiled, remove it promptly after the activity. Place the gown in a leakproof bag at the point of use, and then put the bag in the designated receptacle for laundering. Wash your hands immediately after removing and bagging the soiled gown. Fluid resistant footwear and leggings may be appropriate in some situations.

Needle/Sharps Handling and Disposal: Approximately 80% of occupational blood exposures are due to needlestick injuries. Bloodborne pathogens, such as Hepatitis B and C, and HIV, may be transmitted to healthcare workers via needlestick or sharps injuries.

Using Standard/Universal Precautions, along with personal protective equipment, engineering controls and other work practice controls, reduces employee exposure to bloodborne pathogens. Although personal protective equipment provides a barrier to protect skin and mucous membranes from contact with blood and other potentially infectious material, most personal protective equipment is easily penetrated by needles and sharps.

Preventing injuries from contaminated needles and "sharps" (sharp instruments that can cause a cut, laceration, or penetrating wound) is the single most important measure you can take to prevent infection caused by bloodborne pathogens such as HBV, HCV, and HIV.

How to Protect Yourself From Needlesticks and Sharps Injuries:

- Safety Devices to Prevent Needlestick or Sharp Injuries (Safer Medical Devices):

  The Needlestick Safety and Prevention Act (HR 5178) was signed into law in November 2000. Safer medical devices use engineering controls to prevent needlestick injuries before, during, or after use through built-in safety features and have been shown to significantly reduce the incidence of accidental needlesticks and exposure to potentially fatal bloodborne illnesses. The term “Sharps with Engineered Sharp Injury Protections” means a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in-safety feature or mechanism that effectively reduces the risk of an exposure incident. Examples of such devices includes syringes with a sliding sheath that shields the attached needle after use; needles that retract into a syringe after use; shielded or retracting catheters used to access the bloodstream for intravenous administration of medication or fluids; and intravenous medication delivery systems that administer medication or fluids through a catheter port or connector site using a needle that is housed in a protective covering. The term “Needleless System” means a device that does not use needles for (a) the collection of bodily fluids after initial venous or arterial access is established, (b) the administration of medication or fluids, or (c) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps. Needleless systems provide an alternative to needles for the specified procedures, thereby reducing the risk of percutaneous injury involving contaminated sharps. Examples of needleless systems include, but are not limited to, intravenous medication delivery systems that administer medication or fluids through a catheter port or connector site using a blunt cannula or other non-needle connection, and jet injection systems that deliver subcutaneous or intramuscular injections of liquid medication through the skin without use of a needle. The common feature of effective safer needle and sharp devices is that they reduce the risk of needlestick injuries for health care workers.

  There are many types of safer needle devices made by many manufacturers with the basic idea being to provide a barrier between the hands and the needle after use. Because SYNERGY has multiple geographic locations throughout the country, does not control the
actual work-site environment and staffs diverse client facilities, no one safer medical device can be adopted or recommended.

You must follow all site-specified policies and procedures on use of safer medical devices as described above. The client facility should provide you with specific training on the safer medical devices used at the particular work-site.

Healthcare facilities are required to keep a **Sharps Injury Log**, so you MUST report all such exposures immediately to the work site supervisor and SYNERGY.

**General Guidelines for Handling Needles and Sharps:**

- All sharps, needles, and syringes should be regarded as infectious.
- **Never recap needles using 2 hands.** Use facility approved mechanical devices (such as sheath-holding devices) when they are available.
- Needles should be moved only by using a mechanical device or tool such as hemostats, forceps or pliers.
- **Never break, bend, remove or shear needles before disposal.**
- **Sharps Containers:** Used needles, syringes, and sharps must be disposed of in rigid, puncture-resistant, and leak-proof sharps containers. The containers are red or orange red and display the biohazard symbol (*see below*).
- Never dispose of a used needle or syringe in an obviously full sharps container. It's dangerous to attempt to push a needle into a bulging container. Make sure the container is properly closed before removing or replacing it.
- You should use safer medical devices (e.g., needleless, self-sheathing needle) available in the facility to which you are assigned; use sheath-holding devices when available. Take advantage of any training and orientation classes provided at the facility or ask about devices before beginning your work, ask for help if you do not know how to use a device.
  - If a safer engineered device or mechanical device is not available, and **only if recapping is essential**, use a **one handed scoop technique**.

