

Infection Control Education

Learning Objectives

After reviewing this document, you should have an: understanding of current Geisinger methods to prevent and control the transmission or acquisition of disease in the hospital environment, including:

- Explaining the importance and opportunities for hand hygiene.
- Citing the types of isolation
- Describing OSHA regulations

Purpose of Infection Control in a Hospital Environment

Geisinger Infection Control strives to improve the quality of care by protecting all individuals (patients, healthcare workers, family members and visitors) from hospital acquired infections and to comply with regulatory requirements regarding infection prevention and control.

Common Definitions

Colonization: presence of microorganisms in or on a host with growth but without tissue invasion or damage

Infection: entry of an infectious agent in the tissues of the host that multiplies and creates symptoms

Contamination: presence of microorganisms on inanimate objects (e.g., clothing, surgical instruments), on skin or in substances (e.g., water, food, milk)

Chain of Infection Transmission of Disease

Organism

- Bacteria / Viruses / fungi

Reservoir

- Location the organisms on a human or objects

Portal of exit

- Movement of the organisms from the reservoir

Transmission

- Placement of the organisms from the reservoir to a new location

Portal of entry

- Organism gaining entry to an area not previously habited

Vulnerable Hosts

- Patients or visitors that susceptible to harm if introduced to a non-native organism

Modes of Transmission

Transmission of organism occurs by:

1. Direct contact by touching the organism
 - Contact with organism by direct touch of an infectious person
 - Contact with contaminated environment
2. Contact with large droplets produced through coughing or sneezing
 - Contact with organism from person producing infectious droplets
 - Contact with contaminated environment from person producing infectious droplets
3. Breathing in small droplets that remain in the air for extended amounts of time
 - Breathing contaminated air by person producing small infectious droplets

Methods of Prevention

Hand Hygiene

- Five Moments of Hand Hygiene
- Appropriate hand hygiene

Organism specific transmission precautions

- Standard Precautions
- Contact Isolation
- Droplet Isolation
- Droplet with eye protection Isolation
- Airborne Isolation

Hand Hygiene

1. Before Patient Contact
 - When? Clean your hands before touching a patient when approaching him/her
 - Why? To protect the patient against harmful germs carried on your hands
2. Before Aseptic Task
 - When? Clean your hands immediately before any aseptic task
 - Why? To protect the patient against harmful germs, including the patient's own germs
3. After Body Fluid Exposure Risk
 - When? Clean your hands immediately after an exposure to body fluids (and after glove removal)
 - Why? To protect yourself and the health-care environment from harmful patient germs
4. After Patient Contact
 - When? Clean your hands after touching a patient and his or her immediate surroundings when leaving
 - Why? To protect yourself and the health-care environment from harmful patient germs
5. After Contact with Patient Surroundings
 - When? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even without touching the patient
 - Why? To protect yourself and the health-care environment from harmful patient germs

If hands are not visibly soiled, use of an alcohol-based hand rub is acceptable.

When hands are visibly soiled or organism specific transmission precautions are implemented, wash of hands with soap and water.

- Use of alcohol-based hand rub when organism specific transmission precautions are implemented can spread risk for disease.

Standard Precautions

- Standard precautions should be used with all patients when contact with blood, body fluids, mucous membranes or non-intact skin is anticipated.
- Appropriate personal protective equipment should be worn when exposure risks are possible.
- Equipment must be cleaned appropriately before and after patient use
- Linen should be handled properly to prevent contamination of the clothing and environment. Dispose soiled linen at the point of use.

Isolation Precautions

Contact Precautions

- Carefully read all information on isolation sign and perform necessary tasks prior to entering and exiting the patient environment.
- Supplies for compliance should be available outside the patient environment.
- Ask GHS employee for clarification as needed.

Special hand washing instructions

- Carefully read all information on isolation sign and perform necessary tasks after exiting the patient environment.
- Ask GHS employee for clarification as needed.

Droplet Precautions

- Carefully read all information on isolation sign and perform necessary tasks prior to entering and exiting the patient environment.
- Supplies for compliance should be available outside the patient environment.
- Ask GHS employee for clarification as needed.

Droplet Precautions with Eye protection

- Carefully read all information on isolation sign and perform necessary tasks prior to entering and exiting the patient environment.
- Supplies for compliance should be available outside the patient environment.
- Ask GHS employee for clarification as needed.

Airborne Precautions

- Carefully read all information on isolation sign and perform necessary tasks prior to entering and exiting the patient environment.
- Supplies for compliance should be available outside the patient environment.
- Ask GHS employee for clarification as needed.

NOTE: Annual fit testing with appropriate mask, according to manufacturer, **MUST** be performed prior to entry in to Airborne isolation.

OSHA Regulations

Eating, drinking, applying cosmetics, and handling contact lenses are prohibited in work areas where there is reasonable likelihood of occupational exposure with blood or body fluids. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or countertops or bench tops where blood or other potentially infectious materials are present. Eating or drinking during patient rounds is prohibited.