

What is typhoid fever?

Typhoid fever is a potentially life-threatening illness that is caused by the bacteria *Salmonella typhi* (*S. typhi*). Persons with typhoid fever carry the bacteria in their bloodstream and intestinal tract and can spread the infection directly to other people by contaminating food or water. Areas of highest risk include parts of East and Southeast Asia, Africa, and South America.

How is typhoid fever spread?

Typhoid fever is spread by eating or drinking contaminated food or water or through close contact with someone who is infected. Food or water can be contaminated by a person who is shedding *S. typhi* and who has not washed their hands thoroughly after going to the bathroom, or may be contaminated if sewage gets into the food or water. Some infected persons may not show any symptoms of typhoid fever, but can shed the *S. typhi* bacteria in their feces for many years. These persons are called typhoid fever "carriers." *S. typhi* is only found in humans.

What are the signs and symptoms of typhoid fever?

- Constant fever up to 104°F
- Diarrhea or constipation
- Stomach pain
- Headache
- Tiredness
- Dry cough
- Slow heart rate
- Loss of appetite

How long after infection do symptoms appear?

Symptoms usually occur within 1-3 weeks after exposure to the bacteria, but can occur from three days to three months after exposure.

Who is most at risk?

If you live or work in a country where typhoid fever is rare, you're at increased risk if you:

- Work in or travel to areas where typhoid fever is established (endemic)
- Work as a clinical microbiologist handling *S. typhi* bacteria
- Have close contact with someone who is infected or has recently been infected with typhoid fever
- Drink water contaminated by sewage that contains *S. typhi*.

What type of health problems are caused by typhoid fever?

The most serious complications of typhoid fever — intestinal bleeding or holes in the intestine — may develop in the third week of illness. This occurs when your small intestine or large bowel develops a hole, causing intestinal contents to leak into your abdominal cavity; it can lead to bloodstream infection (sepsis). This life-threatening complication requires immediate medical care.

Other possible complications include:

- Inflammation of the heart muscle (myocarditis)
- Inflammation of the lining of the heart and valves (endocarditis)
- Pneumonia
- Inflammation of the pancreas (pancreatitis)
- Kidney or bladder infections
- Infection and inflammation of the membranes and fluid surrounding your brain and spinal cord (meningitis)
- Psychiatric problems, such as delirium, hallucinations and paranoid psychosis.

How is typhoid fever diagnosed?

The only way to know for certain if an illness is typhoid fever is to have a sample of blood or stool (poop) tested for *S. typhi*.

How is typhoid fever treated?

Typhoid fever is treated with antibiotics. Resistance to antibiotics is increasing in the bacteria that cause typhoid fever. To help guide treatment, your healthcare provider may order special tests to see if your type of *Salmonella* is antibiotic-resistant.

How can typhoid fever be prevented?

- Get vaccinated against typhoid fever.
- Wash hands frequently.
- When you travel to areas of risk, remember to “boil it, cook it, peel it, or forget it.”
- If you drink water, buy it bottled or bring it to a rolling boil for one minute before you drink it. Bottled carbonated water is safer than uncarbonated water.
- Ask for drinks without ice, unless the ice is made from bottled or boiled water.
- Avoid popsicles and flavored ices that may have been made with contaminated water.
- Eat foods that have been thoroughly cooked and are still hot and steaming.
- Avoid raw vegetables and fruits that cannot be peeled. Lettuce can remain contaminated even after it is washed.
- When you eat raw fruit or vegetables that can be peeled, peel them yourself. (Wash your hands with soap first.)
- Avoid foods and beverages from street vendors.

Prevent Infecting Others

If you're recovering from typhoid fever, these measures can help keep others safe:

- Take your antibiotics. Follow your healthcare provider's instructions for taking your antibiotics, and be sure to finish the entire prescription.
- Wash your hands often. This is the single most important thing you can do to keep from spreading the infection to others. Use hot, soapy water and scrub thoroughly for at least 30 seconds, especially before eating and after using the toilet.
- Avoid preparing food for others until your healthcare provider says you're no longer contagious. If you work in the food service industry or a healthcare facility, you won't be allowed to return to work until tests show that you're no longer shedding typhoid bacteria.

If you develop signs and symptoms after you return home from traveling, consider consulting a healthcare provider who focuses on international travel medicine or infectious diseases. A specialist may be able to recognize and treat your illness more quickly than can one who isn't familiar with these areas.

Where can I get more information?

- Your personal healthcare provider
- [Centers for Disease Control & Prevention](#)
- [Utah Department of Health](#)
- [Mayo Clinic](#)

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