

Infection Control and Standard Precautions

Study Objectives

Directions: Review these chapter objectives and their explanations to help you study the contents of Chapter 11.

- ❖ **Identify four primary types of microorganisms.**
The four major types of microorganisms are bacteria, viruses, fungi, and protozoa.
- ❖ **Identify the five methods of infectious disease transmission.**
Methods of disease transmission include contact, airborne, droplet, common vehicle, and animal (vector-borne) transmission.
- ❖ **Follow standard precautions and transmission-based precautions.**
Health care workers are required to treat all patients as if they are infected with a bloodborne pathogen. Standard precautions include handwashing and the use of personal protective equipment to prevent the transmission of disease to yourself or other patients.
- ❖ **Demonstrate handwashing according to standard precautions.**
Handwashing is the most effective infection control measure available. You should wash your hands before and after every procedure and any contact with a patient, even if you wear gloves during patient contact.
- ❖ **Put on and remove personal protective equipment according to standard precautions.**
Personal protective equipment includes disposable gloves, gowns, masks, and protective eyewear. Put on each item in such a way that you do not transmit disease from contaminated portions of the PPE to your hands or clothes.
- ❖ **Care for patients in isolation using proper isolation precautions.**
Isolation precautions include all of the standard precautions, plus extra precautions such as using disposable personal care items whenever possible and taking extra care to dispose of contaminated waste appropriately.
- ❖ **Identify some infectious diseases and their methods of transmission.**
Diseases transmitted by bacteria include staph infections, strep throat, and infectious pneumonia. Virally-transmitted infectious diseases include hepatitis, mea-

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sles, herpes, and AIDS. Fungi can cause athlete's foot, yeast infections, and fungal toenail. Protozoan infections include gastroenteritis and malaria.

❖ **List the employer's responsibilities under OSHA's Bloodborne Pathogen Standard.**

The employer must develop a written exposure control program; provide special training at no charge for all employees about the facility's plan and what to do if an incident occurs; provide hepatitis B vaccine free to all employees who come into contact with patients' blood and body fluids; use environmental and work practice controls to eliminate or reduce worker exposure to bloodborne pathogens; provide hazard communication to warn employees of potentially hazardous material exposure; develop written cleaning schedules and decontamination procedures; provide handwashing facilities that are easily accessible to employees; provide PPE at no charge to all employees who may come into contact with blood and other body fluids; offer post-exposure evaluation and counseling and follow-up medical testing for workers who experience needlesticks or other exposures; and maintain confidentiality of employees who have had an exposure incident.

❖ **Describe strategies for maintaining health and reducing exposure risk.**

You can take charge of your health maintenance and reduce your risk of exposure by covering any cuts or open sores with a clean, waterproof bandage before reporting to work. Notify your supervisor if you have flu symptoms, if you are running a fever, or if you are coughing or sneezing. Keep your fingernails clean and short, and do not wear artificial nails. Handle razors and other sharps carefully. Dispose of all sharps in special sharps containers. Maintain a barrier, such as gloves, masks, and gowns, between yourself and an infection. Finally, be sure to have the appropriate vaccinations as required by your employer or state.

Vocabulary Review

Matching Exercise 1

Directions: Match the letter of each definition in the second column with the correct vocabulary term in the first column.

Term	Definition
_____ 1. Centers for Disease Control and Prevention (CDC)	A. A living plant or animal that is too small to be seen without magnification
_____ 2. chain of infection	B. A microorganism that causes disease or infection
_____ 3. host	C. A microorganism that does not cause disease or infection
_____ 4. immunity	D. A disease caused by a group of pathogenic microorganisms that invade and multiply within the body
_____ 5. infection	E. A nonhuman living organism that transmits pathogens
_____ 6. infectious diseases	F. A person who harbors pathogens
_____ 7. microorganism	G. The series of six conditions that together produce infection

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|--------------------------------|--|
| _____ 8. noninfectious disease | H. Diseases that are transmitted from one person to another through the chain of infection |
| _____ 9. nonpathogen | I. A disease that cannot be transmitted from one person to another |
| _____ 10. nosocomial infection | J. Any environment that allows a pathogen to live and grow |
| _____ 11. pathogen | K. The body's resistance to a particular disease |
| _____ 12. reservoir | L. An infection that a patient acquires while in a health care facility |
| _____ 13. vector | M. A division of the U.S. government agency that works to protect the public health |

