

SELECT HOME CARE SERVICES INC.
CONTROL OF INFECTION AND COMMUNICABLE DISEASE TRAINING

I. The Infectious Process of Illness and Disease

It's important to understand how illness and disease is spread. By understanding the infectious process we can help prevent or minimize the risk of infection to clients, our co-workers, and ourselves.

The infectious process can be visualized as a continuous circle that has four (4) main components:

- An invading organism that causes the illness/disease.
- The invading organism's host or living environment.
- The invading organism's method of escape and entry to new host.
- The invading organism's survival chances.

A. The Invading Organism

The invading organism is what causes the illness or disease. The organism that causes the initial illness can be a result of a virus, bacteria, fungus, intestinal parasite or other small microorganism. The type of organism causing the illness will determine what specific symptoms, illness, or reactions the infected person will display.

B. The Invading Organism's Host

The next step in the infectious process requires that the invading organism has a "host" or place to live and multiply. There are numerous environments where an organism might live and thrive.

The three general environments are: human beings, animals, and nonhuman/non animal sources. For example: the host for chicken pox is a human being; the host for Lyme Disease is the deer tick; and the host for tetanus is contaminated dirt. For the invading organism to live and thrive the "host" must be "invader friendly."

C. The Invading Organism's Method of Escape and Entry to New Host

For the invading organism to continue the infectious process, it must have a method of leaving the original host and entering a new susceptible host.

Some of these methods are:

- The respiratory tract (which in humans, is how chicken pox and influenza are spread);
- The intestinal tract (examples of illnesses that are spread this way include dysentery or hepatitis A);
- The genitourinary tract (this includes the genital and urinary tract and is how sexually transmitted diseases like gonorrhea and syphilis can be spread.
- Through blood or specific body fluids (which are how hepatitis B and AIDS are spread).
- Through a break in the skin (which is how tetanus is spread).

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D. The Invading Organism's Survival Chances

Whether or not the person is susceptible to the invading organism depends on a number of different criteria including:

- The amount of the invading organism that is present at the time of exposure.
- The length or amount of exposure time to the organism.
- The individual's overall physical and emotional health as well as the body's ability to fight off the infection.

II. Methods of Infection Control

The primary goal of infection control is to prevent or reduce the occurrence of disease by interrupting the infectious disease chain of events. The old saying "an ounce of prevention is worth a pound of cure" still holds true today. Infection control techniques can stop and/or prevent the infectious cycle. Specific infection control practices attempt to break the infectious cycle at each step.

There are a number of preventive infection control methods that are reviewed in this training module:

- Universal Precautions
- Hand Washing
- Protective Barriers
- Environmental Controls
- Immunizations and Vaccines

A. Universal Precautions

Guiding the approach to Infection Control is the concept of Universal Precautions.

Universal Precautions require that all blood and certain body fluids be treated as if they are infected with blood borne pathogens.

Universal precautions were established to decrease the possibility of exposure to blood borne pathogens. Blood borne pathogens are the organisms carried in the blood that can cause some illnesses and diseases. The two main blood borne illnesses that people are most concerned with today are the HIV (Human Immunodeficiency Virus, the virus responsible for AIDS) and HBV (Hepatitis B Virus).

1. Body Fluids to which Universal Precautions apply:

- Blood (blood is the single most important source of blood borne pathogens)
- Body fluids that are visibly contaminated with blood
- Semen, and
- Vaginal secretions.

Although universal precautions apply to the following body fluids, it is highly unlikely that employees of SHC would have exposure to these in the course of their jobs.

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- Synovial fluid (the fluid that surrounds joints);
 - Cerebral spinal fluid (the fluid that surrounds the brain and spinal cord);
 - Pleural fluid (the fluid that surrounds the lungs);
 - Pericardial fluid (the fluid that surrounds the heart);
 - Peritoneal fluid (the fluid that surrounds the intestinal tract);
 - Amniotic fluid (the fluid that surrounds the fetus in the uterus);
 - Breast milk.
2. The following list contains body fluids that do not carry blood borne pathogens unless visibly contaminated with blood. These body fluids can, however, contain infectious organisms that are not carried in the blood.
- Saliva
 - Feces/stool
 - Nasal secretions
 - Tears
 - Urine
 - Vomit and
 - Sputum (sputum is the substance that comes from your lungs when you cough or clear your throat).