**Method for One-Handed Scoop Capping:**

1) Though you should never manipulate a used needle, you may need to recap a needle in certain situations. For example, you might have to recap when administering incremental medications, or you may need to transport a syringe to the laboratory, as in an arterial blood sample.

2) Place the needle horizontally, on a flat surface. Remove your hand from the cap.

3) **Using one hand**, insert the needle into the cap and “scoop up” the cap until completely seated.

4) When the cap covers the needle completely, use the other hand to secure the cap on the needle hub (at the bottom only, near the hub).

**The scoop capping method should be used only if no alternative is available according to facility policies and procedures and recapping is essential. Familiarize yourself with what the specific facility’s procedures are and the types of safety devices that are available.**
NEVER RECAP A NEEDLE
USING 2 HANDS!

Please Note: OSHA has issued a warning to health care workers about the hazards from breakage of glass capillary tubes used for collection of blood. Breakage can result in possible injury and/or infection from bloodborne pathogens such as HIV, hepatitis B and hepatitis C virus.

Accidental breakage of the tubes has been reported when the tubes are inserted into putty for sealing and during centrifugation. Blood can spatter, potentially exposing personnel to bloodborne pathogens and the broken glass fragments can injure the user resulting in exposure to blood. To reduce the risk of possible injury, OSHA recommends using capillary tubes not made of glass; glass capillary tubes wrapped in puncture-resistant film; method of sealing that does not require pushing one end of the tube into putty to form a plug; or products that allow the blood hematocrit to be measured without centrifugation. Please find out if any of the above are available in the facility to which you are assigned before using conventional glass capillary tubes.

Care of Your Uniforms: Your work uniforms can become heavily colonized by pathogenic microorganisms. Change your uniform daily or immediately after any gross soiling or liquid spills. If you launder your own uniform, remove it immediately upon your arrival home. Wearing a soiled uniform away from work can contaminate your car, coat and home. You may want to place your work uniform in a plastic bag before placing it in the hamper to await washing. Wash uniforms in an automatic washer with hot or warm soapy water, and an appropriate bleach for the fabric, then dry them completely in an automatic dryer.

Decontamination and Sterilization: All surfaces, tools, equipment and other objects that come in contact with blood or potentially infectious materials must be decontaminated and sterilized as soon as possible. Decontamination should be done according to each specific facility's policies and procedures. You should also follow the specific facility's decontamination procedures for any materials you used to clean up spills of blood or potentially infectious materials, such as mops, buckets, etc. Contaminated broken glassware should not be picked up directly with the hands and should be decontaminated and disposed of according to facility protocol.

Handling Linen: All linens used in a patient care setting are considered soiled. Always wear gloves to handle soiled linens.

- Wear appropriate protective equipment when handling linen contaminated with blood, body fluids, secretions, or excretions.
- Handle soiled linen as little as possible and with minimal agitation to prevent contaminating yourself, the patient, and the environment.
- Bag used linen, or place it in a container at the point of origin/use, such as the patient's room. Avoid placing them on chairs, tables, or on the floor.
- If the used linen is wet and you believe it may soak through or cause leakage from the bag or container, make sure to place it in a waterproof container.
- Before placing used linen in a container, remove all sharps and other contaminated disposable material from it.
- If the linens are saturated with blood, feces, urine, or other bodily fluids, you should put a gown on before handling it.

Contaminated Patient Care Equipment: Cleaning, disinfecting or sterilizing patient care equipment is required between patient uses. If the equipment you are using becomes contaminated with blood or other body fluids, make sure to decontaminate it according to facility
procedures before it is serviced or shipped. If decontamination isn't possible, attach a biohazard label to the equipment before shipping or servicing.

