

Typhoid and Paratyphoid

These are systemic illnesses caused by the bacteria *Salmonella* Typhi (typhoid) or *Salmonella* Paratyphi (paratyphoid). Onset of illness is gradual, with:

- > sustained high fever
- > marked headache
- > malaise (feeling of unwellness)
- > decreased appetite
- > enlarged spleen which may cause abdominal discomfort
- > dry cough in the early stage of the illness
- > a flat rose-coloured rash which may be visible on the trunk
- > constipation or diarrhoea – constipation occurs more often than diarrhoea in adults.

Illness varies from mild with low-grade fever, to severe with multiple complications. 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. With treatment, the mortality rate falls to about 1%. Paratyphoid has similar symptoms to typhoid, though illness tends to be milder.

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 faeces and urine.

Diagnosis is made by growing the bacteria from the blood or bone marrow early in the illness. Later in the illness the bacteria can sometimes be isolated from urine or faeces.

Typhoid is common in areas of the world where hygiene standards are poor and water is likely to be contaminated with sewage. These illnesses are no longer common in developed countries, with most cases occurring in areas such as Asia, the Middle East, Central and South America, parts of southern Europe and Africa. Typhoid is very common in Indonesia and Papua New Guinea.

It is spread by eating food or drinking water contaminated by faeces or urine of patients and carriers. Common sources are water or ice, raw vegetables, salads and shellfish. If fruit and vegetables are washed in contaminated water they may cause illness.

Incubation period

(time between becoming infected and developing symptoms)

From 3 days to more than 60 days; usually 8 – 14 days for typhoid and 1 – 10 days for paratyphoid.

Infectious period

(time during which an infected person can infect others)

As long as the bacteria are shed in the faeces or urine, usually from the first week of illness until completely recovered. About 10% of untreated typhoid patients will be infectious for 3 months after onset of symptoms and 2-5% become permanent carriers. Fewer persons with paratyphoid become carriers.

Treatment

Antibiotic treatment is available and particularly necessary in severe cases. It will also help to reduce carriage. Persons given antibiotics usually begin to feel better within two to three days and deaths rarely occur. Resistance to available antibiotics is increasing, so it remains important to take care to prevent yourself from being infected.

Typhoid and Paratyphoid (cont.)

Control of spread

- > When travelling to areas where typhoid and paratyphoid are common, avoid high risk food and drinks. Drink only boiled or treated water (with iodine or chlorine tablets) or bottled drinks, with no ice. These measures will also help protect you against other foodborne illnesses.
- > Always wash your hands after using the toilet and before eating, drinking and smoking.
- > Vaccines are available and are recommended for travellers to certain areas. These vaccines are not completely effective, so it is still important to take care with food and water. See your doctor or a travel medicine expert before you travel for advice on protecting yourself from typhoid and other diseases.
- > People with typhoid or paratyphoid should not prepare food for others until their doctor has declared that they are free of the disease.
- > Cases, household contacts and other contacts will be followed up by public health authorities. Cases cannot work as food handlers or in child or patient care until cleared by health authorities.
- > Antibiotic treatment helps reduce the time a person is infectious.



Typhoid and Paratyphoid are notifiable diseases

- > Hand Hygiene
- > Overseas Travel