

Salmonellosis (excluding *S. Typhi* and *Paratyphi* Infection)

Control Guideline for Public Health Units

Last updated: March 2021

Public health priority: High if a cluster. Routine for all others.

PHU response time: Respond to confirmed cases on the same day of notification if:

- Part of a cluster
- Infected with *Salmonella* Enteritidis
- Asked by the Communicable Disease Branch

Enter confirmed cases on NCIMS within 3 working days.

Case management: Advise cases who are food handlers or who care for children, the elderly or patients to stay away from work until 48 hours have elapsed after symptoms have completely resolved. Identify likely source.

Contact management: Close contacts should be encouraged to seek medical attention early if symptoms develop.

1. Reason for surveillance

- To identify outbreaks of *Salmonella*, to determine the source of the infection and to prevent further cases through control measures
- To detect the emergence of new strains of *Salmonella*
- To monitor the epidemiology of *S. Enteritidis* to enable early detection of *S. Enteritidis* in poultry in Australia
- To inform the development of better prevention strategies.

2. Case definition

Salmonellosis

Reporting

Only confirmed cases should be notified

Confirmed Case

A confirmed case requires laboratory definitive evidence only.

Laboratory definitive evidence

Isolation or detection of *Salmonella* species (excluding *S. Typhi*, *S. Paratyphi A*, *S. Paratyphi B* (with the exception of *S. Paratyphi B* biovar Java) and *S. Paratyphi C* which are notified separately under Enteric Fever).

3. Notification criteria and procedure

Salmonella infection is to be notified by:

- Laboratories on isolation of Salmonella.

Only confirmed cases should be entered onto NCIMS.

4. The disease

Infectious agent

There are many different serotypes of Salmonella that cause human disease.

Mode of transmission

Salmonella infection is transmitted by:

- Eating contaminated food
- Drinking contaminated water
- Contact with infected animals including tropical fish and reptiles
- Contact with an infected case who has diarrhoea

Timeline

The typical incubation period can vary from 6 hours to 3 days, (and occasionally longer), but is commonly 12 to 36 hours. Salmonellosis is infectious while the case's stools are positive, which can vary from several days to several weeks after infection. A temporary carrier state occasionally continues for months, particularly in infants, the elderly and immunocompromised people. Long term permanent carriage occurs in <1% of the population.

Clinical manifestations

Salmonella infection usually presents as acute gastroenteritis, with sudden onset of headache, abdominal pain, diarrhoea, nausea and sometimes vomiting. In rare cases, *Salmonella* can cause septicaemia or focal infections such as abscesses or arthritis.

5. Managing notifications

Response time

Investigation

Begin follow-up investigation on same day of notification for

- a cluster of cases of any untyped *Salmonella* cases, *Salmonella* serotype or MLVA type, or
- a single case of *Salmonella Paratyphi* bioser Java), or
- a single case of *S. Enteritidis*.
- a single case of unusual or emerging *Salmonella* serotypes.
- if asked by the Communicable Diseases Branch.

Notify the Communicable Disease Branch on the day a cluster of cases of any *Salmonella* serotype or MLVA type is identified. Local clusters should be investigated by the Public Health Unit in whose area the cases reside, using the hypothesis generating questionnaire on the NSW Health website.

Investigations of state wide outbreaks will be centrally coordinated in close collaboration with the PHUs.

Data entry

Within 3 working days of notification enter confirmed cases on NCIMS. Serotype and MLA type will be automatically uploaded into NCIMS by the enterics team.

Response procedure

The response to a notification will normally be carried out in collaboration with the case's health carers. Where the PHU undertakes follow up, it should ensure that action has been taken to:

- confirm the onset date and symptoms of the illness
- confirm results of relevant pathology tests, or recommend the tests be done
- find out if the case or relevant care-giver has been told what the diagnosis is before beginning the interview
- seek the doctor's permission to contact the case or relevant care-giver
- review case and contact management
- identify whether the case is in a high risk occupation
- identify the likely source of infection.

Case management

Investigation and treatment

For case treatment, refer to [Therapeutic Guidelines: Antibiotic](#). For non-invasive and uncomplicated cases, treatment is usually supportive only. Antibiotics given in the acute stage may prolong the carrier state, but may be indicated in the very young, the elderly or debilitated.

Investigation

- Single cases of *S. Paratyphi bioser Java* infection should be followed up to ascertain exposures such as overseas travel, sandpits (associated with outbreaks on the Northern beaches of Sydney), aquariums in the home and imported seafood (both associated with multi-antibiotic resistant *S. Paratyphi bioser Java* organisms).
- Single cases of *S. Enteritidis* need to be followed up to ascertain overseas travel during their exposure period. If the case was unlikely to have been acquired overseas, the case should be interviewed with the Salmonella Enteritidis questionnaire to ascertain a possible local source (see Useful links section). *S. Enteritidis* is transmitted through consumption of contaminated eggs where transovarial transmission has occurred. While *S. Enteritidis* is endemic in commercial poultry farms in most countries it is not endemic in chicken flocks for egg-laying or meat production in Australia. Understanding the epidemiology of locally acquired *S. Enteritidis* infection in humans may assist in the detection of *S. Enteritidis* in poultry.
- If the case has recently travelled overseas, determine what countries were visited during their exposure period. An interview with the hypothesis generating questionnaire is not necessary for cases that were most likely infected while overseas.
- Investigation into single cases of infections of other serotypes of Salmonella is dependent on local epidemiology and at the discretion of the Public Health Unit Director. The identification of unusual or emerging pathogens may prompt an investigation.

Education

The case or relevant care-giver should be informed about the nature of the infection and the mode of transmission. Emphasise the importance of correct food handling and hygienic practices, particularly hand washing before eating and preparing food and after going to the toilet.

Isolation and restriction

- Cases who are food handlers should not attend work until 48 hours have elapsed after symptoms resolve. The case should be provided with information regarding hand washing and hygiene before returning to work.
- Other people with Salmonella infection should not attend work while diarrhoea is present
- Cases who reside in an institution should be cohorted (separated from non-infected residents) if possible. Contact precautions should be used when caring for infected residents
- Children in childcare should be excluded until 24 hours after diarrhoea ceases. It is not necessary for them to be excluded if they have a positive stool sample but do not have symptoms.

Environmental evaluation

Where a food source is suspected on epidemiological grounds, immediately notify the NSW Food Authority to conduct an environmental assessment and consider control measures.

Contact management

Not required

6. Useful links

1. Salmonellosis Hypothesis Generating Questionnaire: <https://www.health.nsw.gov.au/Infectious/Forms/salmonellosis-questionnaire.pdf>
2. Questionnaire for serovar Salmonella Enteritidis only: <https://www.health.nsw.gov.au/Infectious/Forms/s-enteritidis-questionnaire.pdf>