

Typhoid and paratyphoid



These are systemic illnesses caused by the bacteria *Salmonella Typhi* (typhoid) or *Salmonella Paratyphi* (paratyphoid).



Typhoid and paratyphoid are notifiable conditions¹

How typhoid and paratyphoid are spread

Salmonella Typhi lives only in humans. People with typhoid fever carry the bacteria in their bloodstream and gut. In addition, a small number of people, called carriers, recover from typhoid fever but continue to carry the bacteria. Both ill people and carriers shed *Salmonella Typhi* in their faeces and urine.

The bacteria are 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
- > shellfish.

If fruit and vegetables are washed in contaminated water they may cause illness.

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
- > Africa.

Signs and symptoms

Onset of illness is gradual, with:

- > sustained high fever
- > marked headache
- > malaise (feeling of being unwell)
- > 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.

People 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 death rate falls to about 1%. **Paratyphoid has similar symptoms to typhoid**, although the illness tends to be milder.

Diagnosis

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 grown from urine or a [faecal sample](#) or detected using a PCR (polymerase chain reaction) test in a pathology laboratory.

Incubation period

(time between becoming infected and developing symptoms)

From 3 days to more than 60 days; usually

- > typhoid - 8 to 14 days
- > paratyphoid - 1 to 10 days.

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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 to 5% become permanent carriers. Fewer people with paratyphoid become carriers.

Treatment

Antibiotic treatment is available and is necessary, particularly in severe cases. Antibiotic treatment can reduce carriage (for example, the bacteria is still present in the bowel and the person has no symptoms but can still pass on the infection to others). People given antibiotics usually begin to feel better within 2 to 3 days and deaths rarely occur. Resistance to available antibiotics is increasing, so it remains important to take care to prevent yourself from being infected.

Prevention

- > Cases, household contacts and other contacts will be followed up by SA Health's [Communicable Disease Control Branch \(CDCB\)](#). A contact is any person who has been close enough to an infected person to be at risk of having acquired the infection from that person.
- > [Exclude people with typhoid or paratyphoid from childcare, preschool, school and work](#) until approval to return has been given by a doctor or the CDCB. This decision will be made depending on the risk of spreading the infection to others.
- > Commercial food handlers or those in childcare, health care or other residential care settings cannot

return to work until approval has been given by a doctor or the CDCB.

- > Some close contacts of a person with the infection may also require exclusion and testing and will be contacted by the CDCB.
- > People with typhoid or paratyphoid should not prepare food for others and avoid swimming until their doctor has declared they are free of the disease.
- > Infants, children and adults with typhoid or paratyphoid infection should not swim until there has been no diarrhoea for 48 hours.
- > 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 drinks. See your doctor or a travel medicine expert before you travel for advice on protecting yourself from typhoid and other diseases.
- > 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.
- > Antibiotic treatment helps reduce the time a person is infectious.

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Useful links

SA Health website www.sahealth.sa.gov.au

- > Collecting a faecal sample
- > Exclusion periods from childcare, preschool, school and work
- > Hand hygiene
- > Keeping areas clean
- > Protecting yourself and your health whilst travelling overseas
- > When you have a notifiable condition

1 – In South Australia the law requires doctors and laboratories to report some infections or diseases to SA Health. These infections or diseases are commonly referred to as 'notifiable conditions'.

You've Got What? 5th Edition

Communicable Disease Control Branch

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The SA Health Disclaimer for this resource is located

at www.sahealth.sa.gov.au/youvegotwhat

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This document has been reviewed and endorsed by SQCAG* for consumers and the community – February 2018.

*SA Health Safety and Quality Community Advisory Group.



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