



Salmonellosis

(*Salmonella*)

What is salmonellosis?

Salmonellosis is an infection caused by *Salmonella* bacteria. The infection generally affects the intestinal tract, but can occasionally spread to the bloodstream and other body sites, causing severe illness.

Who is at risk for salmonellosis?

Anyone can get salmonellosis. Children who are 5 years and younger, adults older than 65, and people with impaired immune systems are more likely to have severe infections.

What are the symptoms of salmonellosis?

People who are infected with *Salmonella* may experience mild to severe diarrhea, abdominal pain, fever, nausea, and vomiting for several days. Bloodstream and focal infections, such as meningitis or endocarditis, are infrequent but can be serious, particularly in the very young or elderly.

How soon do symptoms appear?

The symptoms generally appear 12 to 36 hours after exposure, but they can occur as quickly as six hours or as long as 72 hours after exposure. In some instances, incubation periods of up to 16 days are possible.

How is *Salmonella* spread?

Salmonella live in the intestinal tracts of humans and other animals, including birds. People can become infected by ingesting food or water contaminated with *Salmonella* or after contact with infected animals. Contaminated foods are often of animal origin – such as beef, poultry, milk or eggs – but all foods, including vegetables, can become contaminated. Food may also become contaminated by an infected food handler who did not adequately wash his or her hands with soap and running water after using the bathroom.

Salmonella can be found in the feces of some pets and livestock, even if they appear to be healthy. People can become infected if they do not wash their hands after contact with infected animals or their environments. Reptiles, such as lizards and turtles, are particularly likely to harbor *Salmonella*. People should wash their hands immediately after handling a reptile. Adults should ensure that children always wash their hands after handling a reptile.

When and for how long is a person able to spread salmonellosis?

A person can shed *Salmonella* bacteria in his or her stool for several days to several weeks, even after symptoms stop. Sometimes people who are asymptomatic can carry the bacteria for months. This is especially true of infants or people who have been treated with antibiotics. About 1 percent of infected adults and 5 percent of children younger than five shed *Salmonella* in their stool for up to one year.

How is a person diagnosed?

Laboratory tests can identify *Salmonella* in the stool of an infected person. In some cases, the bacteria may be found in other specimen sources (e.g., urine, blood, cerebrospinal fluid, wounds, etc.).

What is the treatment for salmonellosis?

Most people with salmonellosis will recover on their own in about four to seven days. Some may require fluids to prevent dehydration. Antibiotic therapy is recommended only for patients with severe illness or those at high risk for severe disease.

Does past infection with *Salmonella* make a person immune?

No.

Should children or others be excluded from childcare, school, work or other activities if they have salmonellosis?

A child should be excluded from childcare if he/she has:

- Vomited two or more times within the previous 24 hours, unless the vomiting is determined to be caused by a noninfectious condition and the child is not in danger of dehydration
- Diarrhea, if stool is not contained in the diaper or if diarrhea frequency exceeds two or more stools above normal for that child
- A fever or is unable to participate and the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group

A child or an adult should be excluded from school or work if diarrhea cannot be contained. Food handlers should be excluded from handling food until diarrhea ceases and two successive negative stool cultures are obtained, or the worker has been asymptomatic for at least thirty days. Approval from the food establishment's regulatory authority is required before the employee can return to work. Healthcare workers who provide patient care and people who care for infants and young children should be excluded until they are asymptomatic. Healthcare workers and childcare providers should refer to their employer's policy for specific guidelines on when to return to work.

What can be done to prevent the spread of *Salmonella*?

- Always treat raw eggs, poultry, beef and pork as if they are contaminated, and handle accordingly.
- Wrap fresh meats in plastic bags at the market to prevent blood from dripping on other foods.
- Do not wash raw poultry, meat, and eggs before cooking.
- Cutting boards, counters, and utensils used for food preparation should be washed with soap and water immediately after use to prevent cross-contamination with other foods.
- Avoid eating raw or undercooked meats.
- Use a food thermometer to ensure that cooked foods reach a safe minimum internal temperature. For further information, please visit www.foodsafety.gov/keep/charts/mintemp.html.
- Avoid eating raw or undercooked eggs, or undercooking foods that contain raw eggs.
- Thoroughly wash all fresh produce before consuming.
- Do not eat or drink raw (unpasteurized) dairy products.
- Refrigerate foods promptly; minimize the time food is held at room temperature.
- Carefully wash hands with soap and running water often, especially before and after food preparation, after handling pets or livestock, after using the restroom, and before eating food.

Additional Information:

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resources:

1. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. [Children in Out-Of-Home Child Care]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2018: 122-136.
2. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. [*Salmonella* Infections]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2018: 711-718.
3. Heymann, D. L. (2015). *Control of Communicable Diseases Manual, 20th Edition*. Salmonellosis. American Public Health Association. 2015: 532-539.
4. Centers for Disease Control and Prevention. (2018). Salmonella. www.cdc.gov/salmonella/.
5. North Dakota Administrative Code. (2018). 33-33-04.1. <http://www.legis.nd.gov/information/acdata/pdf/33-33-04.1.pdf>.