

Is There a Treatment for Typhoid?^[1,2]

Yes! Typhoid fever is typically treated with antibiotics, and with prompt treatment, most people recover quickly. However, delays can lead to severe complications and prolonged illness.

But, the misuse and overuse of antibiotics are making typhoid bacteria resistant to commonly used antibiotics, leading to longer, complicated and costlier recovery. This is called antimicrobial resistance (AMR).



What is AMR?^[3,4,5]

Antimicrobial resistance (AMR) occurs when bacteria adapt and become resistant to antibiotics, making infections harder to treat. Unfortunately, *Salmonella typhi*, the typhoid causing bacteria, is now becoming resistant to many antibiotics. AMR strains can affect everyone, especially in countries like India, where antibiotic use is rising rapidly. If we don't act now, typhoid treatment could become even more challenging in the future.

Can Vaccination Help?^[1,3,4]

Yes! Vaccination is one of the most effective ways to prevent typhoid and slow down the spread of antibiotic-resistant strains. By getting vaccinated you reduce your risk of infection, which means fewer antibiotics are needed, and the bacteria have fewer opportunities to develop resistance.

References:

^[1] <https://www.ncbi.nlm.nih.gov/books/NBK557513/>

^[2] <https://oklahoma.gov/health/health-education/acute-disease-service/disease-information/typhoid-fever.html>

^[3] <https://www.who.int/publications/i/item/9789240098787>

^[4] <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>

^[5] <https://pmc.ncbi.nlm.nih.gov/articles/PMC10236512/>

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Consult your doctor to know more about typhoid vaccination.



Complications are not worth it

TYPHOID NEEDS ATTENTION



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4-5M

annual cases of typhoid are reported globally^[1]

Typhoid symptoms usually develop **1 or 2 weeks** after a person becomes infected^[2]

Without proper treatment, typhoid could be fatal in up to **30%** of cases^[3]

What is Typhoid?

Typhoid is an infection caused by the enteric bacterium *Salmonella typhi*. After an incubation period of 7 to 14 days, infected individuals develop symptoms of varying severity, including persistent high fever, abdominal discomfort, malaise and headache.

Without preventive measures and prompt treatment, typhoid can have life-threatening risks.

Why is Typhoid a Growing Health Concern?

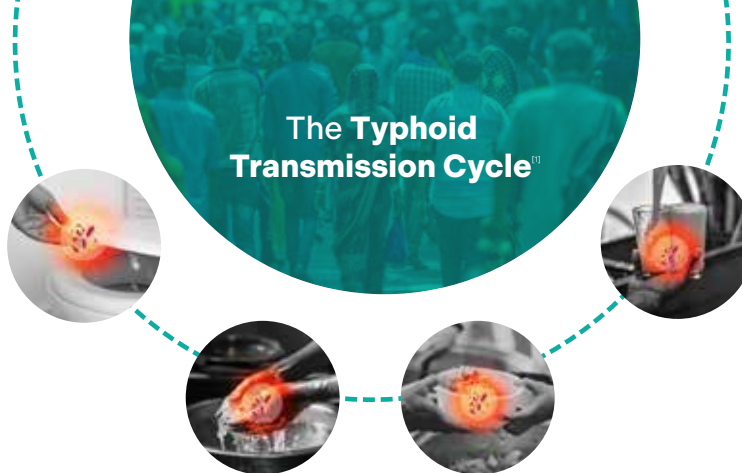
Antimicrobial resistance makes typhoid harder to treat.^[4]

Chronic carriers carry the bacteria without the symptoms, infecting others.^[7]

Vital organs can be affected if it spreads through the body.^[6]

It spreads quickly and is highly contagious, making it a public health risk.^[7]

The Typhoid Transmission Cycle^[1]



Some Symptoms of Typhoid^[2]



Progressively increasing high fever



Headache



Chills



Weakness or fatigue



Stomach ache



Excessive sweating



Loss of appetite



Cough



Diarrhoea or constipation



Nausea and vomiting



Muscle aches



Rashes or spots (typically on chest or stomach, more visible in fair skin)

Salmonella typhi can remain in the body even without these symptoms.^[5]

How to Prevent Typhoid^[9]



Wash hands regularly



Practising safe eating habits



Get vaccinated

WASH Protocol^[11]

WASH (water, sanitation and hygiene) is the foundation of preventing typhoid.

