



FOODBORNE ILLNESS EDUCATION SERIES

SALMONELLA TYPHI

The Centers for Disease Control and Prevention (CDC) has designated *Salmonella* species as one of the “Big Six” microorganisms that are highly infectious and can cause severe foodborne illnesses. The Big Six are so named because they are both highly infectious and cause severe illness.

There are other organisms that cause severe foodborne illness, such as *C. botulinum*, but are not highly infectious. There are two kinds of *Salmonella* – Typhoid species and nontyphoidal *Salmonella* species. This brief focuses on *Salmonella* Typhi and the typhoid fever disease it causes. Although not common in industrialized countries, food workers should be aware of this dangerous foodborne pathogen.

TRANSMISSION, SYMPTOMS, AND STATISTICS

- It is estimated that typhoid fever affects approximately 5,700 people in the U.S. annually; most cases occur in individuals that have traveled to developing countries.
- *Salmonella* Typhi is transmitted person to person if food or water that has been contaminated with fecal matter is consumed. An infected food handler that does not wash hands after using toilet and then prepares food may contaminate that food. Transmission may also occur via an infected person’s blood.
- *Salmonella* Typhi infection can also be transmitted through foods that are exposed to raw sewage or irrigation water that is contaminated and used in produce growing areas. While shellfish are not hosts for this bacteria, they can be a vehicle for transmission if harvested in waters contaminated with untreated sewage.



ABOUT SALMONELLA TYPHI

Salmonella Typhi is common in developing countries and may infect travelers that return to industrialized countries.

Salmonella Typhi strains are only found in the intestinal tract and bloodstream of infected humans, not other animals.



TRANSMISSION, SYMPTOMS, AND STATISTICS

- The incubation period of typhoid fever, the infection caused by *S. Typhi*, can range from 3-60 days, but symptoms usually develop within 2 weeks after exposure. Typhoid fever symptoms include the rapid onset of: high fever up to 104°F/40°C, headache, nausea, constipation or diarrhea, rose-colored spots on abdomen, and loss of appetite.
- Some people can be carriers of *S. Typhi* without symptoms and shed the bacterium in their feces periodically.
- A vaccine is available to persons traveling to countries where typhoid fever is common.

KEEP YOUR OPERATIONS AND CUSTOMERS SAFE

- Have an employee wellness policy, including screening new/conditional employees, to exclude any employees with symptoms or diagnosis of typhoid fever.
- Have supplier approval programs that verify suppliers are: monitoring produce growers for Good Agricultural Practices; have Hazard Analysis Critical Control Point (HACCP) and intervention programs to reduce and prevent food contamination from untreated sewage; are properly treating water used in processing; have trace-back capabilities; and are in compliance with all federal and local regulations.
- At the location-level, these preventive measures should be in place: HACCP plans and Standard Operating Policies (SOPs) for produce washing, personal hygiene, proper glove use, prevention of cross-contamination, and sanitation.
- Mandate strict no bare hand contact of ready-to-eat foods for all food handlers.
- Follow-up on any customer foodborne illness claims without delay. Report multiple claims to your health department so outbreaks can be investigated as quickly as possible.

3 MUST-KNOW FACTS FOR LOCATION EMPLOYEES

1

Wash hands thoroughly, especially after using the restroom. Pay special attention to scrubbing beneath fingernails, between fingers, and around wrists.

2

Use gloves, tongs, or deli paper to prevent bare-hand contact with ready-to-eat-foods.

3

If you display any symptoms of typhoid fever, especially if you have recently traveled to a developing country, or are diagnosed with *Salmonella Typhi* infection or typhoid fever, inform your manager immediately and cease working with food.