Disinfect non-critical equipment, equipment that touches only intact skin, between each patient use. If the equipment is soiled with blood, body fluids, secretions, or excretions, wear appropriate protective gear when cleaning or handling it. Discard single-use items after their use. All patient rooms should be cleaned according to facility procedures. Pay special attention to bedside equipment and environmental surfaces such as bed rails, bedside tables, carts, commodes, doorknobs, faucet handles).

**Cleaning Up Spills:** Wearing gloves, immediately clean up spills of blood or other potentially infectious substances with cleaning materials and disinfectants approved by the facility. Place the contaminated material in a biohazard-labeled container. Also, place the cleaning materials (mops, sponges, etc.) in a biohazard-labeled bag/container.

**Handling Wound Dressings:** Always wear gloves and other personal protective equipment when you anticipate dealing with wounds. All wound dressings should be disposed of in a way that confines and contains any blood or bodily fluids present. You should avoid touching any soiled areas without gloves. Remove gloves and other PPE taking care not to contaminate your hands and clothing.

**SIGNS, LABELS, and COLOR CODING**

Warning labels containing the international biohazard symbol are required to be affixed to containers of regulated waste; refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport, or ship blood or other potentially infectious materials.

These labels are fluorescent orange, red, or orange-red. Bags used to dispose of regulated waste must be red or orange red, and they, too must have the biohazard symbol readily visible upon them. Regulated waste should be double-bagged according to facility protocol at the point of origin (where you are working with it) to guard against the possibility of leakage if the first bag is punctured.

**Regulated Waste** refers to:
- Any liquid or semi-liquid blood or other potentially infectious materials.
- Contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed.
- Items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.
- Contaminated sharps.
- Pathological and microbiological wastes containing blood or other potentially infectious materials.
- Waste removal is regulated by federal, state, and local laws.

**Non-Regulated Waste** (does not fit the definition of regulated waste provided above) must be disposed of according to each specific facility's protocol.

**EMERGENCY PROCEDURES:**

**What To Do If You Are Exposed To Bloodborne Pathogens**

SYNERGY employees should use Standard/Universal Precautions when exposure to blood and/or infectious materials is a possibility. Precautions to try to minimize exposure include wearing gloves, splash goggles, facemasks, pocket mouth-to-mouth resuscitation masks, using safety needle/sharp devices (if available) and other barrier devices. If you have an exposure, you are entitled to an immediate confidential medical evaluation as part of post-exposure follow-up. Usually this follow-up takes place at the client facility in accordance with the client's bloodborne
exposure control plan. It may also take place through other arrangements made by your local SYNERGY office and a licensed healthcare professional. Because there are many different types of bloodborne pathogens, the kind of post-exposure treatment you receive may differ and it may matter how soon you receive follow-up treatment.

If you are exposed, however, you should:

- **For sharps injuries:** Wash the puncture site thoroughly with running water and antimicrobial soap as soon as possible for 10-15 minutes. Save any sharps or other items involved for possible testing.

- **Other exposures:** Wash the exposed area thoroughly with soap and running water as soon as possible for 10-15 minutes. Use non-abrasive, antibacterial soap if possible.

- If blood is splashed in the eye or mucous membranes, flush the affected area with running water for at least 10-15 minutes.

- **Immediately after cleaning the exposed area, contact BOTH your facility supervisor and SYNERGY and describe the incident so that you may be provided with appropriate care in a timely manner.** You may be asked to give a blood sample to be tested.

- **Be sure to report the following to your facility supervisor and SYNERGY:**
  1. A contaminated needlestick injury or other cut or puncture
  2. Splashing of blood or other body fluids into your mouth, eyes or nose
  3. Direct contact with a large amount of blood or other bodily fluids
  4. Prolonged contact with blood or other bodily fluids

- Fill out exposure report form according facility protocol and take a copy to your local SYNERGY office.

**Procedures for immediate confidential medical evaluation and post-exposure follow-up:**

- All exposures must be reported to SYNERGY and documented. Exposures will be investigated with the client facility.

