



Centers for Disease Control and Prevention
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Salmonella and Chicken: What You Should Know and What You Can Do



Autumn is a popular season for sporting events, and whether you are tailgating or channel surfing, chances are that barbecue chicken and spicy wings will make an appearance. Learn how to protect yourself from *Salmonella*.

Case Count Map



[Click to view updated and previous case count maps.](http://www.cdc.gov/salmonella/heidelberg-10-13/map.html)
(<http://www.cdc.gov/salmonella/heidelberg-10-13/map.html>)

In a [multistate outbreak linked to Foster Farms brand chicken](http://www.cdc.gov/salmonella/heidelberg-10-13/map.html) (<http://www.cdc.gov/salmonella/heidelberg-10-13/map.html>), seven outbreak strains of the bacteria *Salmonella* Heidelberg have sickened over 300 people—40% of whom were hospitalized. Although health officials have not reported any deaths, the high hospitalization rate is twice the norm.² An unusually high rate of blood infections (about 14%) requiring treatment with antibiotics has been reported in this outbreak.

Dr. Chris Braden, head of CDC's Division of Foodborne, Waterborne, and Environmental Diseases and an infectious disease specialist, notes that three of the seven identified strains are resistant to multiple antibiotics and two are resistant to two types. Although CDC does not know what caused these strains to become resistant to antibiotics, Braden says, "In general, antibiotic use in food animals can result in resistant *Salmonella*, and people get sick when they eat foods contaminated with *Salmonella*."

What You Should Know

While it is not unusual for raw poultry from any producer to have *Salmonella* bacteria, it is uncommon to have

multidrug-resistant
Salmonella bacteria.¹

- *Salmonella* Heidelberg is a type of non-typhoidal *Salmonella* (<http://online.liebertpub.com/doi/pdfplus/10.1089/mdr.2012.0178>) (<http://www.cdc.gov/Other/disclaimer.html>), an important cause of human illness in the United States and often linked to poultry.
- Annually, non-typhoidal *Salmonella* causes approximately 1.2 million illnesses, 23,000 hospitalizations, 450 deaths, and an estimated-\$365 million in direct medical costs in the United States.⁴
 - About 100,000 illnesses per year are attributed to drug-resistant non-typhoidal *Salmonella*.⁴



Drug-resistant non-typhoidal *Salmonella* 
[PDF - 5.23MB]
(<http://www.cdc.gov/drugresis-report-2013/pdf/ar-threats-2013-508.pdf#page=71>)

Antibiotics are widely used in food-producing animals. According to data published by the Food and Drug Administration  [PDF - 5.26MB] (<http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf>), more antibiotics are sold nationally for food-producing animals than for people. This contributes to the rise of antibiotic-resistant bacteria in food-producing animals.³

- Physicians rely on antibiotics for treating patients with complicated *Salmonella* infections. Some non-typhoidal *Salmonella* are showing resistance to the following:^{3,4}
 - Ceftriaxone
 - Ciprofloxacin
 - Multiple classes of drugs

What You Can Do: Advice to Consumers

People who think they have become ill from eating chicken associated with this outbreak should inform their health care provider.¹

Who is Most at Risk?

Although anyone can get a *Salmonella* infection, children younger than 5 years, older adults, and people with weakened immune systems are at increased risk for serious illness. In these people, swallowing a relatively small number of *Salmonella* bacteria can cause severe illness.⁵

CDC and the Food Safety and Inspection Service of the U.S. Department of Agriculture recommend that consumers and retailers follow these food safety tips (<http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/teach-others/fsis-educational-campaigns/check-your-steps>)  (<http://www.cdc.gov/Other/disclaimer.html>) to prevent *Salmonella* infection from raw poultry produced by Foster Farms or any other brand:^{1,3}



Clean (<http://www.foodsafety.gov/keep/basics/clean/index.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)

- Wash hands with warm soapy water for 20 seconds before and after handling poultry.
- Wash utensils, cutting boards, dishes, and countertops with hot soapy water after preparing each food item and before you go on to prepare the next item.
- Washing raw poultry before cooking it is not recommended. Bacteria in raw poultry juices can be spread to other foods, utensils, and surfaces.
- Sanitize food contact surfaces with a freshly made solution of one tablespoon of unscented, liquid chlorine bleach in one gallon of water.



Separate (<http://www.foodsafety.gov/keep/basics/separate/index.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)

- Separate poultry from other foods in your grocery-shopping cart and in your refrigerator.
- If possible, use one cutting board for fresh produce and a separate one for raw poultry.
- Never place cooked food on a plate that previously held raw poultry.



Cook (<http://www.foodsafety.gov/keep/basics/cook/index.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)

- Cook poultry to a safe minimum internal temperature of 165°F as measured with a food thermometer.
- Retailers should hold cooked poultry to a safe minimum internal temperature of 165°F or higher as measured with a food thermometer.



Chill (<http://www.foodsafety.gov/keep/basics/chill/index.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)

- Chill food promptly and properly. Refrigerate or freeze perishables, prepared foods, and leftovers within 2 hours (or 1 hour if temperatures are above 90°F).

