
Part 1: General Information about Germs

Kids Are At Great Risk for Catching Germs

Children in child care are at risk for catching certain infectious illnesses. Infections come from many kinds of germs—viruses, bacteria, parasites, and fungi. Whether being exposed to a certain germ makes a child sick or not depends on several things, including

- the type of germ and its infectiousness;
- the route and amount of contamination;
- individual immunity and ability to fight infection.

The best way to keep children healthy in child care is to have a clear plan that minimizes the risk of infection and maximizes possible protection. Controlling infection in early childhood settings requires action from families, children, and staff.

Key Factors Putting Children at Risk for Infection

1. **Cleanliness:** Personal hygiene really makes the biggest difference.
2. **Germ risk from the staff:** The health and immunization status of each child care provider have great impact on the overall risk of infection.
3. **Susceptibility of the children:** The age, immunization status, and health of each child in the program affect how susceptible to infection he or she will be.
4. **Additional risk of exposure:** Outside of the child care setting, children come in contact with other sources of infection. For example, a child may have older siblings who are exposed to an infection at school.
5. **Ratio of children to care provider:** The number of children per provider affects the overall risk for illness. The risk increases with a greater number of children per provider.
6. **Physical environment:** The physical setup of the child care setting plays a role in health because it affects how easy or hard the environment is to keep clean and sanitary. For example, the number of sinks and their location affect how easy it is for everyone to wash their hands regularly.
7. **Training and practice:** A well-trained staff that follows established health procedures plays an important role in preventing the spread of illness. The choice of and frequency of cleaning materials also make a huge difference.

Hand washing by families, children, and child care staff is the most important and effective prevention of all.

Special Factors Putting Infants and Toddlers At Risk for Infection

Some developmental-stage behaviors make it more likely for infants and toddlers to catch and share germs.

- Infants and toddlers need direct help with feeding.
- Infants and toddlers need direct help with diaper and toilet care.
- Young children do not control their body fluids well, including saliva and spit, nasal drainage, coughs, sneezes, vomit, urine, and stool.
- Young children have had little time to develop immunity to common germs.
- Young children explore their world not just through seeing and hearing but also by smelling, tasting, and touching with eager fingers and mouths. These explorations include touching other children.
- Young children are less likely to understand boundaries and rules.
- Young children haven't developed healthy hygiene habits yet.

What Makes a Germ Likely to Spread?

Each germ has its own special pattern of hosts, incubation period between catching the germ and actually becoming sick, and infectiousness—the period during which a sick person can spread the germ to other people. Some germs can be spread before the infected person shows any signs of illness. Each germ also can remain contagious in the environment for a particular time.

As a child care provider, you need to know how likely a particular germ is to be present in your program, how it can spread, and how to best to control its spread. Your germ management must be consistent and effective to protect uninfected children and staff.

Some germs spread easily, such as the varicella-zoster virus (which causes chicken pox) and the respiratory syncytial virus (or RSV, which causes severe respiratory diseases such as bronchiolitis). Others are very difficult to spread, like the human immunodeficiency virus (HIV) or the Epstein-Barr virus (which causes mononucleosis or mono).

When children are contagious, they can spread the germs throughout the child care group, back to their homes, and out to the larger community.

How Do Germs Spread?

Some germs are spread in only one way, while others are spread in a variety of ways. The most common methods are

- Droplets in the air and on surfaces
- Stool and urine
- Saliva, spit, and drool
- Blood
- Skin

DROPLETS IN THE AIR AND ON SURFACES

You have probably seen pictures of the droplets that are emitted when someone sneezes or coughs. A sneeze or cough produces droplets that, depending on their size, can settle on surfaces, remain suspended in the air, or travel remarkable distances. Germs in these droplets may spread by being breathed in or absorbed into the body through the membranes of the nose, mouth, eyes, or sometimes skin; they may also be ingested. Droplets that land on or are wiped onto toys, hands, and doorknobs can spread and contaminate all surfaces and objects. The tiniest droplets often travel the farthest. Such germs include chicken pox (a virus that causes a classic skin rash but that also can cause brain infections and pneumonia) and measles (a virus that causes a different classic rash and that can produce many serious complications, including joint problems and brain infections). Larger droplets fall sooner and so typically spread over shorter distances. They also can be breathed in and spread by contact when they settle. Examples in this group include the common cold (caused by several different kinds of viruses), whooping cough (caused by *Bordetella pertussis*, a bacterium that can also cause pneumonia), and fifth disease (also called slapped face disease, caused by the parvovirus, which produces rash, fever, mouth and throat sores, and other symptoms).