Within this training module, the concept of universal precautions is taken a step further. Since the presence of viruses and microorganisms can be hidden or unknown, the concept of universal precautions should be applied whenever there is an anticipated exposure to blood or any body fluid. For example, when cleaning up feces, urine, or vomit, even if not visibly contaminated with blood, the practices of universal precautions should be implemented.

B. Hand Washing

Out of all the infection control practices, the most important technique is thorough and frequent hand washing. It is also one of the cheapest and easiest methods to implement. Thus, proper hand washing is expected as part of the regular routine, even in the absence of recognized disease. For hand washing to be effective it must be done correctly and frequently.

In general, hand washing must occur each time the hands come in contact with someone who is ill, after contact with blood or other potentially infectious materials, and after contact with an object that is potentially contaminated. This includes, but is not limited to the following times:

- After removal of gloves or other protective equipment (Remember, even if you are wearing gloves you must wash your hands. Washing hands and wearing gloves are not substitutions for each other, they are meant to complement each other).
- Before and after medication administration;
- After going to the bathroom;
- After toileting or diapering an individual;
- After contact with an ill person or objects that the ill person has touched

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- Before meal preparation and eating;
- Prior to emptying the dishwasher or setting the table
- Immediately after any contact with blood or body fluids, such as, semen, vaginal secretions, urine, feces, vomit or discharge from the eyes or ears;
- Anytime your hands become soiled.

The standard hand washing procedure is:

1. Turn on and adjust water temperature (the temperature of the water used for hand washing is not as important as the friction used)
2. Wet hands and wrists and lather completely with soap.
3. Rub vigorously for at least 60 seconds. Pay special attention to the fingernails. Germs tend to collect around the cuticles and nails.
4. Be sure to wash between your fingers and up your wrists.
5. Rinse under running water for 10 seconds.
6. Dry hands and wrists thoroughly using a paper towel.
7. Take a clean, dry paper towel and use it to turn off running water so that the clean hands do not touch the dirty water controls.
8. Dispose of paper towels in wastebasket as used.
9. Dry, rough hands may carry infection, so use water based hand lotion after drying hands as indicated.
10. Keep fingernails trimmed and clean.

Note: Waterless cleansers can be used as a substitute if soap and water are not available. Follow instructions on the label.

C. Protective barriers

1. Gloves must be used when an employee's hands may come in contact with blood, other body fluids, other potentially infectious materials, or the employee anticipates contact with any of these. Situations, which mandate the use of gloves, include, but are not limited to:
 - Administering first aid treatment to a cut or wound.
 - Removing and disposing of wound dressing.
 - Brushing or flossing teeth.
 - Cleaning contaminated surfaces.
 - Handling contaminated laundry.
 - Administering vaginal or rectal medications.
 - Administering topical medications.
 - Assisting with menstrual hygiene.
 - Completing physical inspections of the genital area.
 - Completing medical procedures in which there may be contact with blood or other body fluids.
 - Cleaning vomit, feces, or urine
 - Diapering an individual
 - Cleaning equipment used for treatment of anybody area
 - Disposing of tissues contaminated with mucus draining from the eye or nose.

The type of gloves can either be vinyl or latex when providing direct care. They

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must be changed between contacts with each person. Gloves should never be washed; they are intended for single use.

Ensure that the consumer does not have a latex allergy before using latex gloves or other latex personal/health care products. Mild reactions to latex involve skin redness, rash, hives, or itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, and asthma (difficult breathing, coughing spells, and wheezing). Rarely, shock may occur; however, a life-threatening reaction is seldom the first sign of latex allergy.

