# Typhoid and Paratyphoid Fever

## What is typhoid and paratyphoid fever?

Typhoid fever is a disease caused by the bacteria Salmonella Typhi, while paratyphoid fever is caused by Salmonella Paratyphi. They are both known as 'enteric fever' and are common in some developing countries.

Typhoid and paratyphoid fever do not normally occur in Australia but are infections usually acquired in countries where they are endemic (India, Africa, Asia, South and Central America, and the Middle East). Typhoid is common in regions where there is poor sanitation and limited access to clean water.

## How is it spread?

Spread of disease occurs when people consume food or water that has been contaminated with faeces or urine from other people carrying the disease.

Raw fruits and vegetables, milk and shellfish are the types of food most associated with the illness.

## Who is at risk?

Anyone can be infected with typhoid or paratyphoid, however those most at risk are travellers going to countries where typhoid is common. Travellers visiting friends and relatives in these countries are at increased risk, as they may be less careful with food and water while abroad. Household contacts and co-travellers of cases are also at risk.

People with a lowered immune system may become infected with typhoid much more easily and can develop a more severe disease. Anti-ulcer and anti-reflux medications can increase the risk of typhoid fever by lowering the acid level in the stomach.

## Signs and Symptoms

The symptoms of typhoid and paratyphoid fever are similar, although paratyphoid tends to be less severe than typhoid.

Those infected can experience fever, headache, lack of appetite and occasionally a dry cough. Some people may experience diarrhoea, while others may experience constipation.

Some cases, particularly those with light skin, may develop pink spots on the trunk.

A small number of people who become infected may only have a short mild illness or no symptoms at all. These individuals may continue to harbour the bacteria for long periods of time. These 'carriers' can pass the typhoid bacteria on without knowing that they are infected.

A small number of people may develop severe complications such as intestinal perforation, pneumonia, meningitis or kidney failure.

Typhoid and paratyphoid fever are diagnosed from a blood or faeces (stool) specimen.

# Infectious period

The time between infection and the appearance of symptoms can vary. Generally people show symptoms around 8 to 14 days after they were infected, but it can be up to 2 months. Some cases may not have any symptoms, but will still be infectious.

Infected individuals will usually shed the bacteria in their faeces or urine for 2 to 6 weeks. Between 3 to 5% of people may continue to shed the bacteria for months or years if not treated with antibiotics.

# Prevention

People travelling in developing countries where typhoid is common should be vaccinated prior to travel and:

- avoid uncooked foods, including fruit unless it is able to be peeled
- avoid untreated water, including ice
- drink beverages from sealed containers
- wash their hands after going to the toilet and before eating
- avoid eating from street stalls
- ensure hot food is thoroughly cooked and eaten while hot.

## Vaccination

Typhoid vaccination is available from your local General Practitioner (GP) or travel clinic and is either a 1 dose injection or a course of 3 capsules.

Even if you have previously lived in an area where typhoid is common, you will need to be vaccinated if you return back on holiday.

The vaccine only covers typhoid fever, but not paratyphoid fever, and is not 100% effective. It is therefore extremely important to follow the food and hygiene recommendations, even if you have had the vaccination.

The vaccine only gives protection for about 3 years so it is important to check that you are up to date with your vaccinations every time you travel abroad, as booster doses may be needed.

# How it can be controlled

It is very unusual for typhoid and paratyphoid fever to spread in Australia.

People with typhoid or paratyphoid fever are followed up to ensure that they have cleared the disease. In addition, their travelling companions and, in certain circumstances, their household contacts are screened for the disease. Cases should not prepare food for others.

Stool tests will be required to assess when a person is cleared of infection with *Salmonella* Typhi and may be required to assess paratyphoid; this is done in collaboration with the local Centre for Disease Control and the case's doctor.

All doctors and laboratories in the Northern Territory must notify cases of typhoid and paratyphoid fever to the local Centre for Disease Control.

# Contact

For more information contact the Public Health Unit's Centre for Disease Control in your region.

The full list of contacts of contacts can be found at NT Health.

| Location | Address | Phone | Fax | Email |
|---|---|---|---|---|
| Darwin | Ground Floor, Building 4<br>Royal Darwin Hospital<br>Rocklands Drive<br>Tiwi NT 0810 | (08) 8922 8044<br>1800 008 002 | (08) 8922 8310 | CDCSurveillance.DARWIN@nt.gov.au |
| Katherine | O'Keef House<br>Katherine Hospital<br>Gorge Road<br>Katherine NT 0850 | (08) 8973 9049 | (08) 8973 9048 | CDC.Katherine@nt.gov.au |
| Tennant Creek | Schmidt Street<br>Tennant Creek NT 0860 | (08) 8962 4259 | (08) 8962 4420 | CDC.Barkly@nt.gov.au |
| Alice Springs | Disease Control Unit<br>Lower Ground Floor<br>Eurilpa House,<br>25 Todd Street<br>Alice Springs NT 0870 | (08) 8951 7540 | (08) 8951 7900 | CDC.alicesprings@nt.gov.au |
| Nhulunbuy | Corner Mathew Flinders Way and Chesterfield Court<br>Nhulunbuy NT 0880 | (08) 8987 0357 | (08) 8987 0500 | CDCGove.DoH@nt.gov.au |


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