Always wash your hands after using the toilet, while preparing or serving food, before eating, and after changing a diaper.^[12] If soap and water are unavailable, use an alcohol-based hand sanitiser.^[11]

Practicing WASH, along with vaccination, provides the strongest defense against typhoid.

Safe water habits^[1,2]

- Drink filtered, boiled, or bottled water
- Avoid ice creams, popsicles, or ice made from untreated water
- Avoid drinking unpasteurised milk

Safe food habits^[1,2]

- Wash fruits and vegetables properly
- Cook your food thoroughly
- Avoid street food unless freshly cooked and served hot
- Avoid dairy products like cheese and paneer made from unpasteurised milk
- Avoid undercooked eggs

In India, **two** types of typhoid vaccines are available:^[3]

Feature	Typhoid Conjugate Vaccine (TCV) [*]	Vi Polysaccharide (Vi-PS)
Efficacy	up to 87.1% ^[4]	55-61% ^[8,9]
Age	6 months and older ^[5]	2 years and older ^[6]
Administered	Injection ^[5,7]	Injection ^[6,7]
Dosage	Consult your doctor ^[10]	Consult your doctor ^[10]
Booster	As recommended by your doctor ^[10]	As recommended by your doctor ^[10]
Protection	7 years ^[6]	2 to 3 years ^[6]

^{*}Data for the above table has been taken from studies conducted on Typhar-TCV

While improved hygiene and sanitation can lower the risk of typhoid, vaccination dramatically reduces the likelihood of infection.

The WHO-SAGE Working Group on Typhoid Vaccines recommends Typhoid Conjugate Vaccine for adults, children and infants (≥6 months).^[3,5]

Consult your doctor for early vaccination.

References:
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[2] <https://www.dhsa.texas.gov/sites/default/files/IDCU/investigation/electronic/EADIG/2023/Typhoid-Fever-Salmonella-Typhi.pdf>
[3] Purple Book: IAP Guidebook on Immunization 2022 By Advisory Committee on Vaccines and Immunization Practices (ACVIP)
[4] [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(17\)32149-9/](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)32149-9/)
[5] <https://iris.who.int/bitstream/handle/10665/345367/WHO-IVB-2021.04-eng.pdf>
[6] <https://www.ncbi.nlm.nih.gov/books/NBK557313/>
[7] <https://pmc.ncbi.nlm.nih.gov/articles/PMC10266125/>
[8] Milligan R, Paul M, Richardson M, Neuberger A. Vaccines for preventing typhoid fever. Cochrane Database Syst Rev. 2018;5: CD001261.
[9] <https://www.nejm.org/doi/full/10.1056/NEJMoa0807521>
[10] [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(24\)01494-6/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01494-6/fulltext)

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[1] <https://immunizationdata.who.int/global/wisde-detail-page/typhoid-reported-cases-and-incidence?CODE=Global&YEAR=2019>
[2] <https://www.nhs.uk/conditions/typhoid-fever/symptoms/>
[3] <https://acvip.org/parents/columns/typhoid.php>
[4] <https://www.who.int/news-room/fact-sheets/detail/typhoid>
[5] <https://www.ncbi.nlm.nih.gov/books/NBK557313/>
[6] <https://www.mayoclinic.org/diseases-conditions/typhoid-fever/symptoms-causes/syc-20378661>
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[1] <https://acvip.org/parents/columns/typhoid.php>
[2] <https://www.mayoclinic.org/diseases-conditions/typhoid-fever/symptoms-causes/syc-20378661#symptoms>
[3] <https://www.cdc.gov/typhoid-fever/prevention/index.html>