

TYPHOID FACT SHEET

1. Typhoid Fever

Typhoid fever is a serious systematic infectious caused by the enteric pathogen *Salmonella typhi*. Antimicrobial treatment of typhoid fever and symptomatic *Salmonella* carriers has become increasingly complicated by the emergence of multi-drug-resistant strains of *S.typhi*.

As humans are the only source of infection, and transmission of *S. Typhi* is face-oral route, control measures should include improved sanitation and food hygiene. Typhoid vaccination is recommended when the traveler is likely to spend a prolonged time in conditions of doubtful hygiene in countries where typhoid is endemic. It should be noted however, that the vaccines do not provide complete protection and should not replace hygiene precautions.

2. Typhoid Vaccines

A heat inactivated whole cell vaccine showed protective efficacy rates that in controlled studies ranged between 51% and 67%. However, this vaccine is associated with frequent adverse reactions. It has been replaced by two newer typhoid vaccines.

The Vi polysaccharide vaccine: This vaccine is composed of purified Vi polysaccharide from *S. Typhi*. It is administered subcutaneously or intramuscularly as one dose of 24 mg. The vaccine confers protection seven days after injection. Trial in Nepal involving people age 5-44 years showed 75% protection during the months of active surveillance. In a recent study in South Africa, 55% efficacy was demonstrated three years after immunizations of children 5-16 years old. The vaccine requires storage at 2-8 degree Celsius.

The Ty 21 a vaccine: It is a live attenuated strain of *S. typhi* Ty 21a. The vaccine is usually administered orally as enteric-coated capsules and registered for use from six years of age. It has shown a protective efficacy of 62% for at least 7 years. **A liquid formulation of the Ty 21a vaccine can be taken by children as young as two years of age and has proved more immunogenic than the capsular formulation.** In a field trial in Chile among more than 36,000 vaccinees aged 5-19 years old, this formulation provided 79% efficacy five years after immunization. The Ty 21a is remarkably well tolerated. The vaccine may be given simultaneously with other vaccines including OPV, cholera, measles and MMR. The vaccine requires storage at 2-8 degree Celsius.

3. WHO position on typhoid vaccination in emergencies

Both vaccines Vi and Ty 21a are not registered for children below 2 years of age. Current typhoid vaccines are not recommended for mass campaigns to prevent

typhoid disease. Typhoid vaccination in conjunction with other **prevent** measures may be useful to **control** typhoid outbreak depending on local circumstances.

4. Administration Summary

Type of vaccine	Oral Ty21a	Injectable Vi conjugate polysaccharide
Numbers of doses	Three doses at two-day interval	One dose intramuscularly
Contraindications	Hypersensitivity to previous intervals	
Special precautions	Stop proguanil, mefloquine and antibiotics three days before starting Ty 21a until one week afterward	Given the children under two years of age does not confer long-lasting protection
Adverse Reactions	None significant	None significant

www.who.int/vaccines/intermediate/typhoid.htm

http://whqlibdoc.who.int/hq/2001/WHO_CDC_CPE_SMT_2001.13.pdf