

## What is typhoid fever?

Typhoid fever is an infectious disease caused by the bacterium *Salmonella Typhi*. In the United States, about 400 cases occur each year with approximately 75% of these cases acquired during travel to underdeveloped countries, including Asia, Africa, and Latin America. Typhoid fever is uncommon in Oklahoma; only 1 to 2 cases have been reported each year since 1990.

## What are the symptoms of typhoid fever?

People with this disease may experience mild or severe symptoms. Persons with typhoid fever usually have a sustained fever as high as 103° to 104° F (39° to 40° C). The symptoms of typhoid fever may also include, headache, stomach pains or loss of appetite. Constipation or diarrhea may also occur. In some cases, persons may develop a rash of flat, rose-colored spots on the trunk of the body.

## How is typhoid fever spread?

Persons with typhoid fever carry the bacteria in their bloodstream and intestinal tract while experiencing symptoms. In addition, some people recover from typhoid fever but continue to carry the bacteria; these people are called carriers. Both ill persons and carriers can shed *Salmonella Typhi* in their feces and sometimes urine. A person can get typhoid fever if they eat food or drink beverages that have been contaminated by feces from a person who is shedding *Salmonella Typhi* or if the bacterium gets into the water used for drinking or washing uncooked foods like fruits and vegetables.

## How soon after infection do symptoms occur?

Symptoms may appear from 3 days to over 2 months after exposure, but usually within 8 to 14 days.

## How long can an infected person spread the bacteria?

The disease can be spread to others as long as the bacteria remain in the stool and urine, which may vary from days to years. About 10% of untreated typhoid fever cases will continue to shed the bacteria in their feces for 3 months after experiencing symptoms; 2% to 5% become permanent carriers.

## Should people sick with typhoid fever stay home from work, school, or day care?

If a person is employed as a food handler, works in a day care center, or has direct contact with ill persons or the elderly, they must not work while they have diarrhea. Children with diarrhea should not attend a day care center. People who are sick with cholera will be given specific instructions by a public health nurse or epidemiologist about working with food, immunocompromised people, or day care center attendance or employment.

## What is the treatment for typhoid fever?

Specific antibiotics may be prescribed by a doctor to treat typhoid fever. Persons given antibiotics usually begin to feel better within 2 to 3 days. However, persons who do not get treatment may continue to have symptoms of illness for weeks or months. Before antibiotics were available, the fatality rate from typhoid fever was as high as 20%. The fatality rate is less than 1% among those given timely treatment.

## Is there a vaccine against typhoid fever?

Yes. Two vaccines are currently available; one that is taken orally in four doses every two days, and one that consists of a single injection. The oral vaccine lasts for approximately 5 years, but is not effective in persons under 6 years of age. The injected vaccine lasts for about 2 years, and is effective in those age 2 years and above.

## Who should consider vaccination?

Travelers to countries where typhoid fever occurs should plan ahead with a travel clinic or their health care provider in order to receive their vaccinations in time to be fully protected before arrival. Persons who live with a typhoid fever carrier should also be vaccinated.

**All travelers to areas where typhoid fever has occurred should observe the following recommendations.**

1. Avoid raw vegetables and fruits that cannot be peeled. Leafy vegetables like lettuce are easily contaminated and may have bacteria present internally that cannot be removed by washing.
2. When eating raw fruit or vegetables that can be peeled, you should peel them yourself after first washing your hands. Do not eat the peelings.
3. Avoid foods and beverages from street vendors. Even when such food has been prepared safely, it is difficult for it to be held at the temperatures required to prevent bacterial growth.
4. Eat foods that have been thoroughly cooked and that are still hot and steaming.
5. Drink beverages without ice unless you can verify that the ice was made from bottled or boiled water. Avoid popsicles and flavored ice made with water from an unknown source.
6. Buy bottled water or bring it to a rolling boil for 1 minute before drinking it. When buying water, make sure that the seal is intact; unscrupulous vendors may resell bottles with unpurified water.

Travelers can also receive information on typhoid fever and other diseases by visiting the Centers for Disease Control and Prevention travelers' health website at [www.cdc.gov/travel/](http://www.cdc.gov/travel/).

OSDH 10/06



Acute Disease Service  
Oklahoma State  
Department of Health

For further information call or visit us on the World Wide Web  
Acute Disease Service  
Oklahoma State Department of Health  
Phone (405) 271-4060  
<http://ads.health.ok.gov>