

Salmonellosis

Reporting Obligations

Individuals who have or may have salmonellosis shall be reported to the local Health Unit.

REPORTING FORM

Epidemiology

Aetiologic Agent:

Salmonellosis is caused by the bacterium, *Salmonella*, a Gram-negative, non-spore forming bacillus that has over 2,500 serotypes, belonging to the *Enterobacteriaceae* family.

The new nomenclature for *Salmonella* is *Salmonella enterica* subsp. *enterica*. Serovars include Typhimurium, Enteritidis, etc.

Clinical Presentation:

Symptoms include sudden onset of headache, fever, abdominal pain, diarrhea, nausea and sometimes vomiting. Some infected individuals may experience bloody diarrhea. Dehydration, especially among the young, the elderly and those with impaired immune systems can be severe, and may result in hospitalization. Reactive arthritis is a recognized sequela of salmonellosis. Death is uncommon.

Foodborne *Salmonella* infection can lead to urinary tract infection, particularly among elderly women. This is generally caused either by self-contamination of the urinary tract due to improper wiping or as a result of bacteremia.

Modes of transmission:

Most types of *Salmonella* live in the intestines of animals and birds. Infection is acquired by the ingestion of organisms in food contaminated by the stool of an infected animal or person. The most common food vehicles include poultry and poultry products (e.g. raw/undercooked chicken nuggets), raw milk and raw milk products, contaminated water, meat and meat products, raw/undercooked eggs and egg products, and raw fruits and vegetables. Raw alfalfa sprouts, raw mung bean sprouts, and spicy sprouts have been linked to a number of outbreaks in Canada and the United States. *Salmonella* has recently been found in pet foods and was associated with a multistate wide outbreak in the US and UK.

The bacteria can be carried by iguanas, turtles, tortoises, chicks, hamsters, domestic pets and farm animals.

Fecal-oral transmission from person-to-person has also been observed when diarrhea is present, especially in institutional settings. Infants and stool incontinent adults pose a greater risk of transmission than do asymptomatic carriers.

Incubation Period:

From 6-72 hours, usually about 12-36 hours. Longer incubation periods of up to 16 days have been documented, and may not be uncommon following low-dose ingestion.

Period of Communicability:

The median duration of fecal shedding of non-typhoidal *Salmonella* after intestinal infection has been estimated as 1 month in adults and 7 weeks in children less than 5 years of age. Antibiotic usage may prolong the duration of fecal shedding, but human carriage of non-typhoidal *Salmonella* species beyond one year is rare.

Risk Factors/Susceptibility

Susceptibility is general and usually increased by achlorhydria, antacid treatment, gastrointestinal surgery, prior or current broad-spectrum antibiotic therapy, neoplastic disease, and other immunosuppressive conditions including malnutrition.

Diagnosis & Laboratory Testing

Diagnosis is made through the isolation of *Salmonella* organisms from stool, rectal swabs, urine, blood or any other sterile site.

TESTING INFORMATION & REQUISITION

Treatment & Case Management

Decisions regarding treatment of individual cases are at the discretion of the attending clinician. For uncomplicated enterocolitis, treatment is generally supportive (e.g., rehydration and electrolyte replacement as needed). Evidence suggests that antibiotic therapy does not shorten the duration of disease, can prolong the duration of fecal excretion, may not eliminate the carrier state, and may lead to resistant strains or more severe infections. Antibiotic treatment may be considered for certain groups, including infants up to 2 months, the elderly, the debilitated, those with sickle cell disease, persons with HIV, or patients with continued high fever or manifestations of extraintestinal infection.

Inform patients that symptomatic cases will be excluded from food handling, from attending or working in day nurseries, from direct care of infants, elderly, immunocompromised and institutionalized patients until symptom free for 24 hours, or symptom free for 48 hours after discontinuing use of anti-diarrheal medication.

Public Health will be involved in case investigation and management.

Patient Information

PATIENT FACT SHEET

Additional Resources

1. PHAC. "Salmonella Fact Sheet". 22 Nov 2012.
2. MOHLTC, Public Health Division. "Did you know that contact with amphibians, reptiles, and feeder rodents can make you sick with Salmonella?"
3. Simcoe Muskoka HealthSTATS: Salmonella
4. Public Health Ontario: Salmonellosis (Resources and services for the surveillance, prevention and control of salmonellosis)

References

1. Ministry of Health and Long Term Care. *Infectious Diseases Protocol*, 2014.