

Avoiding the Latest *Salmonella* Outbreaks with a Special Focus on Children and the Elderly

*By Bruce K. Bernard, Ph.D.
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Ninety-two people in 29 states have been infected with an **antibiotic resistant strain of bacteria** known as *Salmonella* Infantis, according to a recent [Investigation Notice](#) by the US Centers for Disease Control and Prevention (CDC). CDC reports the outbreak strain is present in live *chickens* and in many types of recalled raw chicken products including pet food. So far, the outbreak cannot be traced to a single supplier. Twenty-one people have been hospitalized.

Another foodborne outbreak, this one from *Salmonella* Newport-contaminated *ground beef*, recently sickened 120 people in 22 states; 33 people have been hospitalized, according to a [CDC Food Safety Alert](#). Nearly seven million pounds of raw beef products, including ground beef, packaged from July 26 to September 7, 2018 have been [recalled](#) by JBS Tolleson, Inc., of Tolleson, Arizona. With annual US beef consumption at 55.7 pounds per capita¹, the amount of recalled beef can be thought of as equivalent to the annual beef consumption of over 125,000 Americans.

Salmonella at a Glance

Salmonella bacteria live in the intestines of people and many animals. They are transmitted through contaminated water or food, such as beef, chicken, eggs, fruits, pork, sprouts, vegetables and processed foods. They can also be transmitted through contact with animals or their environment. Symptoms of *salmonellosis*, the disease caused by *Salmonella*, arise between 12 and 72 hours of exposure to the bacteria, and include diarrhea, fever and abdominal cramps.

There are about 1.2 million cases of salmonellosis every year in the U.S (population approximately 327 million), including approximately 450 deaths, [according to CDC](#). *Salmonella* infection is most common in the warm months of June, July, and August because warm weather and unrefrigerated foods are conducive to the growth of the bacteria. Although anyone may become infected, the most vulnerable segments of society are children younger than the age of five, adults older than 65, pregnant women, and people with weakened immune systems. Antibiotic-resistant *Salmonella* infection may lead to a greater chance of being hospitalized, getting a bloodstream infection, or experiencing treatment failure. There is no vaccine to prevent salmonellosis, but an awareness of the risks of exposure through foods and contact with animals can help the public take smart steps to avoid getting sick.

Helping Prevent Salmonellosis throughout Your Lifetime



*Chickens are believed to be the source of a recent multi-state outbreak of *Salmonella* Infantis. The public can access information on food product recalls and alerts using the US Department of Agriculture [website](#).*

¹ Statistic from the National Cattlemen's Beef Association [website](#).

Infants: Breastfeeding helps prevent salmonellosis and many other health problems because it is the safest food for young infants. [Reptiles, which often carry *Salmonella*, are not appropriate](#) pets for young children, and they should not be in the same home as an infant.

Children: Take extra care to prevent contamination when preparing foods for young children. Children should be taught to wash their hands thoroughly before and after helping prepare food and after contact with reptiles, including turtles, iguanas, other lizards, and snakes. Children should not handle, cuddle or kiss baby chicks or other young birds. CDC even warns the public to [avoid dressing up their chickens for Halloween](#) (a practice in some areas) because handling them could lead to *Salmonella* exposure.

Adults: Food Safety - Adults who develop salmonellosis should not prepare food or pour drinks for others until their diarrhea has resolved. Avoid food or drink containing raw eggs or unpasteurized milk. Wash hands thoroughly before and after contact with raw meat or poultry. [Cook poultry, ground beef and eggs thoroughly](#). Chicken should be cooked to a minimum temperature of 165 °F and ground beef to 160 °F. As the [National Chicken Council says](#), “Even though bacteria may be resistant to some antibiotics, it is not resistant to the proper heat from an oven or grill.” Nor are bacteria resistant to a germ-busting solution of chlorine bleach. Prevent cross-contamination by separating uncooked meats from produce, cooked foods and ready-to-eat foods. Clean first, then sanitize food contact surfaces using a solution of one tablespoon of bleach² for each gallon of water.

To avoid spreading a mist of contaminated water from the sink to nearby kitchen surfaces, do not rinse poultry before cooking it. Cooking poultry appropriately destroys pathogens in and on raw poultry, so there is no need to risk splashing pathogen-laden water around the kitchen before popping your bird in the oven. Refrigerate or freeze leftover foods within two hours of serving, or within one hour of serving if the air temperature is 90 °F or higher.

Animal Handling - Wash hands thoroughly after handling reptiles, birds, or baby chicks, and after contact with pet feces. See our [tips for avoiding salmonella during backyard poultry farming](#).

Elderly, Pregnant, and Immunocompromised Adults: Take extra care when preparing foods for these groups. They should avoid contact with reptiles, birds, baby chicks, and pet feces.

We hope these tips will help you avoid the current and any future *Salmonella* outbreaks!

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Why Cook Chicken to a Minimum Temperature of 165° F?

The specific recommended minimum internal cooking temperature of foods depends on the “kill” temperature of the most heat-resistant pathogen of concern in that food. In the case of poultry, that pathogen is Salmonella. By cooking chicken and other poultry to 165° F, you can rest assured that Salmonella and any other pathogens of concern in and on raw chicken, such as Campylobacter, E. coli, Listeria, S. typhi, Shigella, and V. cholerae will also be destroyed.³

² Most bleach sold today is available in a 6% solution strength.

³National Advisory Committee on Microbiological Criteria for Foods (2006). Response to the Questions Posed by the Food Safety and Inspection Service Regarding Consumer Guidelines for the Safe Cooking of Poultry Products, *Journal of Food Protection*, vol. 70, No. 1, pp. 251-260. On line, available: <http://jfoodprotection.org/doi/pdf/10.4315/0362-028X-70.1.251?code=FOPR-site>