Contact your health care provider if you think you may have become ill from eating contaminated food.¹

- Symptoms of *Salmonella* infection include (<http://www.foodsafety.gov/poisoning/causes/bacteriaviruses/salmonella/>) 
(<http://www.cdc.gov/Other/disclaimer.html>):
 - Diarrhea, fever, and abdominal cramps 12 to 72 hours after infection.
 - The illness usually lasts 4 to 7 days, and most persons recover without treatment.
 - See [Signs & Symptoms](http://www.cdc.gov/salmonella/heidelberg-10-13/signs-symptoms.html) (<http://www.cdc.gov/salmonella/heidelberg-10-13/signs-symptoms.html>) for more information.
- Children younger than 5 years, older adults, and people with weakened immune systems are more likely to have a severe illness from *Salmonella* infection.

« **Read the full Outbreak Investigation** (<http://www.cdc.gov/salmonella/heidelberg-10-13/index.html>)

More Information

- [Multistate Outbreak of Multidrug-Resistant *Salmonella* Heidelberg Infections Linked to Foster Farms Brand Chicken](http://www.cdc.gov/salmonella/heidelberg-10-13/index.html) (<http://www.cdc.gov/salmonella/heidelberg-10-13/index.html>)
- [Clean, Separate, Cook, and Chill Guidelines](http://www.foodsafety.gov/keep/basics/index.html) (<http://www.foodsafety.gov/keep/basics/index.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)
- [Washing Food: Does It Promote Food Safety?](http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/washing-food-does-it-promote-food-safety/washing-food) (<http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/washing-food-does-it-promote-food-safety/washing-food>) 
(<http://www.cdc.gov/Other/disclaimer.html>)
- [Antibiotic Resistance Threats Report and Foodborne Germs](http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf)  [PDF - 5.23MB]
(<http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf>)
- [National Antimicrobial Resistance Monitoring System for Enteric Bacteria \(NARMS\)](http://www.cdc.gov/narms/index.html)
(<http://www.cdc.gov/narms/index.html>)
- [Salmonella is a Sneaky Germ: Seven Tips for Safer Eating](http://www.cdc.gov/features/vitalsigns/foodsafety/)
(<http://www.cdc.gov/features/vitalsigns/foodsafety/>)
- [CDC Vital Signs - Making Food Safer to Eat](http://www.cdc.gov/vitalsigns/FoodSafety/index.html)
(<http://www.cdc.gov/vitalsigns/FoodSafety/index.html>)
- [Estimates of Foodborne Illness in the U.S.](http://www.cdc.gov/foodborneburden) (<http://www.cdc.gov/foodborneburden>)
- [MedlinePlus - Salmonella Infections](http://www.nlm.nih.gov/medlineplus/salmonellainfections.html)
(<http://www.nlm.nih.gov/medlineplus/salmonellainfections.html>) 
(<http://www.cdc.gov/Other/disclaimer.html>)

References

1. CDC. [Multistate Outbreak of Multidrug-Resistant *Salmonella* Heidelberg Infections Linked to Foster Farms Brand Chicken](http://www.cdc.gov/salmonella/heidelberg-10-13/advice-consumers.html). (<http://www.cdc.gov/salmonella/heidelberg-10-13/advice-consumers.html>)
2. The Oregonian. [USDA: No Foster Farms recall of *Salmonella* – tainted chicken for regulatory reasons](http://www.oregonlive.com/health/index.ssf/2013/10/post_76.html) (http://www.oregonlive.com/health/index.ssf/2013/10/post_76.html) 
(<http://www.cdc.gov/Other/disclaimer.html>). October 21, 2013.

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3. [Antibiotic Resistance Threats in the United States, 2013 \(Drug Resistant Non-Typhoidal *Salmonella*\)](http://online.liebertpub.com/doi/abs/10.1089/mdr.2012.0178) (<http://online.liebertpub.com/doi/abs/10.1089/mdr.2012.0178>) 
(<http://www.cdc.gov/Other/disclaimer.html>)
4. Sjolund-Karlsson M, Howie RL, Blickenstaff K, Boerlin P, Ball T, Chalmers G, Duval B, Haro J, Rickert R, Zhao S, Fedorka-Cray PJ, Whichard JM. Occurrence of beta-lactamase genes among non-Typhi *Salmonella* enterica isolated from humans, food animals, and retail meats in the United States and Canada. Microbial Drug Resistance. 2013;19(3):191-7. <http://www.ncbi.nlm.nih.gov/pubmed/23289438>
(<http://www.ncbi.nlm.nih.gov/pubmed/23289438>) 
(<http://www.cdc.gov/Other/disclaimer.html>)
5. [CDC. *Salmonella* is a Sneaky Germ: Seven Tips for Safer Eating.](http://www.cdc.gov/features/vitalsigns/foodsafety/)
(<http://www.cdc.gov/features/vitalsigns/foodsafety/>)

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