

Infection Prevention

Terminology Defined

1. **Asepsis** – being free of disease-producing microorganisms.
2. **Biohazardous waste** – refers to items that are contaminated with blood, body fluids, or body substances that may be harmful to others.
3. **Bloodborne Pathogens:** Disease causing microorganisms that are present in human blood and can cause disease in humans; these pathogens include but are not limited to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and Hepatitis C Virus (HCV).
4. **Contaminated** – dirty, unclean, soiled with germs.
5. **Disinfection** – the process of destroying most, but not all, pathogenic organisms.
6. **Exposure incident** – a mucous membrane, non-intact skin, or sharps-injury contact with blood or potentially infectious materials that results from the performance of an employee's duties.
7. **Fomite** – any object contaminated with germs, and able to transmit disease.
8. **Germ** - a microorganism, especially one that causes disease.
9. **Isolation** – an area where the resident with easily transmitted diseases is separated from others.
10. **Medical Asepsis** – the practice used to remove or destroy pathogens and to prevent their spread from one person or place to another person or place, clean technique.
11. **Microorganisms** – living bodies so small, they can only be seen with the aid of a microscope, especially bacteria.
12. **Pathogen** – a microorganism that is harmful and capable of causing an infection.
13. **Personal Protective Equipment (PPE)** – specialized clothing or equipment worn by an employee for protection against a hazard.
14. **Phagocyte** – a cell that can ingest bacteria, foreign particles and other cells.
15. **Other Potentially Infectious Materials (PIM):**
 - Human body fluids: semen, vaginal secretions, cerebrospinal fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, and saliva in dental procedures.
 - any tissue or organ (other than intact skin) or tissue or organ cultures.
16. **Standard Precautions** – Centers for Disease Control and Prevention (CDC) procedures contain two tiers:
 - Standard Precautions are those designed for the care of all residents, regardless of their diagnosis or presumed infection status. Standard Precautions include setting up barriers to prevent contact with blood, blood serum derived from body fluids, fluids that contain blood, and any moist body substances.
 - Transmission-Based Precautions are to be used when caring for only those residents who are known or suspected to be infected or colonized with contagious pathogens that can be transmitted by airborne, droplet transmission, or contact with skin or contaminated surfaces.
17. **Virus** - the smallest organism identified using an electron microscope.

Unit 5 – Infection Prevention		
Objectives	Content	Learning Activities
	Infection Transmission	
5.0 Apply the basic principles of infection control.	Microorganisms – germs 1. Microscopic-seen with the aid of a microscope 2. Surround us (a) In air (b) On our skin and in our bodies (c) The food that we eat (d) On every surface we touch 3. Some germs cause (a) Illness (b) Infection (c) Disease 4. Some germs benefit us by maintaining a balance in our environment and in our body 5. Require certain elements to survive: (a) Oxygen – aerobic (b) No oxygen – anaerobic (c) Warm temperatures (d) Moisture (e) Dark area to grow (f) Food 6. Body defenses (a) External natural defenses (1) Skin acts as mechanical barrier (2) Mucous membrane (3) Cilia – fine microscopic hairs (4) Coughing and sneezing (5) Hydrochloric acid in stomach (6) Tears (b) Internal natural defenses (1) Phagocytes (2) Inflammation (3) Fever (4) Immune response	Have the class list ways in which nonpathogenic organisms benefit man: 1. Cultured milk products 2. Fermentation 3. Cause bread to rise 4. Decomposition of organic materials

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5.1 Identify how diseases are transmitted 5.1.1 List the six links of the chain of infection	7. Chain of infection Link #1 Causative Agent A harmful germ that causes an infection (Examples: bacteria, a virus, a fungus, or a parasite.) Link #2 Reservoir Place where harmful germs live, grow, and increase in numbers (a home for germs) When reservoir is a person, harmful germs may live and multiply in: (a) Blood (b) Skin (c) Digestive tract, such as the mouth, stomach, and intestines (d) Respiratory tract, such as the nose, throat, or lungs (Examples: a person, an animal, dirt, water, or other places in the environment.) Link #3 Portal of Exit Any way or route that harmful germs escape from the reservoir: (a) The nose and mouth – harmful germs exit the body in mucous droplets and saliva (b) The gastrointestinal tract – harmful germs exit the body in stool or vomitus (c) Skin – harmful germs exit the body through direct contact, or in blood, pus, or other liquids that come from inside the body Link #4 Mode of Transportation Harmful germs travel by direct contact with body fluids where germs live such as: Germs on hands after coughing, sneezing, wiping nose, or using the restroom and then spreading the germs to someone else or to an object that someone else might touch. Touching blood, infected wounds, stool, or vomitus of infected person, and you do	Have class members select a causative agent and illustrate the chain of infection. Have the class relate the human immunodeficiency virus (HIV), also called acquired immunodeficiency syndrome (AIDS) to portals of entry and exit.