- Documentation is to include route(s) of exposure and the circumstances under which the exposure incident occurred. After consent, the exposed Healthcare Associate's blood may be drawn and tested. (If you consent to baseline blood collection, but do not give consent at that time for HIV serological testing, your blood sample will be kept for at least 90 days. If, within 90 days of the incident, you decide to consent to have the baseline sample tested, such testing shall be done as soon as possible, and at no cost to you.)

- Identify and document the source individual unless such documentation is impossible or prohibited by law.

- Test the source individual's blood for bloodborne pathogens as soon possible after consent is obtained (done in coordination with client facility). If the source individual is known to be seropositive for HBV or HIV, testing for that virus need not be done.

- Post-exposure treatment/prophylaxes, when medically indicated, as recommended by the U.S. Public Health Service.

- Counseling and evaluation of reported illnesses by the physician/healthcare professional responsible for post-exposure follow up care or treatment.

- Apart from the circumstances surrounding the exposure itself, all other findings or diagnosis by the health care professional(s) will remain entirely confidential.

- Follow all doctor recommendations for care and follow procedures for testing and treatment.

- Submit all bills to your local SYNERGY office.
Recordkeeping:

- The Bloodborne Pathogen Standard requires that the employer maintain medical records and training records for all eligible employees.

- **Medical Records**: Medical records will not be disclosed or reported without the employee’s written permission except as required by this OSHA standard (29 CFR 1910.30) or as may be required by law. Medical records will remain confidential for the duration of the Healthcare Associate’s employment plus 30 years. Medical records will include, at least, the items listed in 29 CFR 1910.30 (h)(1).

- **Training Records**: SYNERGY will maintain training records relative to the training requirements of the Bloodborne Pathogen Standard. Training records will be maintained for three years from the date on which training occurred. **Training must be completed within 10 working days of initial assignment to tasks where occupational exposure may take place, and at least annually thereafter.** Training records may be made available to the U.S. Department of Labor, upon request and in accordance with the law. Training records will include:
  1) The Healthcare Associate’s name, Social Security Number, and job title;
  2) Dates and a summary of the training sessions; and
  3) Names and qualifications of persons conducting the training. Training at SYNERGY is provided by this self-study learning module. Any questions regarding the material may be addressed to a local clinical SYNERGY staff member. Additionally, registered nurses are available at SYNERGY’s Corporate level (names and telephone numbers are available at your local SYNERGY office) to further assist you.

- **Sharp Injury Log**: According to OSHA letters of interpretation regarding recordkeeping, the client facility (who is in direct control and exercises day-to-day supervision of the work-site) shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in accordance with this standard in a manner as to protect the confidentiality of the injured worker. According to this standard, the sharps injury log shall contain, at a minimum:
  1) The type and brand of device involved in the incident;
  2) The department or work area where the exposure incident occurred; and
  3) An explanation of how the incident occurred.

SYNERGY employees must report sharp injuries to both the client facility and to their local SYNERGY office. The Sharps Injury Log is a requirement separate from the OSHA 200 form (and its replacement the OSHA 300 form).
TUBERCULOSIS

Tuberculosis (TB) is a disease caused by tiny bacteria that are breathed into the lungs called *Mycobacterium tuberculosis*. The bacteria are put into the air when a person with TB disease of the lungs or throat coughs or sneezes. People nearby may breathe in these bacteria and become infected. The bacteria can attack any part of your body, but they usually attack the lungs. **TB infection and TB disease are different.**

**TB Infection**: In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. The bacteria become inactive, but they remain alive in the body and can become active later. This is called TB infection. People with TB infection:

- Have no symptoms
- Do not feel sick
- Cannot spread TB to others
- Usually have a positive skin test reaction (PPD)
- Can develop TB disease later in life if they do not receive preventive therapy

Some people who have TB infection never develop TB disease. In these people, the TB bacteria remain inactive without causing disease. However, in other people, especially people who have weak immune systems, the bacteria become active and cause TB disease.

