



Who

All travelers visiting endemic regions are at risk of acquiring typhoid fever (enteric fever) after ingestion of contaminated food or water. Risk factors are consumption of food purchased from street vendors or visiting relatives in endemic countries.



What

Enteric fever is a collective term that refers to both typhoid fever, caused by *Salmonella typhi*, and paratyphoid fever, caused by *Salmonella paratyphi*. Both bacteria are mainly transmitted by consumption of contaminated food or water.



Where and when

Due to improved sanitation and hygiene in many countries, the incidence of typhoid fever has declined. Worldwide, it is most prevalent in impoverished areas in south-central Asia, Southeast Asia, and southern Africa. Other regions of Asia and Africa, some parts of Latin America, the Caribbean, and Oceania have a medium incidence. There is substantial heterogeneity between countries.

Prevention

A vaccine is available, although no complete protection is offered, and periodic revaccination is needed if exposure risk continues. Attention to food and water safety is important for travelers to endemic regions where sanitation and personal hygiene may be poor.



Treatment

Directed antibiotic treatment is possible, although treatment of enteric fever has been complicated by the development of antimicrobial resistance against many antibiotics. In addition, antibiotic choice depends upon the severity of illness, and whether oral treatment is feasible.

Symptoms

Enteric fever is an illness with onset of symptoms around 5-21 days after ingestion of the bacteria, although the incubation period may vary more widely. Symptoms include fever, chills, malaise, headache, non-productive cough. Diarrhea is not necessarily present. Septic shock and an altered level of consciousness may develop and if left untreated, death may occur.



In case of infection

Optimally, the diagnosis is made by isolating *Salmonella (para)typhi* from blood or feces. When left untreated, enteric fever is lethal in 10-25%; complications may occur in 10-15% of patients. Hospital admission for intravenous treatment may be necessary. Chronic carriage may occur in up to 6%. Although carriers are asymptomatic, eradication of carriage is usually attempted because these people represent an infectious risk to others.