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	not clean hands properly before going to the next resident or before touching something that someone else might touch. Another way harmful germs travel is by indirect contact with body fluids where germs live such as: (a) Blood (b) Sputum (mucous that is coughed up) (c) Pus or fluid (from a cut or sore) (d) Saliva (e) Stool (f) Vomitus (g) Animal and insect bites; an insect or animal bites an infected person or animal and then bites a new person or animal and shares the infection (h) Eating or drinking food or water that is infected with harmful germs Link #5 Portal of Entry Any opening on a person's body that allows harmful germs to enter Germs can usually get in the same way they got out Portals of entry are also portals of exit Portals of entry include: (a) Nose and mouth – person breathes in harmful germs (b) Gastrointestinal tract – when person eats food or drinks liquids that have harmful germs in them (c) Breaks in skin that allow harmful germs to enter, such as open sore, cut, needle stick, and cracked skin Link #6 Susceptible Host Person who does not have an infection now, but is at risk for becoming next person to get infected from harmful germs Susceptible host is a person whose body for some reason cannot fight off infection	Have the class discuss and give examples of the various modes of transmission of disease.

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	Some of the reasons why a person's body cannot fight off an infection include the following: (a) Age (b) Chronic illness (c) Not having proper vaccinations (d) Open cuts and skin breakdown (e) Fatigue (f) Poor nutrition (g) Stress	
	Medical Asepsis	
5.2 Define medical asepsis 5.2.1 Identify practices one can use to promote medical asepsis	Practices used to remove or destroy microorganisms and to prevent their spread from one person or place to another person or place. Also called clean technique. Practices to promote medical asepsis in personal life and work setting: (a) Washing hands after use of bathroom (b) Washing hands prior to handling food (c) Washing fruits and vegetables before serving or consuming (d) Providing individual personal items for each resident during feeding (e) Covering the nose and mouth prior to coughing, sneezing, or blowing nose, and then immediately washing hands (f) Bathing, washing hair and brushing teeth on a regular basis (g) Washing cooking and eating utensils with soap and water after each use (h) Adhering to sanitation practices (i) Washing hands after feeding each resident (j) Washing hands prior to feeding a resident (k) Washing hands before meals (l) Maintaining a clean resident unit (m) Cleaning all reusable equipment after use (n) Using approved waterless hand cleaner	Have the class relate practices to promote medical asepsis to other areas of employment (teachers, food workers, sales people, etc.).

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	(o) Do not sit on resident's bed (p) Do not transport equipment from one resident's room to another	
	Standard Precautions - CDC procedures to prevent and control infections	
5.3 Demonstrate an understanding of the basic principles of Standard Precautions	Use for the care of all residents Precautions (a) Feeding Assistant should not touch blood, body fluids, secretions, or excretions. (b) Immediately report all incidences of contact with blood, body fluids, secretions and excretions to nurse supervisor.	
5.3.1 Identify the reasons for washing hands frequently and using good technique 5.3.2 Demonstrate proper handwashing technique	Handwashing Techniques 1. Equipment (a) Sink (b) Running water (warm) (c) Soap dispenser (d) Paper towels (e) Waste container 2. Reasons for handwashing (a) Everything you touch contains germs (b) Handwashing is one of the most effective ways of controlling infection if done properly (c) Prevents cross contamination (d) Prevents growth of and washes away many microorganisms on skin (e) Handwashing must be done prior to and after feeding assistance 3. To properly wash your hands: (a) Warm running water should be used (b) Use clean paper towels to turn hand-operated faucets off (c) Avoid touching the soap dish when using bar soap (d) Hold hands and forearms lower than the elbows during the procedure	

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	4. Give frequently missed areas added attention: (a) Sides of hands (b) Knuckles (c) Thumbs (d) Little fingers (e) Under nails (f) File used for cleaning (g) Tips of fingers rubbed against palms 5. For handwashing to be effective: (a) Use enough soap to produce a lather (b) Use friction – vigorous rubbing (c) Rinse well 6. Use a brush to remove resistant substances Use a lotion after cleaning to: (a) Prevent chapping (b) Prevent dry skin	
	Procedure – Hand Hygiene (Handwashing) (a) Wash with soap and water immediately or as soon as feasible following contact with blood or other potentially infectious materials.	Demonstration: Performance Checklist #2 Hand Hygiene (Handwashing) Return demonstration of handwashing technique
	Use of alcohol gels (a) If there has been no exposure to blood or potentially infectious materials, antiseptic hand cleaners may be used as an appropriate handwashing practice.	