**TB Disease**: With TB disease, TB bacteria become active and the immune system cannot stop them from growing. The active bacteria begin to multiply in the body and cause TB disease. Some people develop TB disease soon after becoming infected. Other people may get sick later, when their immune system becomes weak for some reason.

Babies and young children often have weak immune systems. People infected with HIV, the virus that causes AIDS, have very weak immune systems. People with the following conditions may also have weak immune systems:

- Substance abuse
- Diabetes mellitus
- Silicosis
- Cancer of the head or neck
- Leukemia or Hodgkin's disease
- Severe kidney disease
- Low body weight
- Certain medical treatments such as corticosteroid treatment or organ transplants

**Symptoms of TB**: Symptoms of TB depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs. **TB in the lungs may cause the following symptoms:**

- Bad cough that lasts longer than 2 weeks
- Chest pain
- Coughing up blood or sputum (phlegm)
- Weakness or fatigue
- Weight loss

(HIV (AIDS) infected individuals may have TB without showing these typical signs and symptoms.)

**High Risk Groups for Contracting TB**: Although anyone can get tuberculosis, some groups are at a greater risk than others. High-risk groups include the following:
Low socio-economic level  
The homeless  
The elderly  
those who live in nursing or retirement homes  
IV drug users  

People with weak immune systems  
those who are HIV positive  
those who are malnourished  
migrant workers  
those who live in areas where the disease is common

How TB is Spread: TB is spread through the air from one person to another. The bacteria are put into the air when a person with TB disease of the lungs or throat coughs, sneezes or laughs. Organisms transmitted in this way can be suspended (held up in the air) for long periods of time and can be spread further by air currents. People nearby may breathe in these bacteria and become infected.

When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow. TB in the lungs or throat can be infectious. TB in other parts of the body, such as the kidney or spine, is usually not infectious. People with TB disease are most likely to spread it to people they spend time with every day, such as family members, friends, and co-workers.

Protecting Yourself from TB Infection: Tuberculosis Precautions are used in addition to Airborne Precautions for patients with known or suspected pulmonary tuberculosis (TB). Other names used for tuberculosis precautions include AFB Precautions, Special Airborne Precautions, and Stop Sign Precautions. Patients with suspected or confirmed TB should be placed in a private room with specially engineered ventilation. A special OSHA-mandated isolation sign may be required.

When a patient is known to have tuberculosis in the stage where it can be spread to others, everyone who enters the patient's room must wear personal protective equipment (PPE), including special respirator masks. Respiratory protective devices are worn to protect the employee from inhaling airborne agents that may be harmful. A respirator mask is not the same thing as a surgical mask.

Facilities will have different respirator masks approved for use, as there are a variety of respiratory protective devices available on the market. Each type of respiratory device has a specific protective value, which means the health care worker must know not only when respiratory protection is required, but also how to choose the respirator for the situation.

OSHA enforces respirator use in healthcare settings and mandates that healthcare workers must wear respirators at the following times:

- When entering the room of a patient with suspected or confirmed TB.
- When performing a high-risk procedure (such as bronchoscopy, sputum induction or gastric washings) on a patient with suspected or confirmed TB.
- When transporting a patient with suspected or confirmed TB.
- When working in a microbiology laboratory that processes TB cultures.
- During an autopsy on a patient with suspected or confirmed TB.
- When entering an isolation room after discharge of a patient with suspected or confirmed TB, or when entering an isolation room where cough-inducing procedures have been performed within 1 hour of a patient's discharge.
- During operative procedures involving a TB patient.

OSHA also requires training on particulate respirator masks, mask fitting and check, maintenance and storage: The respirators provided for your use by client facilities must be certified by the National Institute for Occupational Safety and Health (NIOSH). Because the type of respirator provided to you may vary from site to site, it is the responsibility of each facility to train you on the respirator mask approved for use at the specific facility.

The training you receive at the work-site should include the following:
1) A fit test is required before initial use, whenever a different respirator face-piece is used and at least annually thereafter.

