
Salmonella

What is salmonellosis?

Salmonellosis (sal-mohn-el-OH-sis) is the infection caused by the bacteria *Salmonella*. The *Salmonella* germ is part of a group of germs that cause diarrheal illness in humans. They are microscopic living creatures that pass from the feces of people or animals to other people or other animals. There are many different types of *Salmonella* bacteria. They were discovered by an American scientist named Salmon in 1885, for whom they were named.

What are the symptoms of salmonellosis?

Symptoms include diarrhea, fever, and stomach pain that start 1 to 3 days after someone gets infected. These symptoms usually go away after 1 week. Sometimes people have to see a doctor or go to the hospital because the diarrhea is severe or the infection has affected other organs.

How can *Salmonella* infections be diagnosed?

Many different kinds of illnesses can cause diarrhea, fever, or abdominal cramps. Determining that *Salmonella* is the cause of the illness depends on laboratory tests that identify *Salmonella* in the stools of an infected person. These tests are sometimes not performed unless the laboratory is instructed to specifically look for the organism. Once *Salmonella* has been identified, further testing can determine the specific type of *Salmonella* and which antibiotics can be used to treat it.

How can *Salmonella* infections be treated?

Salmonella infections usually resolve in 5-7 days and often do not require treatment unless the patient becomes severely dehydrated or the infection spreads from the intestines. Persons with severe diarrhea may require rehydration, often with intravenous fluids. Antibiotics are not usually necessary unless the infection spreads from the intestines, then it can be treated. Unfortunately some *Salmonella* bacteria have become resistant to antibiotics.

What are the long-term consequences of a *Salmonella* infection?

Persons with diarrhea usually recover completely, although it may be several months before they feel completely normal. A small number of persons who are infected with *Salmonella* will go on to develop pains in their joints, irritation of the eyes, and painful urination. This is called Reiter's syndrome. It can last for months or years and can lead to chronic arthritis, which is difficult to treat. Antibiotic treatment does not make a difference in whether a person develops arthritis.

How common is salmonellosis?

Every year, approximately 40,000 cases of salmonellosis are reported in the United States. Because many milder cases are not diagnosed or reported, the actual number of infections may be thirty or more times greater. Salmonellosis is more common in the summer than the winter. Children are the

most likely to get salmonellosis. Young children, the elderly, and the immunocompromised are the most likely to have severe infections. It is estimated that approximately 600 persons die each year from acute salmonellosis.

Can animals transmit salmonellosis to people?

Yes, many kinds of animals can pass salmonellosis to people. Usually people get salmonellosis by eating contaminated food, such as chicken or eggs. However, animals can carry *Salmonella* and pass it in their feces (stool). Therefore, people can also get salmonellosis if they do not wash their hands after touching animal feces. Reptiles (lizards, snakes, and turtles), baby chicks, and ducklings are especially likely to pass salmonellosis to people. Dogs, cats, birds (including pet birds), horses, and farm animals can also pass *Salmonella* in their feces.

What is *Salmonella enteritidis* infection?

Egg-associated salmonellosis is an important public health problem in the United States. A specific *Salmonella* bacterium, *Salmonella enteritidis*, can be found inside perfectly normal-appearing eggs, and if the eggs are eaten raw or undercooked, the bacterium can cause illness. Consumers should be aware of the disease and learn how to minimize the chances of becoming ill.

What are the symptoms of *S. enteritidis*?

The symptoms of someone infected with *S. enteritidis* bacteria are the same as salmonellosis.

How can eggs become contaminated?

S. enteritidis silently infects the ovaries of healthy appearing hens and contaminates the eggs before the shells are formed.

What can be done to prevent contamination?

Stringent procedures for cleaning and inspecting eggs were implemented in the 1970s and have made salmonellosis caused by external fecal contamination of eggshells extremely rare. However, *S. enteritidis* can still be present in intact and disinfected grade A eggs because *S. enteritidis* silently infects the ovaries of healthy appearing hens and contaminates the eggs before they are laid.

How can I protect myself from salmonellosis?

Eggs, like other foods, are safe when handled properly. Shell eggs are safest when stored in the refrigerator, individually and thoroughly cooked, and promptly consumed. Keeping eggs adequately refrigerated prevents any *Salmonella* present in the eggs from growing to higher numbers, so eggs should be refrigerated until they are needed. Cooking reduces the number of bacteria present in an egg; however, an egg with a runny yolk still poses a greater risk than a completely cooked egg. Undercooked egg whites and yolks have been associated with outbreaks of *S. enteritidis* infections. Both should be consumed promptly and not held in the temperature range of 40 to 140 degrees Fahrenheit for more than 2 hours. Discard any eggs with cracked shells. Eat eggs promptly after cooking. Do not keep cooked eggs warm for more than two hours. Discard after two hours.

For questions about salmonellosis, call the New Hampshire Department of Health and Human Services, Bureau of Infectious Disease Control at 603-271-4496 or 800-852-3345 x4496. For more information refer to the Centers for Disease Control and Prevention website at www.cdc.gov or the NH Department of Health and Human Services website at www.dhhs.nh.gov.