

Day Care Diseases

No matter how germ-conscious you are at home, your child may be sharing more than just toys at day care.

When two-year-old David's mother brought him to see me for the third time in as many months, she seemed frustrated. It's a great day care, but sometimes it seems like a germ factory, she says. David's always coming down with a cold or an ear infection, and every other month we get a note from the director saying that strep throat or hand-foot-mouth disease is going around. I just don't know what to do to keep him from getting sick!

David's mom isn't alone. Most parents today work at least part-time, either for personal growth or for financial survival, which means their child needs to be cared for by someone else. Typically this care takes place in an environment that puts their child in close contact with other children, and hence at increased risk of infection.

Many parents of young children talk to me about how difficult it is to deal with the seemingly constant series of illnesses their child picks up in day care. I find that explaining why this is so helps them to realize that they are doing nothing wrong, their child is normal, and that some day this will all go away.

Why infections spread in day care

To minimize the impact of day care diseases on children--and their parents--there are several principles that we need to understand. Most important is that day care centers by their nature cluster individuals who are susceptible to diseases. At young ages children have immature and inexperienced immune systems, so they acquire virtually every virus they are exposed to. As a result, when an infection is introduced into the day care setting it usually makes the rounds of the entire room, and can even affect all the children in the facility (not to mention the adults).

Another significant factor in day care infections is the close physical contact among the participants both children and adults. Infections that spread by the oral route can easily pass from individual to individual as different babies teethe on the same toys or as toddlers suck their thumbs after touching contaminated surfaces. While most day cares have strict standards for proper hand-washing and diaper-changing hygiene, situations do occur that can interrupt this preferred technique and result in cross-contamination.

Once an infection appears, transmission can be extremely rapid. Studies have shown that when a marked virus is introduced on a toy in a day care room of toddlers in the morning, it can be cultured from 80 percent of the children by the end of the day and 50 percent of the parents by the next morning.

Generally infants and toddlers in day care have a new viral infection about every three to four weeks and manifest symptoms of illness about every two months. This repeated acquisition of infections may not allow the child's normal physiology to return to a steady state, making some children prone to chronic infections such as ear infections (otitis media).

Finally, the frequency of illness and possible secondary bacterial complications make children in day care much more likely to have had antibiotic treatment. This raises the likelihood that antibiotic-resistant organisms will emerge, complicating treatment.

Most common day care illnesses

While day care may speed up the process, it's important to remember that children will get the vast majority of illnesses that circulate in day cares at some point in their lives, whether they are in day care or not. Furthermore, most day care infections are caused by viruses and are thus self-limited, meaning that they usually go away on their own.

Typical symptoms of viral illnesses include fever, runny nose, and cough. Viral illnesses can also cause secondary bacterial ear infections. These can be treated with antibiotics, but the underlying physical changes from the viral illness will have to heal on their own.

Rhinovirus, adenovirus, and parainfluenza virus are common year-round. Some cause a barking cough or croup and others conjunctivitis. Among the more serious viral illnesses are respiratory syncytial virus (RSV) and influenza, both common [winter illnesses](#). In very young children they can lead to respiratory difficulties and/or high fever. Rotavirus, another winter illness, is a gastrointestinal disease that can cause high fever and prolonged diarrhea.

Children in day care can also be exposed to bacterial, fungal, and protozoal infections. Strep throat is common and contagious by the oral route. Also common and easily transmitted are head lice, giardia (intestinal protozoa), and ringworm (a fungus). Very rarely, a child in day care comes down with a significant bacterial infection (which can cause meningitis), but this is so infrequent that the health departments usually intervene to treat all those exposed.

What parents can do

So, what to do? My advice is to choose the smallest day care group possible to minimize the number of people from whom your child can acquire infections. Make sure the day care employees practice frequent hand-washing techniques. When your child is sick, provide lots of liquids and fever control medications for comfort and encourage him or her to get as much sleep as possible to aid recovery. If a fever persists or returns, bring your child to the doctor to see if a bacterial complication has occurred.

Good luck this winter. And remember--your parents survived this, and so will you.

[Dennis Clements, MD, PhD](#), is the chief medical officer of Duke Children's Hospital.