

Shigella

Food Act 2006

Shigellosis, foodborne illness caused by *Shigella* bacteria, is a type of gastroenteritis that occurs worldwide, caused by a group of bacteria belonging to the genus, *Shigella*. There are four species considered to cause foodborne illness: *S. dysenteriae*, *S. flexneri*, *S. boydii* and *S. sonnei*.

S. dysenteriae is considered the most virulent and has the potential to produce a potent toxin known as “shiga toxin”. *S. dysenteriae* is often associated with serious disease and a high fatality rate primarily in children, causing severe complications such as haemolytic uraemic syndrome. *S. sonnei*, which is more common in Queensland and Australia (about three quarters of cases), is usually associated with milder illness. *S. flexneri* also occurs relatively commonly in Queensland, with *S. boydii* and *S. dysenteriae* more rarely seen, and often associated with overseas travel. *S. flexneri* and *S. boydii* can cause either severe or mild illness.

Shigella spp. belong to the Enterobacteriaceae family and are very similar to *Escherichia coli* bacteria. The normal host of *Shigella* spp. is humans, and transmission most commonly occurs person-to-person via the faecal-oral route. It can spread rapidly, especially among young children, such as in childcare centres, kindergartens, primary schools and also between men who have sex with men (MSM).

How does *Shigella* cause foodborne illness?

Shigella is able to survive in foods at refrigeration and room temperatures. Infected food handlers may contaminate foods with the bacteria. *Shigella* is found in the intestinal tract of infected people and spreads easily from person to person. Infection may occur through the faecal-oral route, after the ingestion of contaminated food, and may also be spread by flies. Infection can occur following ingestion of very few organisms (10-100).

Shigellosis begins with the ingestion of the bacteria, which upon reaching the person’s colon invade the colonic cells and multiplies. The process eventually leads to inflammation and ulceration of the colon, causing diarrhoea.

Who is at risk?

Anyone can be affected by *Shigella* foodborne illness, but certain people are at greater risk of severe illness, including:

- children (most cases occur in children under the age of 10)
- returned travellers, especially from areas of inadequate sanitation, poor living conditions and overcrowding
- pregnant women
- older adults (over 60 years)
- people with weakened immune systems
- MSM population.

Symptoms of *Shigella* foodborne illness

After eating contaminated food, most infected people will experience the following symptoms within one to seven days, but they are usually seen within one to three days:

- mild to severe diarrhoea
- abdominal cramps
- traces of blood or mucus in the faeces (poo)
- fever
- nausea
- vomiting.

Laboratory tests that identify *Shigella* bacteria in the faeces of an ill person can diagnose shigellosis. Asymptomatic carriage of *Shigella* may persist for several months following recovery from symptoms.

Prevention

Shigella may survive on meat and vegetable products for several days under refrigerated conditions. It is important to:

- wash fruit and vegetables to remove as many bacteria as possible
- cook food thoroughly and serve it immediately or keep it hot (60°C or hotter) until serving
- reheating cooked food rapidly with a microwave or stovetop (to 60°C or above)
- keep the kitchen clean and ensure all food contact surfaces are cleaned and sanitised to prevent cross contamination of food
- ensure good personal hygiene, particularly hand washing, to stop others from becoming infected
- exclude food handlers with symptoms from handling food and the care of other people is important until 48 hours after the symptoms cease.

Careful handwashing with soap and water after using the bathroom, handling nappies if working in childcare, and before preparing food is the most important way to prevent shigellosis.

What to do if you suspect foodborne illness

If you suspect you have foodborne illness, seek medical advice.

A faeces (poo) sample may be required to confirm the presence of *Shigella*.

Diarrhoea can cause dehydration, so it is important to drink plenty of fluids.

If you have a concern about a food product or a food business, Queensland Health provides an online form to make a food complaint. This is available at <https://phconnect-foodcomplaints.health.qld.gov.au>.

Further information

For health advice, please contact your doctor or nearest health facility, or call 13HEALTH ([13 43 25 84](tel:13432584)).

For food safety advice and further information relating to *Shigella* in food, contact your local Public Health Unit at www.health.qld.gov.au/system-governance/contact-us/contact/public-health-units.

The Food Pantry has advice related to food safety for food businesses and consumers at www.qld.gov.au/foodpantry.