The procedure for clean (verses sterile) glove use is:

- a. Wash hands.
- b. Gather together any materials needed prior to putting on gloves.
- c. Remove the first glove from box or package touching only the inner wrist edge of the glove.
- d. Place the glove on your hand, minimizing direct skin contact with finger and palm areas of the glove.
- e. Remove the second glove by hooking your gloved fingers on the outer wrist edge of the glove and sliding it up your hand.
- f. Remove gloves prior to leaving the work area and/or if task is interrupted.
- g. Fresh gloves must be used for each person involved and for each procedure.
- h. If gloves become torn, punctured, cracked or peeling, remove and discard them.
- i. Remove and replace contaminated gloves as soon as practical.
- j. Remove the first glove by pulling the outer wrist area over fingertips so it becomes inside out. Avoid direct contact with potentially contaminated areas and discard the glove.
- k. Remove the second glove by grasping the inside wrist part of the glove and pulling it over the fingers so it is inside out.
- l. Discard disposable gloves into a plastic lined wastebasket.
- m. Wash hands thoroughly after gloves are removed.

The only acceptable reason for not using gloves is when an employee makes a judgment that use of protective equipment would cause a delay in an emergency situation that would threaten an individual's life. All such cases will be investigated and documented to determine whether changes could be instituted to prevent such occurrences in the future.

Disposable gloves are located at each site. It is the responsibility of the client or RP to show or explain the location to the employee. The supply of disposable gloves is replenished by SHC on an as needed basis.

Employees will be trained on the procedure for applying sterile gloves as needed. Sterile gloves are used to prevent the introduction of infection to the consumer.

2. Other protective barriers

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When there is a risk of blood or any body fluids spurting or splashing, additional protective barriers should include, but are not limited to:

- a. eye protection (goggles) or a face shield;
- b. a mask that covers the mouth and nose;
- c. gowns;

Masks, protective eyewear, or face shields should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of the mucous membranes of the mouth, nose, and eyes. A mask should never be reused.

When assisting medical or dental professionals with a consumer, an employee needs to wear appropriate protective barriers. As a general rule, SHC employees should wear whatever protective barriers the professional is wearing.

Procedure for full protective apparel:

1. When full protective apparel is needed, first apply a mask, wash and dry hands, apply the gown, then gloves. The glove cuff is pulled over the cuff of a gown.
2. Before removing a mask, remove gloves and wash hands. Dispose of the mask by holding it at the tie, avoiding contact with the soiled surface. Untie the gown at the waist. Remove one glove by grasping the outer part of the cuff and pulling the glove inside out over the hand. Discard the glove. With the ungloved hand, tuck a finger inside the cuff of the remaining glove and pull it off, inside out. Untie the neck strings of the gown. Allow the gown to fall from the shoulders. Remove hands from the sleeves without touching the side of the gown. Hold the gown inside out at the shoulder and fold it inside out. Place reusable gowns in the laundry or disposable gowns in the trash.

d. CPR mask.

The only acceptable reason for not using a CPR mask is when an employee makes a judgment that use of protective equipment would cause a delay in an emergency situation that would threaten an individual's life. All such cases will be investigated and documented to determine whether changes could be instituted to prevent such occurrences in the future.

e. Sharps containers.

A Sharps container needs to be available when needles, lancets, and other sharp medical supplies could be or are used. If a sharps container is not available, a hard plastic or metal container with a screw-on or tightly fitting lid can be temporarily used. This container should be prominently labeled "bio hazardous waste" and local disposal practices should be followed. A glass container should not be used due to the risk of breakage. Needles and other sharp instruments should only be used when medically necessary and

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handled according to recommendations for health care settings (Do not put caps back on needles by hand or remove needles from syringes).

- f. Cuts, sores, or breaks on either the caregiver's or clients exposed skin should be covered with bandages.
- g. Practices that increase the likelihood of blood contact, such as sharing razors and toothbrushes are not allowed.

D. Environmental Controls

Another method used to prevent the spread of illness and disease is called "environmental controls". Our environment (house, refrigerator, car, etc.) can be a potential source of microorganisms that can cause illness or disease. For this reason, it is important that a clean environment is maintained. Usually, routine housekeeping procedures are adequate for maintaining the overall cleanliness of the program. Rubber cleaning gloves can be used for routine cleaning. They should be hand washed with soap, rinsed, and dried between uses.

