

### **What is paratyphoid fever?**

Paratyphoid fever is a serious contagious disease caused by any of three serotypes of *Salmonella Paratyphi*: *S. Paratyphi A*, *S. Paratyphi B*, and less commonly *S. Paratyphi C*. It is also grouped together with typhoid fever under the name “enteric fever”.

### **Who gets paratyphoid fever?**

Any person can get paratyphoid fever, but those who travel to the non-industrialized countries of Asia, Africa, Central America, and especially those traveling to South Asia and South America are especially at risk.

### **How is paratyphoid fever spread?**

Paratyphoid fever is transmitted by ingestion of food or water contaminated with feces or urine of infected people or directly from person to person. Shellfish harvested from sewage-contaminated water are potential vehicles, as are fruits and vegetables grown in soil fertilized with human waste. Domestic animals may harbor *S. Paratyphi*, but this is rare.

### **What are the symptoms of paratyphoid fever?**

Paratyphoid fever is marked by high fever, headache, loss of appetite, vomiting, and constipation or diarrhea. The patient typically develops an enlarged spleen. About 30% of patients have rose spots on the front of the chest during the first week of illness. The rose spots develop into small hemorrhages that may be hard to see in dark-skinned individuals.

Patients with intestinal complications have symptoms resembling those of appendicitis: intense cramping pain with soreness in the right lower quadrant of the abdomen.

The clinical differences in signs, symptoms, and outcome between typhoid and paratyphoid fever are subtle. Typhoid fever is traditionally believed to be more common, having a more severe clinical course, and resulting in more frequent and severe sequelae than paratyphoid fever. Recent studies suggest that paratyphoid fever (only *S. Paratyphi A*) has become the most frequent cause of enteric fever in some areas and that the clinical presentation of typhoid and paratyphoid fever are impossible to distinguish.

### **How soon after exposure do symptoms appear?**

Paratyphoid symptoms usually appear 1 to 10 days after exposure. The incubation period is often shorter in children. Symptom onset may be gradual in adults, but is often sudden in children.

### **How long can an infected person carry *Salmonella Paratyphi*?**

Little is known about the likelihood of becoming a chronic carrier after paratyphoid fever, however it appears that persons with *S. Paratyphi* infections become carriers less frequently than persons infected with *S. Typhi*.

### **Do infected people need to be isolated or excluded from work or school?**

High risk patients with paratyphoid fever should be excluded from all work providing day care or health care or involving food handling until at least 3-consecutive, negative, stool cultures taken at least 24-hours apart and at least 48-hours after antibiotic therapy has stopped **and not earlier than one month after the onset of illness.**

**Should contacts be tested?**

Household and close contacts should be excluded from high-risk occupations (i.e., food workers, day care workers, and healthcare professionals) until at least 2-consecutive, negative stool samples taken 24-hours apart are obtained.

**Can paratyphoid fever be treated?**

Patients with paratyphoid fever should immediately seek medical attention. Paratyphoid fever can be effectively treated with antibiotic therapy. Several new drugs have produced excellent results in the treatment for carriers, but follow-up cultures are necessary to confirm cure.

**How can paratyphoid fever be prevented?**

When traveling to areas where paratyphoid fever is endemic, avoid risky foods and drinks (uncooked foods, non-bottled water, or drinks made with ice). Always practice thorough hand washing.