

ILLINOIS DEPARTMENT OF PUBLIC HEALTH



SALMONELLA

What is salmonella?

Salmonella bacteria cause much of the food poisoning in the world, including an estimated 1,400,000 cases of salmonellosis in the United States each year. In Illinois about 1,500 to 2,000 cases of this foodborne illness are reported each year.

Salmonella is a general name for a group of about 2,000 closely related bacteria that cause illness by reproducing in the digestive tract.

How is it spread?

Salmonella live in the intestinal tracts of humans and other animals, including birds. Humans are usually infected by eating foods contaminated with animal feces. Contaminated foods are often of animal origin, such as beef, poultry, milk or eggs, but any food, including fruits and vegetables, may become contaminated. Contaminated foods usually look and smell normal and the contamination should not be expected to be visible.

Person-to-person transmission of salmonella occurs when an infected person's feces, unwashed from his or her hands, contaminates food during preparation or comes into direct contact with another person. Salmonella can also be acquired directly from animals such as pets, birds, fish, dogs, cats and turtles. The U.S. Food and Drug Administration banned the sale of turtles smaller than 4 inches wide in 1975 to prevent the spread of salmonella.

Since early 1950, farmers have administered low doses of penicillin and tetracycline to cows, chickens and pigs to prevent infection and promote growth. As a result, the bacteria in these animals develop a resistance to the drugs. When these drugs are used to treat infections in humans who have eaten meat from treated animals, the drugs are not as effective as they might be. The U.S. Centers for Disease Control and Prevention estimates that between 20 percent and 30 percent of all salmonella cases involve bacteria resistant to antibiotics.

What are the symptoms?

Symptoms may include headache, muscle aches, diarrhea, vomiting, abdominal cramping, chills, fever, nausea and dehydration. Symptoms usually appear six to 72 hours after ingestion of the bacteria, but can be longer if fewer organisms are ingested. Persons can be infected with the bacteria without having symptoms. Persons with and without symptoms shed the bacteria in their stool, which is why proper handwashing after toileting and before handling food is so important. Children younger than 1 year old, people who have had ulcer surgery or take antacids and those with weakened immune systems are most susceptible to salmonella infection.

Salmonellosis is seldom fatal (the fatality rate is less than 1 percent). Two or three weeks after being infected with salmonella, one in 10,000 cases develops reactive arthritis or Reiter's syndrome as a complication. These patients also may develop an inflammation of the urethra and eyes.

How is salmonellosis treated?

Fluids are recommended to prevent dehydration because the diarrhea that flushes bacteria out of the body drains a great deal of liquid. Pain relievers and fever reducers may make the person more comfortable.

Most cases of salmonellosis are not treated with antibiotics. In fact, antibiotics may prolong the period during which the person can infect others. Antibiotics sometimes are prescribed for infants, the chronically ill and the elderly to treat or prevent complications in those at increased risk for invasive disease.

Can salmonellosis be prevented?

People are far more likely to contract salmonellosis at home than in a restaurant, so be sure to wash hands with soap and water after toileting and before handling foods.

Salmonella bacteria are killed when food is thoroughly cooked. This means cooking ground beef to at least 155 degrees and making sure all food is cooked properly. Once cooked, any food held in a buffet should be kept hotter than 140 degrees. Cross-contamination –where food is contaminated in the kitchen after it has been cooked – may be avoided by using different utensils, plates, cutting boards and counter tops before and after cooking. Cooked food that stands at room temperature for a long time, especially poultry, is at risk.

Defrost frozen food in the refrigerator or microwave. Refrigerator temperatures should be kept colder than 40 degrees. Rinse poultry in cold water before cooking. Avoid raw milk, raw hamburger meat and raw eggs (many recipes, such as those for homemade ice cream, call for eggs with no subsequent cooking; substitute pasteurized eggs in these recipes). Food contaminated with salmonella may look, smell and taste normal.

Because fruits and vegetables have now been identified as a source of salmonella, it is important that these food items be thoroughly washed in running water before they are eaten.

Wash utensils and wooden cutting boards thoroughly with hot, soapy water. Salmonella may lie dormant for a year or more and then "wake up" when food is present. They also may live in the cut marks on a wooden cutting board. Use an acrylic board that can go in the dishwasher. If using a wooden board, rub down or spray the board with a solution of one ounce bleach to one gallon water and allow to air dry. Cutting boards for raw meat and poultry should not be used for cheese, raw vegetables and other foods that will not be cooked before being served.

To prevent the spread of salmonella, wash hands thoroughly after using the bathroom and before handling food. Do not allow an infected person to handle food or work in the kitchen.