2) The fit test is necessary to determine which respirator model and size you will need and ensures selection of a respirator with minimal face seal leakage.

3) Showing you how to put the respirator on (handle it) and how to check it for proper fit, including positioning and adjusting the straps. A fit test must also be done each time you put the respirator on.

4) When to wear the respirator and why it is necessary.

5) How to maintain, store, and clean the respirator, if applicable.

6) Recognizing when the respirator is not functioning properly.

7) The facility will also ask you to fill out a medical questionnaire to determine if respirator use is medically contraindicated before fit testing and use of respirator.

**Controlling the Spread of TB:** Each facility is required to have a Tuberculosis Control Plan based on an internal risk assessment. The risk assessment is done on a facility wide and department/unit wide basis.

**TB Skin Testing (PPD):** An important way to control the spread of tuberculosis is to find out who has been exposed to the disease. A tuberculin skin test or PPD can help show if there are TB bacteria in your body. It is possible to have a positive tuberculin test (PPD) without being infectious with TB. SYNERGY Healthcare Associates involved in patient care are required to have a tuberculin skin test at initial employment and yearly thereafter unless medically contraindicated.

**Examples of Individuals Who Should be Tested for TB:**

- Those who are infected with HIV
- Live or work in prisons and jails
- Live or work in nursing homes or mental institutions
- Work in health care facilities
- Those living with, or in close contact with, someone who has or may have TB
- Those having any signs of TB
- Come from a country where TB is common
- Use needles to inject drugs
- Those who believe they have been exposed

**TB Skin Testing:** A nurse or other healthcare professional:

- Injects the tuberculin (PPD) skin test material (a harmless protein) under the skin on your arm. (The test material cannot cause TB infection.)
- Checks your skin 2 or 3 days later to see the result. It is very important that you return to have your skin test checked on the day that you are told to do so.

**Meaning of TB Skin Test Results:** If a person has been infected with TB and has either inactive infection or active disease, his or her body will react to the protein used for the skin test. This reaction will cause a small bump to appear under the skin where the test was applied. If the bump is of a certain size, it is a positive test. If there is no bump or a very small bump, the test is considered negative. **You may be told that your skin test is either negative (-) or positive (+). When the TB test is positive (+):**

- More tests may be needed, such as a chest x-ray and possibly other tests to determine if TB disease is present and what kind of treatment is needed. **A positive test does not mean that you have TB disease or that you can infect others.**
- Treatment may be needed: The type of drugs used will depend on whether there is TB infection or TB disease.
- All physician instructions for taking TB pills must be followed. Treating TB can take months and if all of the pills are not taken exactly as instructed, the TB could become drug-resistant and take longer to treat.
+ Please take the Quiz that follows.

INFECTION CONTROL SELF-STUDY LEARNING MODULE POST-TEST
(COVERS BLOODBORNE PATHOGENS AND TUBERCULOSIS)

Bloodborne Pathogens:

1. If you have potential exposure to infectious materials on the job, you may request a vaccine free of charge for which bloodborne disease?
   a. HIV
   b. Syphilis
   c. Hepatitis B
   d. Brucelosis

2. Which of the following materials could contain bloodborne pathogens?
   a. Bloody saliva
   b. Semen
   c. Vaginal secretions
   d. All of the above

3. If you wear gloves when cleaning up blood, it is NOT necessary to wash your hands afterwards.
   a. True
   b. False

4. Bloodborne pathogens may enter your body through:
   a. Open cuts
   b. Skin abrasions
   c. Mucous membranes
   d. All of the above

5. You should always treat all body fluids as if they are infectious and avoid direct skin contact with them.

6. You should never eat or drink in an area where there may be potential exposure to bloodborne pathogens.
   a. True
   b. False

7. Which of the following are examples of personal protective equipment:
   a. Gloves
   b. Masks
   c. Goggles
   d. All of the above

8. If you have blood or potentially infectious materials splashed into your eye, you should flush your eye with clean, running water for
   a. 1 minute
   b. 5 minutes
   c. 10-15 minutes
   d. 1 hour

