



# Understanding the Spread of Disease

Infants and young children in child care have an increased rate of certain infectious disease and an increased risk of getting antibiotic-resistant organisms. Prevention of infectious disease in the child care setting will help families and child care providers improve their quality of life and save time, health care costs, and lost work.

## What Is a Communicable Disease?

Illnesses caused by infection (invasion of the body) with specific germs such as viruses, bacteria, fungi, and parasites are called *infectious diseases*. *Communicable diseases* are those illnesses that can be spread from one person to another either directly or indirectly. Infectious diseases that commonly occur among children are often communicable and may spread very easily from person to person.

Most illnesses are contagious before their signs and symptoms appear. Some people may pass the germs without having the symptoms or continue passing them even after recovering from the illness.

## Why Do Children in the Child Care Setting Have More Illnesses?

Anyone at any age can be infected with communicable illnesses, but young children are at greater risk because:

- They have not yet been exposed to many of the most common germs. Therefore, they have not yet built up resistance or immunity to them.
- They also have many habits that promote the spread of germs. For example, they often put their fingers, toys and other objects in their mouths. In this way, germs enter and leave the body and can then infect the child or be passed on to others.
- Close contact between a number of children in the child care setting increases exposure.

## How Are Illnesses Spread?

Communicable diseases are spread from the source of infection to the exposed, vulnerable person (host). For this transmission to happen, three things are necessary.

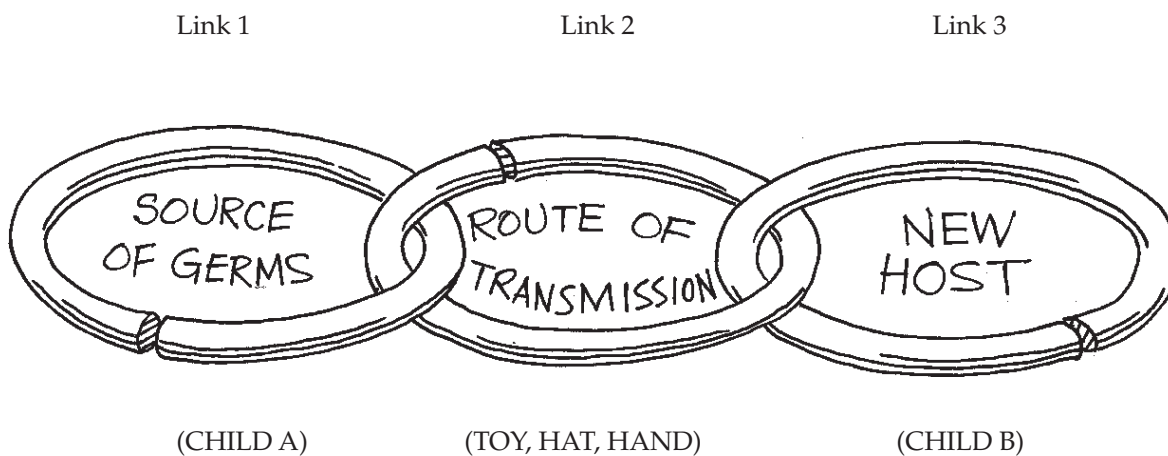
1. **Source** of germs must be present.
2. **Route or (ways)** of transmission along which germs can be carried must be present.
3. **A host or vulnerable person** who is not immune to the germ must be present and come in contact with the germs.

## What Can You Do to Keep the Children and Yourself Healthy?

Break the chain of transmission by breaking at least one of the three links, although it is best to organize more than one method of control in order to reduce the transmission of infectious disease.

You can control the spread of communicable disease in three ways:

1. **Attack the source** of infection or the “first link” by identification, treatment and, if necessary, isolation of the sick person. In the child care setting this is accomplished by doing a morning health check/observation, and if necessary excluding ill children, referring them for medical care, and notifying health authorities when required.



2. **Attack the route of transmission** or the “second link” by personal and general hygiene, healthy practices, proper disinfection and environmental improvement. This means disinfecting toys and surfaces, using proper diapering techniques, hand washing, ventilation, etc.
3. **Protect the vulnerable person** or the “third link” through immunization, balanced nutrition, and healthy practices such as proper hand washing, etc.

## Major Ways for the Spread of Illnesses or “Routes of Transmission”

1. **Through direct contact with the infected person’s skin.**



Skin infections such as impetigo, ringworm, herpes simplex, scabies and head lice are examples of illnesses and infestations that may be spread by direct contact with infected skin area and fluid from infected sores or infested articles. Superficial bacteria, viral infections or parasites cause these illnesses. They are common, and are usually not serious. Because young children are constantly touching their surroundings and the people around them, these infections are easily spread among children and their caregivers in the child care setting.

## Handout #1.1

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2. Through the air or “respiratory transmission” (passing from the lungs, throat or nose of one person to another person through the air).



Respiratory illnesses such as the common cold, measles, whooping cough, chickenpox, flu, meningitis, strep throat, etc., are all spread through microscopic, contagious droplets of fluids from the nose, eyes or throat. When an infected person talks, coughs, sneezes or blows his/her nose, infectious droplets get into the air where they can be breathed in by another person. Droplets can also land on hands or objects such as toys or food, and can be touched, mouthed or eaten by other persons. When the germs in these infected droplets come in contact with the nose, eyes or mouth of an uninfected person, they can multiply in his/her nose and throat and cause infection.

3. Through stool or “fecal-oral transmission” (transfer of a germ from an infected person’s stool into another person’s mouth to infect him/her).

Contagious diarrheal diseases (such as giardia, shigella, salmonella, campylobacter), hepatitis A, and polio are examples of illnesses that are usually spread through exposure to germs in the stool or by what is known as fecal-oral transmission. This means that germs leave the body of the infected person in their stool (bowel movement) and enter the body of another person through their mouth.

In most situations this happens when hands or objects such as toys which have become contaminated with undetectable amounts of stool are placed in the mouth. Transmission can also occur if food or water is contaminated with undetectable amounts of human or animal stool and then is eaten or drunk. Improperly prepared foods made from animals (for example, meat, milk and eggs) are often the source of infection with campylobacter, *E. coli* and salmonella. Some infections, such as salmonella and campylobacter, may be spread through direct exposure to infected animals.

4. Through contact with blood and body fluids.

Blood infections are spread when blood (and sometimes other body fluids such as urine and saliva) from a person with an infection gets into the bloodstream of an uninfected person.



Hepatitis B and C, CMV, and HIV/AIDS (Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome) are serious viral infections spread by contact with infected blood. These viruses can be spread when blood containing the virus enters the blood stream of another person. Spread can also occur when infected blood or body fluids comes in contact with skin that has open sores, is damaged by conditions such as eczema, or with a broken surface of the mucous membranes (such as the inside lining of the mouth, eyes, nose, rectum or genitals). An infected mother can also transmit these infections to her newborn infant. Once these viruses enter a person’s body, they may stay for months or years. This person may appear to be healthy but can still spread the viruses.