TYPHOID FACT SHEET FOR TSUNAMI AFFECTED POPULATIONS

1. Typhoid fever

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

Chloramphenicol, was for a long time the preferred treatment. Due to increasing resistance to chloramphenicol, the selection of ampicillin, co-trimoxazole, quinolone derivatives or third generation cephalosporins may be considered in light of local resistance patterns.

As humans are the only source of infection, and transmission of *S. Typhi* is by faecal-oral route, control measures, should include improved sanitation and food hygiene. However, in the tsunami affected regions the population is forced to live in unsanitary conditions. Until basic infrastructure is rebuilt the most promising strategy to control outbreaks of typhoid fever is vaccination. 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 It has been replaced by two newer typhoid vaccines.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 administrated subcutaneously or intramuscularly as one dose of 25 mg. The vaccine confers protection seven days after injection. Trial in Nepal involving people age 5-44 years showed 75% protection during the 20 months of active surveillance. In a recent study in South Africa, 55% efficacy was demonstrated three years after immunization of children 5-16 years old. The vaccine requires storage at 2 to 8 degree Celsius.

The Ty 21 a vaccine: It is a live attenuated strain of S. typhi Ty 21a. The vaccine is usually administrated 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 vaccinee aged 5-19 Years old, this formulation provided 79% efficacy five year 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 Ty21a 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 preventive measures may be useful to **control** typhoid outbreaks depending on local circumstances

4. Administration Summary

Type of vaccine	Oral Ty21a	Injectable Vi conjugate polysaccharide (VICPS)
Number of doses	Three doses at two-day intervals	One dose intramuscularly
Contraindications	Hypersensitivity to previous doses	
Special precautions	Stop proguanil, mefloquine and antibiotics three days before starting Ty21a until one week afterwards	Given to 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_CDS_CPE_SMT_2001.13.pdf