

Infectious diseases: How they spread, how to stop them

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From your sniffing seatmate on the bus to the raw chicken on your cutting board, everyday life is full of potential infectious disease hazards. With germs so common and seemingly everywhere, the question is this: Just how do you protect yourself from germs that cause infectious disease?

Knowing how germs spread can help. Find out how infectious disease is transmitted, and more importantly, what you can do to minimize your risk of infection.

Infectious diseases spread through two types of contact

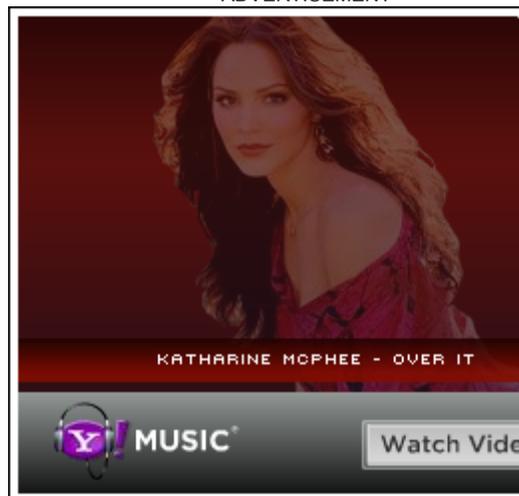
Direct contact

An easy way to catch most infectious diseases is by coming in contact with someone who has one. This "someone" can be a person, an animal or, for an unborn baby, its mother. Three different ways infectious disease can be spread through direct contact are:

Person to person. The most common way for infectious disease to spread is through the direct transfer of bacteria, viruses or other germs from one person to another. This can occur when an individual with the bacterium or virus touches, coughs on or kisses someone who isn't infected. These germs can also spread through the exchange of body fluids from sexual contact or a blood transfusion.

Animal to person. Your household pet might seem harmless, but pets can carry many germs. Being bitten or scratched by an infected animal can make you sick and, in extreme circumstances, could even cause death. Handling animal waste can be hazardous, too. For example, you can acquire a toxoplasmosis infection by scooping your cat's litter box,

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particularly if you're pregnant.

Mother to unborn child. A pregnant woman may pass germs that cause infectious diseases to her unborn baby. Germs can pass through the placenta, as is the case of the AIDS virus and the toxoplasmosis parasite. Or germs could spread during labor and delivery, as is the case for a mother infected with group B streptococcus.

Indirect contact

Disease-causing organisms can also be passed along by indirect contact. Many germs can linger on an inanimate object, such as a tabletop, doorknob or faucet handle. When you touch the same doorknob grasped by someone ill with the flu or a cold, for example, you can pick up the germs he or she left behind. If you then touch your eyes, mouth or nose before washing your hands, you may become infected. Some infections occur from organisms that naturally live in the environment but are not passed from person to person. Examples include fungal infections like histoplasmosis or blastomycosis, as well as bacterial infections such as anthrax.

Infectious diseases spread through the air

Droplet transmission

When you cough or sneeze, you expel droplets into the air around you. When you're sick with a cold or the flu — or any number of other illnesses — these droplets contain the germ that caused your illness. Spread of infectious disease in this manner is called droplet spread or droplet transmission.

Droplets travel only about three feet because they're usually too large to stay suspended in the air for a long time. However, if a droplet from an infected person comes in contact with your eyes, nose or mouth, you may soon experience symptoms of the illness. Crowded, indoor environments may promote the chances of droplet transmission — which may explain the increase in respiratory infections in the winter months.

Particle transmission

Some disease-causing germs travel through the air in particles considerably smaller than droplets. These tiny particles remain suspended in the air for extended periods of time and can travel in air currents. If you breathe in an airborne virus, bacterium or other germ, you may become infected and show signs and symptoms of the disease. Colds caused by viruses, influenza and tuberculosis are a few types of infectious diseases usually spread through the air, in both particle and droplet forms.

Infectious diseases spread through vectors and vehicles

Bites and stings

Some germs rely on insect carriers — such as mosquitoes, fleas, lice or ticks — to move from host to host. These carriers are known as vectors.

Mosquitoes can carry the malaria parasite or West Nile virus, and deer ticks may carry the bacterium that causes Lyme disease.

The vector-borne spread of germs happens when an insect that carries the germ on its body or in its intestinal tract lands on you or bites you. The germs move into your body and can make you sick. Sometimes the germs that cause infectious disease need the insect for specific biological reasons. They use the insect's body to multiply, which is necessary before the germs can infect a new host.

Food contamination

Another way disease-causing germs can infect you is through contaminated food and water. Sometimes called common-vehicle transmission, this mechanism of transmission allows germs to be spread to many people through a single source. Food is often the vehicle that spreads the germs and causes the illness. For instance, contamination with *Escherichia coli* (*E. coli*) is common. *E. coli* is a bacterium present in or on certain foods — such as undercooked hamburger or unwashed fruits or vegetables. When you eat foods contaminated with *E. coli*, chances are you'll experience an illness — sometimes referred to as food poisoning.

Prevent the spread of infectious diseases

Decrease your risk of infecting yourself or others:

Wash your hands often. This is especially important before and after preparing food, before eating and after using the toilet.

Get vaccinated. Immunization can drastically reduce your chances of contracting many diseases. Make sure to keep your recommended vaccinations, as well as your children's, up-to-date.

Use antibiotics sensibly. Only take antibiotics when necessary. And if they're prescribed, take them exactly as directed — don't stop taking them early because your symptoms have gone away.

Stay at home if you have signs and symptoms of an infection. Don't go to work if you are vomiting, have diarrhea or are running a fever. Don't send your child to school if he or she has these signs and symptoms, either.

Be smart about food preparation. Keep counters and other kitchen surfaces clean when preparing meals. In addition, promptly refrigerate leftovers — don't let cooked foods remain at room temperature for

extended periods of time.

Pay special attention to cleaning the 'hot zones' in your home. These include the kitchen and bathroom — two rooms that can have high concentrations of bacteria and other infectious agents.

Practice safe sex. Use condoms if you or your partner has a history of sexually transmitted diseases or high-risk behavior — or abstain altogether.

Don't share personal items. Use your own toothbrush, comb and razor blade. Avoid sharing drinking glasses or dining utensils.

Travel wisely. Don't fly when you're ill. With so many people confined to a small area, you may infect other passengers on the plane. And your trip won't be comfortable, either. Depending on where your travels take you, talk to your doctor about any special immunizations you may need.

Keep your pets healthy. Bring your pet to a veterinarian for regular care and vaccinations. Keep your pet's living area clean.

With a little common sense and the proper precautions, you can avoid infectious diseases and keep from spreading them.

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