Matching Exercise 2

Term	Definition
_____ 1. antisepsis	A. The body's built-in defense mechanism
_____ 2. asepsis	B. Infection control guidelines used for patients with highly contagious infections
_____ 3. autoclave	C. Using chemicals to kill pathogens or to stop their growth
_____ 4. bloodborne pathogen	D. The practice of completely eliminating microorganisms
_____ 5. body fluids	E. A cleaning process that uses strong chemicals to kill most pathogens
_____ 6. disinfection	F. A pressurized steam sterilizer
_____ 7. inflammatory response	G. The use of extremely high temperatures to kill pathogens, non-pathogens, and spores
_____ 8. isolation precautions	H. Sputum, semen, mucus, vaginal excretions, urine, feces, blood, saliva, tears, vomit, sweat, cerebrospinal fluid, amniotic fluid, breast milk, and excretions from wounds
_____ 9. medical asepsis	I. A set of infection control guidelines designed to minimize the risk of transmitting microorganisms and disease
_____ 10. standard precautions	J. A disease-causing organism found in blood or other body fluids
_____ 11. sterilization	K. Guidelines to follow to prevent the spread of infectious diseases
_____ 12. surgical asepsis	L. The practice of minimizing or reducing the spread of pathogens
_____ 13. transmission-based precautions	M. The condition of being free of pathogens

Check Your Knowledge

Directions: Answer each question in the space provided.

1. What five conditions help most microorganisms thrive?

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2. Name the six conditions that make up the chain of infection.

3. Name five of the body's defenses against disease.

4. Why is handwashing considered an important method of preventing the spread of microorganisms?

5. When might a mask need to be changed in the middle of a procedure?

Think About the Issues

Directions: Respond thoughtfully to each of the following questions. Write your answers in the space provided.

1. Many families try to care for patients with Alzheimer's disease at home. Do you think it is better to care for these patients at home or in a health care facility? Why?

2. Health care work can be dangerous if you do not follow standard precautions and safety rules. If you knew a fellow worker was acting irresponsibly about health precautions, what would you do?

Check Your Skills

Work through the procedure checklists on the following pages as directed by your instructor. If you are working alone, check each task box that applies. In the columns to the right of each step, check **Yes** if you are confident that you have performed the step correctly. Check **No** if you are unsure or think you need more practice with that step. Have your instructor sign off at the bottom of the procedure when you have completed it successfully.

Procedure **11-1**



Standard Precautions: Handwashing

Standard Precautions

- Handwashing
 Gloving
 Gowning
 Masking

Introductory Tasks

- Gather Equipment
 Identify/Introduce/Explain
 Provide Privacy

	Yes	No
1. Push your watch up your arm or remove it. Push your sleeves at least 4 inches above the wrist.	___	___
2. Using a dry paper towel, turn on the faucet. Make sure your hand does not come in direct contact with the faucet or sink. Adjust the water until it is warm. Dispose of the paper towel.	___	___
3. Wet your hands and forearms with water. Keep your fingertips pointed up or down, according to facility policy.	___	___
4. Take the soap from a dispenser. Use enough soap to create lots of lather.	___	___
5. With your hands pointed downward so water does not run up your arm, rub your hands together in a circular motion. The act of rubbing your skin together creates friction, which loosens microorganisms. Rub vigorously for a minimum of 15 seconds. Clean back of hands, between fingers, and each wrist. Clean under your fingernails and around each nail.	___	___
6. Rinse your hands with warm running water. Continue to hold your hands down, allowing water to flow off the fingertips. Remove all soap from your hands.	___	___
7. Dry your hands and wrists with a paper towel. Do not shake fingers or hands.	___	___
8. Discard the paper towel without touching the waste container.	___	___
9. Turn off the faucet with a clean paper towel and discard the towel immediately. Make sure your uniform, hands, and wrists do not directly touch the faucet or sink.	___	___