9. In case of an exposure incident, you must notify both your facility supervisor and your local SYNERGY office as soon as possible:
   a. True
10. Needles should always be recapped by hand.
   a. True  
   b. False

(Continued, Infection Control Self-Study Learning Module Post-Test, page 2)

**Tuberculosis:**

1. Tuberculosis is caused by breathing in tiny particles containing the TB bacteria.
   a. True  
   b. False

2. TB disease and TB infection are the same and mean that you can infect other people.
   a. True  
   b. False

3. A surgical mask can be worn to provide respiratory protection when taking care of a person that has tuberculosis.
   a. True  
   b. False

4. A respirator fit check needs to be done before wearing a respirator mask into a suspected or confirmed TB patient's room.
   a. True  
   b. False

5. Skin testing (PPD) for tuberculosis is an important tool to determine those who have been exposed to TB.
   a. True  
   b. False
BLOODBORNE PATHOGEN FORM (Hepatitis B Form)

I hereby certify that I have been informed by Synergy Medical Staffing of the following:

1. OSHA guidelines regarding Bloodborne Pathogen regulation.
2. Training on Bloodborne Pathogens is provided by the Infection Control Self-Study Learning Module. If you have any questions about the contents of the materials presented, please contact a member of your local office’s clinical staff. You may also contact registered nurses at SYNERGY’s Corporate level for answers and explanations. You may obtain names and phone numbers for registered nurses at the Corporate level from your local SYNERGY office.
3. OSHA exposure classification (please check): ☐ CLASS I ☐ CLASS II ☐ CLASS III
   (Actual exposure) (Potential exposure) (No exposure)

Further, I hereby state that the following is a true statement of the status regarding the series of three (3) Hepatitis B Vaccinations:

☐ Declination Statement: I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring Hepatitis B Virus (HBV) infections. I have been given the opportunity to be vaccinated with Hepatitis B Vaccine at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, SYNERGY will refer me to a proper source so that I can receive the vaccination series at no charge to me.

☐ I have received the series of three (3) vaccinations at the following facility(s) and on the following dates:

1. ___________________________ Date: ________
2. ___________________________ Date: ________
3. ___________________________ Date: ________

☐ I have been informed by SYNERGY, of the facility at which I can receive the Hepatitis B Vaccinations Series and I will report to SYNERGY in a timely manner, the name of the facility(s) and dates of each vaccination which will be documented on this form as follows:

1. ___________________________ Date: ________
2. ___________________________ Date: ________
3. ___________________________ Date: ________

HCA Signature: ___________________________ Title: __________
SS# _____ - ____ -______ Date: _________

Authorization for Release of Medical Records for Post Exposure Evaluation and Follow –Up:

I hereby authorize SYNERGY to release any and all of my medical records to the healthcare professional(s) Providing Post exposure evaluation and follow-up in accordance with OSHA Standard 29 CFR 1910.1030.

Healthcare Associate Signature ___________________________ Date: ________

SYNERGY Representative Signature ___________________________ Date: ________

HCA-126
INFECTION CONTROL SELF-STUDY LEARNING MODULE POST-TEST
(COVERS BLOODBORNE PATHOGENS AND TUBERCULOSIS)

Instructions: A score of 100% is required. If this score is not achieved, please have Applicant or Healthcare Associate review the material on the missed question(s) before retaking that question. The retake answers may be written in next to the missed answer on the answer sheet.

ANSWER KEY

BLOODBORNE PATHOGENS

1. C  
2. D  
3. B  
4. D  
5. A  
6. A  
7. D  
8. C  
9. A  
10. B

TUBERCULOSIS

1. A  
2. B  
3. B  
4. A  
5. A
# APPLICANT/HEALTHCARE ASSOCIATE ANSWER SHEET

## INFECTION CONTROL SELF-STUDY LEARNING MODULE POST-TEST

*(COVERS BLOODBORNE PATHOGENS AND TUBERCULOSIS)*

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### BLOODBORNE PATHOGENS

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### TUBERCULOSIS

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