

Get the Facts about Salmonella

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Salmonella bacteria cause the foodborne illness salmonellosis. Named after Daniel E. Salmon, a veterinarian who spent his career studying animal diseases for the U.S. Department of Agriculture, *Salmonella* bacteria have been known to make people sick since 1885.

The Statistics at a Glance

The Centers for Disease Control and Prevention (CDC) estimate that each year in the U.S., there are about 1.35 million cases of salmonellosis, with 26,500 hospitalizations and 420 deaths. Contaminated food is the source for most of these cases. Salmonellosis is the second leading cause of foodborne illness in the U.S., after [norovirus \(https://www.cdc.gov/norovirus/trends-outbreaks/burden-US.html\)](https://www.cdc.gov/norovirus/trends-outbreaks/burden-US.html).

Characteristics

There are many different groups, called serotypes, of *Salmonella*. Scientists classify each serotype based on the structures on the bacteria's surface. Some *Salmonella* serotypes are found in only one kind of animal or in only one place. Others are found in many different animals and all over the world. The serotypes also differ in how often they cause illness in people and in what types of food and other places they contaminate. Some serotypes can cause severe illness in people, while other cause milder illness. Scientists have described more than 2,500 *Salmonella* serotypes, but less than 100 cause most cases of salmonellosis in people. Both FDA and CDC consider all serotypes capable of infecting people.

Freezing and drying, which typically prevent the growth of bacteria, do not kill *Salmonella*. The bacteria can survive several weeks in dry environments and several months in wet environments.

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How People Become Infected

People commonly get infected with *Salmonella* by eating contaminated food, such as:

- Raw or undercooked meat and poultry products;
- Raw or undercooked eggs and egg products;
- Raw or unpasteurized milk and other dairy products; and
- Raw fruits and vegetables.

People can also become infected with *Salmonella* by handling contaminated food, and then accidentally transferring the bacteria from their hands to their mouth. If people get *Salmonella* on their hands or clothes, they can spread the bacteria to other people, objects, and surfaces.

Pet food can sometimes be the source of *Salmonella* infection. If people handle contaminated pet food or a contaminated utensil and then touch their mouth, they can accidentally ingest the bacteria. Pet food that contains raw or uncooked meat is more likely than processed pet food to test positive for *Salmonella*.

Many animals, especially cattle, chickens, rodents, reptiles, and amphibians, can naturally carry *Salmonella* in their intestines and show no signs of illness. People can get salmonellosis from handling these animals. *Salmonella* can also get on the inside and outside of cages, aquariums and terrariums. Feeder rodents fed to some pet reptiles and amphibians can be a source of the bacteria. Direct contact with feeder rodents or contaminated items in animal habitats can spread *Salmonella* to people.

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Salmonellosis in People

Salmonella infection most often causes gastroenteritis, which can range from mild to severe. Symptoms in people start within 6 hours to 6 days after ingesting the bacteria and include:

- Fever;
- Diarrhea (which may be bloody);
- Nausea;
- Vomiting; and
- Stomach pain.

Most people recover from salmonellosis in 4 to 7 days without treatment. In some cases, the diarrhea may be so severe that the person needs to be hospitalized. In a person with severe diarrhea, the bacteria may spread from the intestines to the bloodstream and then to other places in the body. If this happens, the disease can be fatal unless the person is treated promptly with antibiotics.

Children under 5, pregnant women, the elderly, and people with weakened immune systems (such as those with cancer or other diseases) have a higher risk of getting salmonellosis and are more likely to have severe symptoms.

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Salmonellosis in Dogs and Cats

Salmonellosis is uncommon in dogs and cats, but they can be carriers of the bacteria. This means that even if the pets don't show symptoms of salmonellosis, they can still shed *Salmonella* in their stool and saliva and then spread the bacteria to the home environment and to people and other pets in the household. For example, cats can spread *Salmonella* through shared litter boxes or when roaming throughout the house, such as on kitchen countertops. Some ways dogs can spread the bacteria is when they give people kisses or have stool accidents inside the home. Pet waste from both sick and healthy pets can be a source of infection for people.

When the disease is seen in an adult dog or cat, the animal typically has another infection or health problem at the same time. Puppies and kittens are more likely to show signs of disease. Signs of salmonellosis in dogs and cats include:

- Vomiting;
- Diarrhea (which may be bloody);
- Fever;
- Loss of appetite; and
- Decreased activity level.