Procedure Completed _____ **Date** _____

Notes: _____

Procedure 11-2



Standard Precautions: Gloving

Standard Precautions

- Handwashing
 Gloving
 Gowning
 Masking

Introductory Tasks

- Gather Equipment
 Identify/Introduce/Explain
 Provide Privacy

	Yes	No
1. Remove your jewelry.	___	___
3. Slip your hands into the gloves, one hand at a time. Be careful not to tear the gloves. If your facility requires that you use double gloves, place a second pair of gloves over the first pair.	___	___
4. Do not wear torn gloves. Inspect your gloved hands before administering patient care. If holes or defects are seen, replace torn gloves immediately.	___	___

Removing Gloves:

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|--|-----|-----|
| 1. The outside of the glove is contaminated. Do not touch any part of your own skin with a gloved hand. | ___ | ___ |
| 2. Pinch the outside of one glove at least 1 inch below the cuff. | ___ | ___ |
| 3. Pull the glove down and over your hand so that the glove is inside out. | ___ | ___ |
| 4. Hold the glove completely inside the other (gloved) hand. | ___ | ___ |
| 5. Place two fingers of the ungloved hand inside under the cuff of the glove. | ___ | ___ |
| 6. Pull the glove down and over the hand, so that the first glove is completely inside the second glove. | ___ | ___ |
| 7. Dispose of the gloves in an appropriate waste container. | ___ | ___ |
| 8. Wash your hands. | ___ | ___ |

Procedure Completed _____ Date _____

Notes: _____

Procedure 11-3



Standard Precautions: Gowning

Standard Precautions

- Handwashing Gloving Gowning Masking

Introductory Tasks

- Gather Equipment Identify/Introduce/Explain Provide Privacy

	Yes	No
1. Remove all jewelry and watches. Roll up your sleeves.	___	___
3. Hold the clean gown in front of you so it unfolds. Do not shake the gown.	___	___
4. Slip your hands and arms through the gown, making sure the gown completely covers the front of your uniform.	___	___
5. Tie the neck strings or fasten with the adhesive strip.	___	___
6. Grasp the edges of the gown at the waist and pull to the back.	___	___
7. Overlap the back of the gown. Tie the waist strings in the back.	___	___
8. Make sure the back of your uniform is completely covered.	___	___
Removing the Gown:		
1. Untie the waist strings.	___	___
3. Untie the neck strings or unfasten the adhesive strip. Do not touch the outside of the gown.	___	___
4. Pull the sleeves off by grasping each shoulder of the gown at the neck line on the outside of the gown.	___	___
5. Roll the gown up away from you, turning it inside out as arms are removed.	___	___
6. Grasp gown by the inside of the shoulder seams and fold it inside out, bringing the shoulders together.	___	___
7. Roll the gown up with the inside out.	___	___
8. If paper, dispose of the gown in a waste container. If cloth, put it in the appropriate container for washing.	___	___
9. Remove your gloves.	___	___
10. Wash your hands. Use a dry paper towel to open the door.	___	___

Procedure Completed _____ **Date** _____

Notes: _____

Procedure **11-4**



Standard Precautions: Masking

Standard Precautions

- Handwashing
 Gloving
 Gowning
 Masking

Introductory Tasks

- Gather Equipment
 Identify/Introduce/Explain
 Provide Privacy

	Yes	No
2. Pick up the mask by the ear loops or upper ties.	___	___
3. Place the mask over your nose and mouth, making sure that both are covered. Never walk around hallways with a dangling mask.	___	___
4. Pull the loops or upper strings over your ears. Tie the strings in the back securely at the crown of your head.	___	___
5. Grasp bottom portion of mask and spread mask to cover below chin.	___	___
6. Tie the bottom strings at the back of your neck. If you wear glasses, the mask should fit snugly over your nose and under the bottom of the glasses.	___	___
7. Pinch to mold the metal strip over the bridge of your nose.	___	___
8. Wash your hands.	___	___
Removing the mask:		
1. Wash your hands. (Always remove gloves before removing mask.)	___	___
2. Untie the lower strings first, then the upper strings.	___	___
3. Bring the strings together in front of your face. Do not touch the inside of the mask.	___	___
4. Dispose of the mask in a waste container.	___	___
5. Wash your hands.	___	___

Procedure Completed _____ **Date** _____

Notes: _____

