Spread of Microorganisms

Microorganisms enter and leave the human body through the eyes, nose, mouth, rectum, vagina, and urethra. They also enter and exit by way of the bloodstream and through mucous membranes, and broken skin. When a microorganism leaves the body, it can be transmitted to another person. Microorganisms spread in the following ways:

- Direct contact: touching the infected person
- Indirect contact: touching an object that has been in contact with pathogens
- Droplet: inhaling fine drops of moisture caused by talking, sneezing, or coughing
- Airborne: inhaling pathogens that are floating in the air
- Vehicle: entering the body in food, water, blood or medication that contains pathogens.

Infection can be spread by a carrier. A carrier is a person who has the pathogen but has no signs or symptoms of infection. The carrier can give the pathogen to others who may become infected.

The Immune System

The body’s immune system attacks invading microorganisms and helps protect against infection. We are always in contact with pathogens. However, because the immune system is working, an infection does not always develop. Poor nutrition, lack of rest, stress, chronic illness, and chemotherapy (a treatment for cancer) can weaken the immune system and make the resident less able to fight infection. A weakened immune system makes a person susceptible to disease. *Susceptible* means having an increased risk of developing an infection.

**Signs and Symptoms of Infection**

An infection may be localized (located in one part of the body), or generalized (affecting the entire body). Signs and symptoms of localized infection are redness, swelling, heat, drainage, and pain. Signs and symptoms of generalized infection are fever, headache, fatigue, increased pulse and respirations, nausea, and vomiting.

It is important to observe for and recognize signs and symptoms of infection and to report them immediately to the nurse. The resident’s verbal complaints are as important as the signs that you can see.

**Preventing the Spread of Infection**

**Asepsis**

*Asepsis* is the absence of pathogens. When asepsis is practiced, clean procedures prevent the spread of pathogens and lower the risk of infection. When something is clean, it is free of pathogens.