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Salmonellosis in Horses

Salmonellosis is a common cause of diarrhea in adult horses. Horses can become infected with *Salmonella* by coming into contact with the bacteria in a contaminated environment, eating contaminated feed, or drinking contaminated water. Horses can also become infected by direct contact with animals that are actively shedding the bacteria in their stool.

Stress appears to play an important role. Often, a horse sick with salmonellosis has recently:

- Had surgery;
- Been hospitalized;
- Been transported;
- Had a change in feed;
- Had another disease, particularly colic; or
- Been treated with antibiotics.

There are three forms of salmonellosis in adult horses:

- Carrier—horses appear healthy but intermittently shed *Salmonella* in small numbers in their stool. Carrier horses can spread the bacteria to other horses by direct contact or by contaminating the environment or feed and water sources. If stressed, carrier horses may show signs of salmonellosis.
- Mild—horses have a decreased activity level, fever, loss of appetite, and soft but not watery stool. Signs may last 4 to 5 days and usually go away on their own. After recovery, horses may continue to shed *Salmonella* in their stool for days to months.

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- Sudden and severe—horses have a severely decreased activity level, fever, and loss of appetite. These signs come on suddenly. Diarrhea develops 6 to 24 hours after the fever. The diarrhea is fluid and foul smelling, and horses can become dehydrated quickly. There may be signs of stomach pain, straining, or severe colic. Horses may develop a blood infection and clotting problems. The disease progresses quickly, and if untreated, this form of salmonellosis is often fatal.

Salmonellosis can occur in newborn foals, causing a blood infection followed by diarrhea.

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Animal Feed and Pet Food Recalls due to *Salmonella* Contamination

Animal feed and pet food are recalled for various reasons, including for the presence of *Salmonella*. For a list of recalled animal feed and pet food products and the reason for the recall, please see [FDA's Recalls & Withdrawals webpage \(/animal-veterinary/safety-health/recalls-withdrawals\)](#).

Resources for You

- FDA
 - [Get the Facts! Raw Pet Food Diets can be Dangerous to You and Your Pet \(/animal-veterinary/animal-health-literacy/get-facts-raw-pet-food-diets-can-be-dangerous-you-and-your-pet\)](#)
 - [Salmonella, Feeder Rodents, and Pet Reptiles and Amphibians – Tips You Should Know to Prevent Infection \(/animal-veterinary/animal-health-literacy/salmonella-feeder-rodents-and-pet-reptiles-and-amphibians-tips-you-should-know-prevent-infection\)](#)
- Centers for Disease Control and Prevention
 - [Salmonella \(http://www.cdc.gov/salmonella/\)](http://www.cdc.gov/salmonella/)
 - [Healthy Pets, Healthy People \(http://www.cdc.gov/healthypets/\)](http://www.cdc.gov/healthypets/)
- U.S. Department of Agriculture
 - [Foodsafety.gov \(https://www.foodsafety.gov/\)](http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/!ut/p/a1/zVRRt9swEP416Ztrh7RpOqmaumqUdVM6KbskL-jinBOjxE5jtxv79XMCEXMqA6Q-zJbIO_u7786fdKYpvaapgr0swEqtoOr8NLxh5yz0pwu2Yr6bn-JgMzpbxQE7CRwg-RuwnvqnDvD9fP15sWBRHLWUfoVTmnJIG1vSRBhpCNfKorIek25vFTqrBqk8ZnUjuFYoDonBgTaO4L5jve1eqxASoCZH9g-wQjglpgSoT5cZNRREllVCo1xMTnJpUEw6DEDVaoVVhVodldbAwXmaGSheo_LnCYcwM9EJMh4IjgZ5Qgky1AwM8BAwhFlPE_yjwz5uxVyyv_jYxOGxyZ8u4arVzSdvN1u07lrna5bflp6_d_1jntFUems_oSSucqCqKBpiwJbbIe71h2X1jvPOaxnckdA7S8HHbmsNB7R9EfvN9ZEco8_-OJ58RwKxiAELKSYHHWgQfbHbZ3s8fkA67rWtrZpo8_lLzUxgl2IClt6m91dCu-hBdnvy5FXd_EMYEsYsG42tdXkfkN4ct8Eg!!/?idmy¤t=true&urle=wcm%3apath%3a%2Ffsis-content%2Finternet%2Fmain%2Ftopics%2Ffood-safety-education%2Fget-answers%2Ffood-safety-fact-sheets%2Ffoodborne-illness-and-disease%2Fsalmonella-questions-and-answers%2Fct_index)

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