In the event that an area becomes contaminated with blood, body fluids, or other infectious material, it immediately needs special cleaning and disinfecting procedures to assure the area is decontaminated. This will prevent the infectious process from occurring.

Cleaning and Disinfecting Contaminated Surfaces

Contamination with blood or other body fluids requires special cleaning and decontamination procedures. Objects or surfaces contaminated with blood or any body fluids (this includes vomit, semen, vaginal secretions, and urine) must be cleaned immediately after contamination using the procedure for 1) hard surface cleaning, 2) cleaning surfaces that food contacts, or 3) fabric or carpeted surface cleaning.

Two sets of disposable gloves, worn at the same time, are recommended if gloves may tear while cleaning contaminated surfaces.

1. Cleaning & disinfecting procedure for hard contaminated surfaces:
 - a. Place gloves on both hands. Use goggles, gowns, or masks as appropriate.
 - b. Place disposable paper towels over the spill and then wipe it up. Place the used paper toweling in a securely closed, leak proof bag labeled with the type of contaminate
 - c. Clean area with detergent and warm water. Vigorously clean the contaminated area. (Friction from scrubbing the area helps remove the microorganism.)
 - d. Wash down or spray area with a freshly prepared and labeled solution of 10 parts water to 1 part bleach (or 1 tablespoon of bleach to 1 quart of water).

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- e. Do not rinse.
 - f. Allow to air dry.
 - g. Wash hands thoroughly, after removing protective barriers.
2. Cleaning & disinfecting procedure for contaminated surfaces that have food contact:
- a. Place gloves on both hands. Use goggles, gowns, or masks as appropriate.
 - b. Place disposable paper towels over the spill and then wipe it up.
 - c. Place the used paper toweling in a securely closed, leak proof bag labeled with the type of contaminate.
 - d. Clean area with detergent and warm water. Vigorously clean the contaminated area. (Friction from scrubbing the area helps remove the microorganism)
 - d. Wash down or spray area with a freshly prepared and labeled solution of 10 parts water to 1 part bleach. (or 1 tablespoon of bleach to 1 quart of water)
 - e. If it is an item that can be soaked, soak it in a freshly prepared solution of 1 teaspoon of bleach to 1 quart of water for at least two minutes.
 - f. Allow to air dry for 30 minutes.
 - g. Wipe area with water.
 - h. Wash hands thoroughly, after removing protective barriers.
3. Fabric or carpeted surfaces contaminated with blood or other body fluids should be laundered or dry cleaned whenever possible. If this is not possible, the following procedure shall be used:
- a. Place gloves on both hands. Use goggles, gowns, or masks as appropriate.
 - b. Place disposable paper towels over the spill and then wipe it up. Place the used paper toweling in a securely closed, leak proof bag labeled with the type of contaminate.
 - c. Clean area with soap and cold water.
 - d. A fabric or carpet-cleaning product may be used.
 - e. Spray with Lysol following cleaning.
 - f. Wash hands thoroughly, after removing protective barriers.
4. Cleaning Contaminated Laundry
- All laundry contaminated with blood, body fluids visibly contaminated with blood, semen, and vaginal secretions should be handled with gloves and bagged at its place of origin. If the item cannot be washed immediately the bag should be labeled with the person's name and the type of contaminate (blood, semen.) This identification will signify to others that this laundry is contaminated and contaminated laundry procedures must be followed.
- Laundry must be handled as little as possible and with a minimum of agitation to prevent exposure to the person handling the laundry. The procedure for washing contaminated laundry is:
- a. Use gloves when handling unwashed contaminated laundry. Use goggles, gowns, or mask as appropriate.
 - b. Prevent the laundry from contacting your skin or clothing.

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- c. Wash contaminated laundry separate from other laundry.
- d. Soak and/or wash in cold water with detergent for 10 minutes if needed for stain removal.
- e. One half-cup Clorox bleach may be added per load of laundry if allowable according to clothing manufacturer's recommendations or a clothing detergent containing a bleach component (whenever possible, wash the clothing at a temperature of at least 140°)
- f. Laundry should be dried in clothes dryer whenever clothing manufacturer's recommendation permits.

