Infectious diseases are illnesses caused by harmful germs (pathogens) that get into your body. The most common causes are viruses, bacteria, fungi and parasites. Infectious diseases usually spread from person to person, through contaminated food or water and through bug bites.

Care at Cleveland Clinic

Infectious Disease Care

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What Are Infectious Diseases?

Infectious diseases are illnesses caused by harmful organisms (pathogens or germs) that get into your body from the outside. Germs that cause infectious diseases include viruses, bacteria, fungi, parasites and, rarely, prions.

We all get infectious diseases. You can get them from breathing in germs (like after someone coughs or sneezes), from bug bites, from contaminated food and from the environment around you. Respiratory infections (like colds, flu and COVID), stomach flu, STIs and even foot fungus are all examples of infectious diseases.

By comparison, noninfectious diseases aren’t caused by germs, but by genetics, anatomical differences or getting older. You can’t get noninfectious diseases from other people, a bug bite or your food. Cancer, diabetes, congestive heart failure and Alzheimer’s disease are all examples of noninfectious diseases.

Types

Types of infectious diseases include:

Viral infections. Viruses are pieces of genetic information (DNA or RNA) inside a protective shell.

Bacterial infections. Bacteria are single-celled organisms with their instructions written on a small piece of DNA.

Fungal infections. Fungi live on your body and in the environment around you. When fungi get overgrown or get into places in your body where they shouldn’t be, they can make you sick.

Parasitic infections. Parasites live off the bodies of other organisms.

Prion diseases. Prion diseases, also called transmissible spongiform encephalopathies (TSEs), are caused by faulty proteins that make other proteins become faulty, too. Prions are an extremely rare cause of infectious diseases.

Common infectious diseases

There are hundreds of infectious diseases. Some common ones include:

Common cold

COVID-19

Flu

Hookworms

HPV (human papillomavirus)

Norovirus

Pinworms

Ringworm(like athlete’s foot)

RSV (respiratory syncytial virus)

Strep throat

Tuberculosis

These affect millions of people across the world each year.

Symptoms and Causes

Symptoms of infectious diseases

Symptoms of infectious diseases depend on the type of illness. Fungal infections usually cause symptoms in specific areas of your body, like a rash and itching. Viral and bacterial infections can have symptoms in many areas of your body, like:

Chills

Cough

Digestive symptoms (diarrhea, nausea, vomiting)

Fatigue

Fever

Headache

Muscle aches

Runny or stuffy nose

Infectious disease causes

Germs cause infectious diseases. Your mouth, your nose and cuts in your skin are common places for germs to enter your body. Types of germs include:

Viruses

Bacteria

Fungi

Parasites

Prions

You may develop symptoms when the germs damage or destroy cells and when your immune system responds to the infection.

How do infectious diseases spread?

Different infections spread in different ways, including:

From person to person when you cough or sneeze

From close contact with another person, like kissing or oral, anal or vaginal sex

By sharing utensils or cups with other people

On surfaces like doorknobs, phones and countertops

Through contact with poop from a person or animal with an infectious disease

Through bug or animal bites

From contaminated or improperly prepared food or water

From working with contaminated soil or sand (like gardening)

From a pregnant woman to the fetus or newborn (vertical transmission)

From blood transfusions, organ/tissue transplants or other medical procedures

Risk factors

Anyone can get an infectious disease. You may be at an increased risk if you:

Have a weakened immune system (due to cancer, HIV or immunosuppressive medications)

Are pregnant

Are over 60

Work in healthcare

Live in or travel to tropical climates

Kids under 5 are also at higher risk. This is because their immune systems aren’t fully developed yet.

Complications

You can recover from many infectious diseases without getting seriously ill. But sometimes, they can cause complications. Some serious complications include:

Dehydration

Pneumonia

Sepsis

Inflammation of your brain and spinal cord or their covering (encephalitis or meningitis)

Some viruses can lead to certain types of cancers, like liver cancer and cervical cancer.

Diagnosis and Tests

How doctors diagnose infectious diseases

Healthcare providers usually diagnose infectious diseases based on your symptoms, lab tests and, sometimes, imaging. Your provider can look for signs of disease by:

Swabbing your nose or throat

Getting blood, pee, poop or spit samples

Taking a biopsy or scraping a small sample of skin or other tissue

Getting imaging (X-rays, CT scans or MRIs) of affected parts of your body

Management and Treatment

How are infectious diseases treated?

Treatment depends on the cause of the infection. Sometimes, your healthcare provider will recommend monitoring your symptoms rather than taking medication. Treatments could include:

Antibiotics for bacterial infections

Antiviral medications for viral infections (though many can be managed with over-the-counter medications at home)

Antifungal medications, including lotions and creams, for fungal infections

Antiparasitic drugs for parasitic infections

Providers sometimes use surgery to treat fungal or bacterial infections

There are no treatments for prion diseases.

When should I see my healthcare provider?

See a healthcare provider if you have symptoms of an infectious disease, especially if they don’t get better within a week or two. If you have an ongoing infection, frequent follow-ups with your provider can help ensure your condition doesn’t worsen.

You should also talk to your provider if you plan to travel outside of the country you live in. They may recommend ways to avoid infections that are more common at your destination. Or if you’ve recently traveled and have symptoms, it can help them know if there are additional diseases they should test for.

Prevention

Layers of protection from infectious diseases, including vaccination, handwashing, safe food handling and disinfecting.

James Reason’s Swiss Cheese Model applied to infectious diseases. Each layer of protection lowers your risk.

Can infectious diseases be prevented?

There’s often no single way that’s 100% effective at preventing infectious diseases. But there are many simple habits that can help reduce your risk of an infection. You can think of it as lining up slices of Swiss cheese, a model suggested by James Reason, PhD. Where some slices have holes, other slices give protection. You can add to your layers of protection by:

Getting recommended vaccinations. Your provider can let you know which are recommended for you.

Practicing safe food handling. This includes not eating uncooked or unpasteurized foods and beverages, storing and heating foods to safe temperatures, washing or peeling fruits and vegetables, and washing food prep utensils while cooking.

Washing your hands with soap and water. Thorough handwashing is particularly important before preparing a meal or eating, after using the bathroom, after contact with poop (animal or human) and after gardening or working with dirt.

Being courteous to others. Cover your nose and mouth when you sneeze or cough. Avoid being around others when you or they are sick with something contagious. Wear a mask if you must be around others. Don’t share personal items or eating utensils.

Disinfecting frequently touched surfaces and objects. This includes phones, countertops, doorknobs and toys.

Practice safe sex. Use a condom or dental dam during oral, anal and vaginal sex.

Avoid bug bites. Use bug repellent, cover as much exposed skin as you can with clothing, and check for ticks after being in the woods or areas with long grass.

Additional Common Questions

What are emerging infectious diseases?

Emerging infectious diseases are ones that are new or infecting more people than they had before. Special research is dedicated to these diseases.

What are common pediatric infectious diseases?

Babies and children can be more likely to get sick from infectious diseases because their immune systems are still developing. They also can’t practice good hygiene on their own like adults can. Some infectious diseases that are more common in children include:

Colds

Fifth disease

Hand, foot and mouth disease (HFMD)

Flu

Pinworm

RSV

Ringworm

Roseola

Strep throat

Whooping cough (pertussis)