

TYPHOID FEVER (*SALMONELLA TYPHI* INFECTION) Reportable Disease

Typhoid Fever is caused by the salmonella species *Salmonella typhi*. Most cases (up to 75%) are acquired while traveling internationally. Typhoid fever is still common in the developing world, where it affects about 21.5 million persons each year.

CAUSE

Salmonella typhi, bacteria

SYMPTOMS

Persons with typhoid fever usually have a sustained fever as high as 103° to 104° F (39° to 40° C). They may also feel weak, or have stomach pains, headache, or loss of appetite. In some cases, patients have a rash of flat, rose-colored spots. The only way to know for sure if an illness is typhoid fever is to have samples of stool or blood tested for the presence of *Salmonella typhi*.

SPREAD

Salmonella typhi lives only in humans. Persons with typhoid fever carry the bacteria in their bloodstream and intestinal tract. In addition, a small number of persons, called carriers, recover from typhoid fever but continue to carry the bacteria. Both ill persons and carriers shed *Salmonella typhi* in their feces (stool).

You can get typhoid fever if you eat food or drink beverages that have been handled by a person who is shedding *Salmonella typhi* or if sewage contaminated with *Salmonella Typhi* bacteria gets into the water you use for drinking or washing food. Therefore, typhoid fever is more common in areas of the world where handwashing is less frequent and water is likely to be contaminated with sewage.

INCUBATION (time from exposure to onset of symptoms)

3 days to over 60 days, usually 8 to 14 days

CONTAGIOUS PERIOD

As long as bacteria are in feces. Usually from first week of symptoms to resolution of symptoms, 10% of untreated individuals carry the bacteria in feces for 3 months, 2-5% of patients become permanent carriers

EXCLUSION

Child care and School: **Until cleared by Contra Costa Public Health Department.**

DIAGNOSIS

Salmonella typhi can be detected in blood early in infection, and in urine and feces after the first week of infection.

TREATMENT

Choices for antibiotic therapy include fluoroquinolones (for susceptible infections), ceftriaxone, and azithromycin. Persons who do not get treatment may continue to have fever for weeks or months, and as many as 20% may die from complications of the infection.

PREVENTION/CONTROL

- **If you are traveling to a country where typhoid is common, you should consider being vaccinated against typhoid.** Visit a doctor or travel clinic to discuss your vaccination options. Remember that you will need to complete your vaccination at least 1-2 weeks (dependent upon vaccine type) before you travel so that the vaccine has time to take effect.
- Wash hands thoroughly and frequently, especially before and after handling food, and before eating.
- If you are traveling to the developing world, you should consider taking precautions. Over the past 10 years, travelers from the United States to Asia, Africa, and Latin America have been especially at risk. **The following food and beverage precautions are especially important while traveling to the developing world:**
- If you drink water, buy it bottled or bring it to a rolling boil for 1 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 that are still hot and steaming.
- Avoid raw vegetables and fruits that cannot be peeled. Vegetables like lettuce are easily contaminated and are very hard to wash well.
- When you eat raw fruit or vegetables that can be peeled, peel them yourself. (Wash your hands with soap first.) Do not eat the peelings.
- Avoid foods and beverages from street vendors. It is difficult for food to be kept clean on the street, and many travelers get sick from food bought from street vendors.

For more information please contact Contra Costa Public Health at 925-313-6740 and visit our website at <http://cchealth.org/cd/> or http://www.cdc.gov/nczved/divisions/dfbmd/diseases/typhoid_fever/