Salmonellosis

Epidemiology in New Zealand

**Note:** There are separate chapters for typhoid and paratyphoid fevers.

Salmonellosis is a common foodborne and water disease in New Zealand, and outbreaks are common. The highest rate of disease is reported in young children.

More detailed epidemiological information is available on the Institute of Environmental Science and Research (ESR) surveillance website at www.surv.esr.cri.nz

Further information on foodborne illness is available at www.foodsafety.govt.nz and www.mpi.govt.nz.

Case definition

Clinical description

Salmonellosis presents as gastroenteritis, with abdominal pains, diarrhoea (occasionally bloody), fever, nausea and vomiting. Asymptomatic infections may occur.

Laboratory test for diagnosis

**Laboratory confirmation requires** isolation of *Salmonella* species from a clinical specimen.

All isolates should be referred to the Enteric Reference Laboratory at ESR for further characterisation.

Case classification

- **Under investigation:** A case that has been notified, but information is not yet available to classify it as probable or confirmed.

- **Probable:** A clinically compatible illness that either is a contact of a confirmed case of the same disease or has had contact with the same common source – that is, is part of a common-source outbreak.

- **Confirmed:** A clinically compatible illness that is laboratory confirmed.

- **Not a case:** A case that has been investigated and subsequently found not to meet the case definition.
Spread of infection

Incubation period
6–72 hours, commonly 12–36 hours.

Mode of transmission
Ingestion of organisms in contaminated foodstuffs, including meat products and imported foodstuffs. Many animals and birds are asymptomatic carriers of Salmonella spp. Undercooking of contaminated foodstuffs and cross-contamination (especially of raw fruits and vegetables) in the kitchen are thought to be responsible for many cases. Ingestion of faecally contaminated water causes frequent cases in New Zealand.

Infection may be a result of direct contact with an infected farm or domestic animal. Person-to-person spread occurs, often from infants and stool-incontinent adults. Commonly reported risk factors identified in New Zealand cases include consuming food from retail premises, contact with animals (farm animals and pets, including fish and reptiles), consumption of untreated water and overseas travel. Recreational water contact and contact with symptomatic people during the incubation period are less commonly reported.

Period of communicability
Variable; typically several days to several weeks. Approximately 1 percent of infected adults and 5 percent of infected children under 5 years of age excrete Salmonella spp. for more than 1 year.

Notification procedure
Attending medical practitioners or laboratories must immediately notify the local medical officer of health of probable or confirmed cases.

All health care workers are encouraged to talk with a medical officer of health about any suspected outbreaks of acute gastroenteritis or cases in people working in high-risk occupations.

Management of case

Investigation
Obtain a food history and details of water consumption, animal contact and travel as well as details of occupation.

Investigate and obtain a more detailed history (using the ESR salmonella questionnaire) if there is an outbreak or the case is in a high-risk occupation or attends an early childhood service.

Ensure symptomatic cases submit stool samples for testing.
Restriction
In a health care facility, only standard precautions are indicated in most cases; if the case is a diapered or incontinent child, apply contact precautions for the duration of the illness. For further details, refer to the exclusion and clearance criteria in Appendix 2: Enteric Disease.

Counselling
Advise the case and/or caregivers of the nature of the infection and its mode of transmission. Educate about hygiene, especially hand cleaning.

Management of contacts
Household contacts who are food handlers should supply one negative stool.

Other control measures
Identification of source
Check for other cases in the community. Investigate potential food or water sources of infection only if there is a cluster of cases or an apparent epidemiological link.

If indicated, check water supply for microbiological contamination and compliance with the latest New Zealand drinking-water standards (Ministry of Health 2008). If a water supply is involved, liaise with the local territorial authority to inform the public. Advise on the need to boil water.

Disinfection
Clean and disinfect surfaces and articles soiled with stool. For further details, refer to Appendix 1: Disinfection.

Health education
Educate the public about safe food preparation (see Appendix 3: Patient Information).

Hand-cleaning facilities should be available and used after contact with animals. Young children should be supervised during contact with animals and during hand cleaning. Food-related activities should be separated from areas that house animals. Domestic animals with diarrhoea should be taken to a veterinarian for assessment and treatment.

In early childhood services or other institutional situations, ensure satisfactory facilities and practices regarding hand cleaning; nappy changing; toilet use and toilet training; preparation and handling of food; and cleaning of sleeping areas, toys and other surfaces.
Reporting

Ensure complete case information is entered into EpiSurv.

If a cluster of cases occurs, contact the Ministry of Health Communicable Diseases Team and outbreak liaison staff at ESR, and complete the Outbreak Report Form.

Liaise with the environmental health officer of the local territorial authority where food premises are thought to be involved. Liaise with the Ministry for Primary Industries if a contaminated commercial food source is thought to be involved.

References and further information