E. Vaccines

Another infection control preventive practice is the use of vaccines, which render a person immune or resistant to a specific disease. Today people commonly receive vaccines (both oral and injectable) that provide immunity to numerous diseases. Some of the more common vaccines are:

- DPT vaccine or TD vaccine (Diphtheria, Pertussis and Tetanus or Tetanus diphtheria)
- MMR vaccine (Measles, Mumps and Rubella)
- Hepatitis B vaccine series
- Polio vaccine
- Varicella (To prevent Chicken Pox)
- HIB (Haemophilus Influenza B)

The Hepatitis B vaccine series is a vaccine that may be administered after someone has been exposed to the disease or to someone who works with a high-risk population. The process consists of a series of three injections including an initial shot, the second dose one month after the first, and the third dose six months after the initial dose. By beginning the vaccination process, a person's chance of developing the disease may be reduced even after the first injection, or it may lessen the effects of the illness if they lack immunity or protection from the disease.

To summarize, infection control procedures, when implemented properly, help to prevent and/or dramatically reduce the spread of illness and disease. It is important to remember that constant awareness and implementation of the information in this training module will help maintain a healthy, low risk living and working environment.

III. Accidental Exposure Incidents

In the course of an employee's job duties they may be "exposed" to a person's blood or certain body fluids. When we use the term "exposed" in a job setting, we are talking about an individual's blood or certain body fluids getting in the eyes, mouth or nose of another person or on the skin where there is a wound or break in the skin. As was discussed earlier, the two main blood-borne diseases that can be transmitted this way are HBV (Hepatitis B virus) and HIV (Human Immunodeficiency Virus).

The Occupational Health and Safety Administration (OSHA) have published a

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regulation regarding exposure to blood borne pathogens in the work place.

A copy of the regulatory standard is in the Policy Manual located at the main office and at most work sites. Provisions of the standard are contained within this Infection Control Training Module.

Additional OSHA requirements are:

A. Exposure Determination Form

1. A site-specific document that delineates all tasks and procedures, which may present an occupational exposure.
2. Each employee will view and receive an explanation of the Exposure Determination Form specific to the site she/he is working.
3. The Exposure Determination Form is contained in the Careplan in the client's home.

B. Exposure Control Plan

1. Designed to eliminate or minimize employee exposure to blood borne pathogens.
2. Contains the a) Exposure Determination, b) Schedule and Method of Implementation for methods of compliance, hepatitis B vaccine and post exposure follow up, communication to employees and record keeping and c) procedure for evaluation of circumstances surrounding exposure incidents.
3. The Exposure Control Plan is contained in the clients care plan and at the main office.

C. If an Exposure Incident Occurs:

1. Immediately wash hands and contact area with soap and water. If mucous membranes (moist pliable layer of tissue in mouth, nose, and around eyes) or eyes are the contact area, flush with water only.
2. Notify Theresea Beardsley the QP/RN at the office and inform her that an exposure has occurred.
3. Complete an "Exposure Incident Form."
4. Complete the employee section of the "Post Exposure Medical Evaluation Form"
5. Call your physician and schedule a medical evaluation and Hepatitis B vaccination within 24 hours of incident. The evaluation will be at no cost to the employee.

If a physician is unavailable, the administrative employee will provide direction to a hospital from which to obtain the medical evaluation and vaccination.

6. Provide to the health care professional:
 - a. A copy of the OSHA regulations
 - b. The "Post Exposure Medical Evaluation Form"

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- c. Consent needed for HIV screening and HBV treatment
- D. Medical Evaluation and Follow Up will be available at no cost following the report of an exposure incident. It will include:
 - 1. A Medical evaluation by a licensed Health Care Professional.
 - 2. Identification and documentation of the source individual.
 - 3. Results of the laboratory data of the source individual.
 - 4. Post exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service
 - 5. Counseling to the exposed employee.
 - 6. Evaluation of reported illnesses of the exposed employee.
 - 7. The results of the evaluation and any medical condition resulting from exposure to blood, which may require further evaluation or treatment. The employee will receive a copy of the completed "Post Exposure Medical Evaluation and Follow Up."