

Typhoid

Typhoid fever or typhoid is a food and water borne bacterial infection due to a specific type of [Salmonella](#) that causes symptoms. Typhoid fever is a result of systemic infection mainly by *Salmonella typhi*. Clinically it is characterized by typical continuous fever for 3 to 4 weeks.

Causative agent

Salmonella typhi

Facultative anaerobic

Gram negative bacilli

TRANSMISSION

- faecal-oral route.
- close contact with patients or carriers.
- contaminated water and food.
- flies and cockroaches.

Symptoms



DIAGNOSIS OF TYPHOID

1. Microbiological procedures
2. Serological procedures
3. New diagnostic tests



Isolation and identification of *S. typhi* from blood and stools

Mac Conkuy's agar medium
to isolate Gram-negative and
enteric bacilli

Salmonella on Mac Conkey's agar

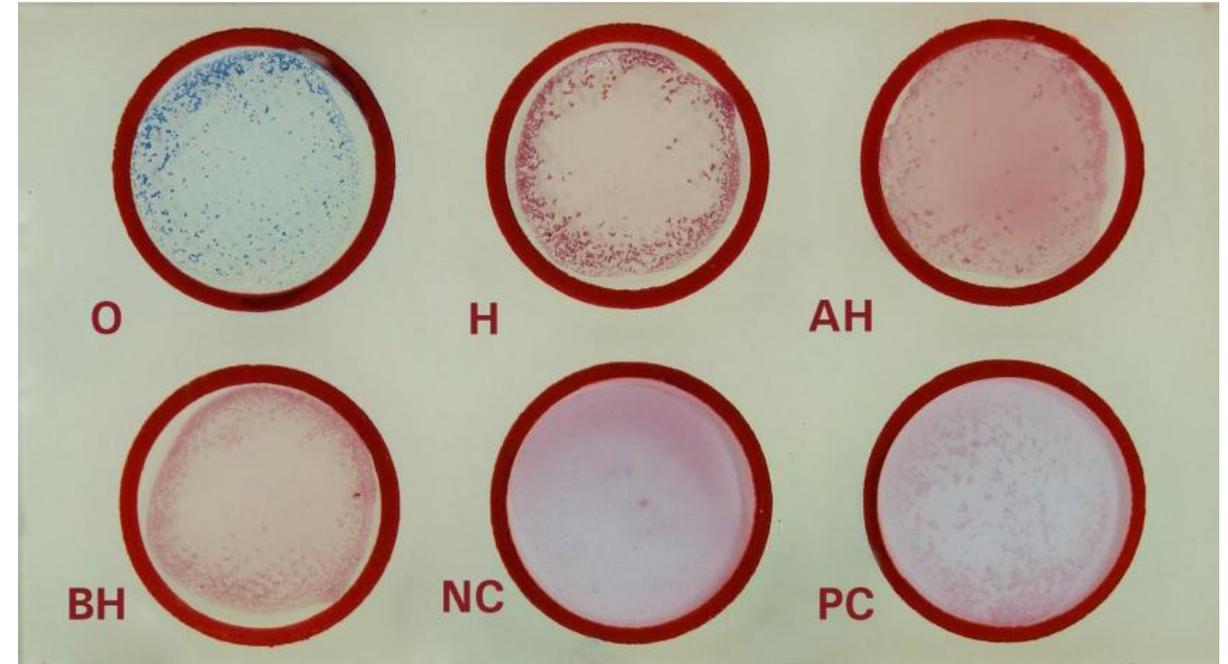


Wilson and Blair Bismuth Sulphite Agar Medium
to the isolation and preliminary identification of
Salmonella typhi producing black colony



Widal test

to identify specific antibodies in serum of people with typhoid by using antigen-antibody interactions forming clumping which indicates positive test. Widal test measures agglutinating antibody levels against O & H antigens



Rapid test

IDL tubex test can detect specific IgM antibodies in samples to *S. Typhi* within a few minutes

Typhidot test that detects presence of IgM and IgG in one hour



Treatment

Ciprofloxacin ,
Chloramphenicol,
Ceftriaxone,
Cefotaxime,
Azithromycin

Prevention

Control of reservoir (identification, isolation, treatment & disinfection)

Control of sanitation (drinking water supplies, improvement sanitation and food hygiene)

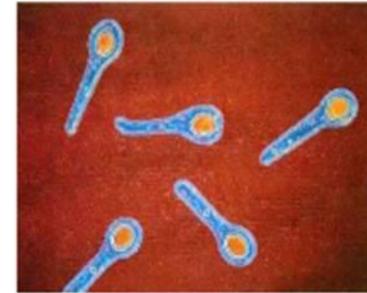
Immunization (getting vaccines against typhoid)

What is Tetanus?

Tetanus is an illness characterized by an acute onset of hypertonia, painful muscular contractions (usually of the muscles of the jaw and neck), and generalized muscle spasms without other apparent medical causes.

Causative agent

An infectious disease caused by contamination of wounds from the bacteria *Clostridium tetani*, or the spores they produce that live in the soil, and animal feces



Anaerobic

Motile

Gram positive bacilli

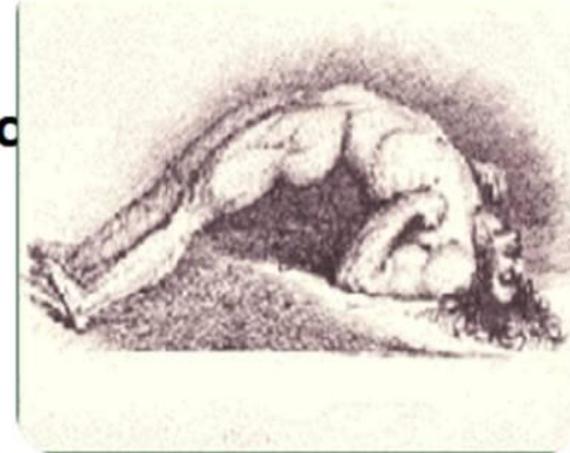
Oval, colourless, terminal spores – tennis racket or drumstick shape.

Symptoms

Clostridium tetani produces neurotoxin mainly **tetanospasmin** that causes the clinical manifestations of tetanus

Tetanic seizures (painful, powerful bursts of muscle contraction)

- stiffness of jaw (also called lockjaw)
- stiffness of abdominal and back muscles
- contraction of facial muscles
- fast pulse
- fever
- sweating



Diagnosis

Culture and identification of *C. titani*

Tetanus antibody test

Treatment

Bacteria can be killed by antibiotics such as penicillin or tetracycline to prevent further toxin production

The toxin is neutralized by antitoxin, tetanus immune globulin

Other drugs may be given to provide sedation, relax the muscles and relieve pain

Prevention

Tetanus can be prevented by vaccination

The tetanus toxoid (inactivated toxin) is given to boost immunization