STOOL

Even the smallest amounts of stool containing germs can make other people sick. Microscopic germs can be spread from a contaminated hand to another person's mouth directly or through contaminated toys and other objects or surfaces. These stool germs can also be spread through contaminated food or water. Germs that travel this way include giardia (a parasite), thrush (a yeast fungus), rotovirus (a virus that causes severe diarrhea, which can lead quickly to dehydration), the virus hepatitis A, which causes jaundice and liver problems, and *Salmonella* (a bacteria that can cause bloody diarrhea).

URINE

Urine only rarely carries germs that can be spread, but when an infectious agent is found in urine, it can be transferred from soiled hands or indirectly through surface contamination to someone else's mouth. An example is cytomegalovirus, which can cause many problems, including liver problems.

SALIVA, SPIT, AND DROOL

Germs from spit, saliva, and drool can spread by direct contact, including bites, or by contact with objects children use. Infants and toddlers who suck on or chew materials, including toys that are merely touched or shared, are at heightened risk. Examples of infections that can spread through saliva, spit, and drool include cytomegalovirus and Epstein-Barr (EBV), the virus that causes mononucleosis, which may produce sore throat and liver and spleen problems.

BLOOD

Some germs can be spread when infected blood comes into direct contact with another person's broken skin or mucous membranes. Some germs can be spread indirectly when germs from blood-contaminated objects are introduced into another person's circulatory system through broken skin or mucous membranes. This can happen even if the quantity of blood is too small to be visible. Some germs are infectious even when they have dried. Examples of germs spread from blood include the hepatitis B virus, which causes liver problems, and the hepatitis C virus, which also attacks the liver and more.

SKIN

Some germs are spread when secretions from an infected person come into contact with another person's soft, moist membranes. These special membranes are found not only in the nose but also in the eyes, mouth, and parts of the abdomen and genitals. These germs can be spread directly, through person-to-person contact, or indirectly, through contaminated objects and surfaces. They can enter through broken skin from cuts, scrapes, or sores. Examples of germs that spread through skin-to-skin contact include the virus that causes molluscum contagiosum (a wart), ringworm (a fungus that causes sores, including on the scalp), staphylococcus or streptococcus, bacteria that cause impetigo, and the viruses and bacteria that cause pink eye.

Recognizing a Child Who Is Ill

You know the children in your care. Changes in how they look, how they act, or how they feel may be the first signs of illness. Watch for these signs, and trust your instincts.

- Changes in breathing, including faster breathing
- Severe, deep or ongoing coughing
- Headache and/or stiff neck
- Less appetite or loss of appetite
- Fever or flushed body or face
- Rashes or other skin changes, including lumps or bumps
- Yellow eyes or skin
- Pus, redness, swelling, or other changes to the eye
- Vomiting
- Loose stool or diarrhea
- Sore throat or difficulty eating or swallowing
- Odd color or smell to urine
- Discomfort, fussy or cranky behavior
- Unusual activity, less or more than usual

What to Do When You Suspect a Child Is Ill

1. Evaluate whether or not the situation is an emergency.
2. Once you are sure the child is stable and the illness is not an emergency, separate the child from the other children.
3. Make sure all other child care staff know what is going on.

4. Contact the child's family or guardian.
5. Arrange for the child to go home as soon as possible.

Excluding a Child or Staff Member Who Is Ill

Child care is critical for many families. When that care is interrupted by the illness of a child or a care provider, the family can become very stressed. You can help these families by providing clear rules about when an ill person—a staff member or a child—must be kept out of the child care setting. Exclusion depends on many factors: the time a person is infectious, the likelihood of spreading germs, and the level of hygiene and other care needed and possible. Families need clearly stated policies about what accommodations can be made—if any—for a sick child. They need to understand that your center must minimize the risk of spreading infection to other children or staff on site while offering ill children comfort, safety, and solicitude until they can be sent home. Clearly written policies help families by setting realistic expectations for everyone.

Each illness has its own pattern of infectiousness and symptoms. (Please refer to specific illnesses in part 2 for more details.) It is very important to provide parents and staff with an illness policy that explains what symptoms exclude a staff member or a child from your program.

Here are some symptoms to include when you are setting your policy for excluding those who are ill:

- Fever equal to or higher than 100.5 F
- Significant amounts of clear or colored drainage from mouth, nose, ears, or eyes
- Redness of the white of the eyes or yellow discharge from the eyes
- Body rashes with fever
- Abdominal pain, vomiting, or diarrhea
- Painful red throat
- Deep cough, difficulty breathing, or wheezing
- Headache or stiff neck
- Yellow color to the skin or in the white of the eye
- Open sores or cuts that ooze, contain pus, or are very red or tender