

## Typhoid fever

### Typhoid infection is acquired through contaminated food or water

Typhoid and paratyphoid are infections acquired by the ingestion of food or water contaminated by the bacteria *Salmonella Typhi* or *Salmonella Paratyphi*. They cause very similar diseases collectively known as enteric fever and mainly affect low-income areas of the world where sanitation is poor and clean drinking water is not widely available. The majority of global cases of disease occur in Asia, but the disease continues to be a concern in other areas including Africa and parts of Central and South America.

The majority of travel related infections in the UK occur in those visiting friends and relatives in countries of the Indian subcontinent (Bangladesh, India and Pakistan).

Symptoms of typhoid and paratyphoid include: fever, headache, muscle or joint pains, constipation or diarrhoea and a rash. Complications include intestinal bleeding and perforation (development of a hole in the wall of the bowel). If treated most people will make a full recovery however if untreated death rates can be high. Antibiotic resistant infections are increasingly common; this can complicate and reduce treatment options.

## Prevention

The risk of acquiring typhoid or paratyphoid can be reduced by ensuring good personal hygiene and following advice on the prevention of food and water-borne diseases.

## Typhoid vaccination

Vaccination is recommended for travellers whose planned activities put them at higher risk of typhoid infection in areas where sanitation and food hygiene are likely to be poor. Country-specific information on the risk of typhoid can be found in our [Country Information pages](#). Vaccinations currently available only protect against typhoid and not paratyphoid infection.

Both oral and injectable vaccines are available. Some vaccinations are combined with hepatitis A.

## Vaccination schedules

Vaccine	Schedule	Age range
<a href="#">Typhim Vi</a> (intramuscular)	Single dose	Adults and children from 2 years*
<a href="#">Typherix</a> (intramuscular) [discontinued]	Single dose	Adults and children from 2 years*
<a href="#">Vivotif**</a> (oral)	3 capsules: 1st on day 0, 2nd on day 2, 3rd on day 4.	Adults and children from 5 years**
<a href="#">ViATIM</a> - combined hepatitis A and typhoid vaccine (intramuscular) [discontinued]	Single dose of combined vaccine	From 16 years
<a href="#">Hepatyrix</a> -combined hepatitis A and typhoid vaccine.	Single dose of combined vaccine	From 15 years

(intramuscular) [discontinued]	
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**\*Children between the ages of 12 months and two years should be immunised off-license if following a detailed risk assessment the risk of typhoid fever is considered high. Immunisation is not recommended for children under one year of age. When children are too young to benefit fully from typhoid vaccination, scrupulous attention to personal, food and water hygiene measures should be exercised by the caregiver.**

**\*\*Vivotif is a live vaccine, the vaccine capsules should not be chewed and should be swallowed whole as soon as possible after placing in the mouth.**

UK Health Security Agency's Immunisation against infectious disease states: children between the ages of 12 months and two years should be immunised if the risk of typhoid fever is considered high. Immunisation is not recommended for children under one year of age. When children are too young to benefit fully from typhoid vaccination, scrupulous attention to personal, food and water hygiene measures should be exercised by the caregiver.

## Length of protection

Following a single dose of an injectable or a complete course of oral typhoid vaccine, reinforcing immunisation should be offered at three-year intervals for those at continued risk. Booster vaccination of oral typhoid consists of 3 further capsules.

## Resources

- More detailed information can be found in our [typhoid and paratyphoid factsheet](#)
- [UKHSA: Immunisation against infectious disease. Typhoid.](#)
- [UKHSA: Typhoid and paratyphoid: guidance, data and analysis.](#)
- For more information on Typhoid vaccines, see the individual [Summary of Product Characteristics on the electronic medicines compendium.](#)
- [British Infection Association: Guidelines for the Diagnosis and Management of Enteric Fever in England, January 2022](#)