

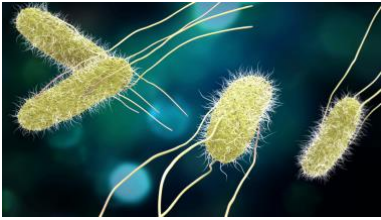
# CCU DISEASE HUNTERS

## ***SALMONELLA***

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The following information was taken from the [CDC website](#):

### **Overview**



*Salmonella* are bacteria (germs) that can make people sick with an illness called salmonellosis.

**People can get infected after swallowing *Salmonella*.**

*Salmonella* live in the intestines of people and animals. People can get infected with *Salmonella* in many ways, including

- Eating contaminated food
- Drinking or having contact with contaminated water
- Touching animals, animal poop, and the places animals live and roam

### **Types**

Although scientists have identified more than 2,500 *Salmonella* serotypes (types), fewer than 100 types cause most human illness.

### **Reminder**

This website focuses on the types of *Salmonella* that cause diarrhea. Visit the [typhoid fever and paratyphoid fever website](#) to learn about the types of *Salmonella* that cause those illnesses.

### **People at risk**

Anyone can get a *Salmonella* infection. But some groups of people have an increased chance of infection, and some people may become seriously ill. These groups include:

- Children who are younger than 5 years (and especially children who are younger than 1 year)



- Adults who are 50 years and older with underlying medical problems, such as heart disease
- Adults who are 65 and older
- People who have a weakened immune system
- International travelers

***Salmonella* are a leading cause of foodborne illness, hospitalizations, and deaths in the United States and worldwide.**

*Salmonella* are one of the leading causes of foodborne illnesses. *Salmonella* also are the leading cause of hospitalizations and deaths linked to foodborne illness.

**Spotlight on chicken**

Chicken is a major source of *Salmonella* infection. In fact, more than [1 in every 25 packages of chicken](#) at the grocery store is contaminated with *Salmonella*.  
[Chicken and food poisoning](#)

**Infection is more common in the summer.**

Warmer weather and unrefrigerated foods create ideal conditions for *Salmonella* to grow. Promptly refrigerate or freeze perishables (foods likely to spoil or go bad quickly), prepared foods, and leftovers.

**Keep Reading:** [Preventing \*Salmonella\* Infection](#)

***Salmonella* cause more infections than you might suspect.**

CDC estimates that only 1 in every 30 *Salmonella* infections is diagnosed. *Why?* Most people with food poisoning do not go to a doctor or have a patient sample submitted for laboratory testing. So, we never learn which germ made them sick.

**Antimicrobial-resistant *Salmonella* infections are becoming more common.**

[Antimicrobial resistance](#) in *Salmonella* happens when the bacteria develop the ability to defeat the drugs designed to kill them. That means the bacteria are not killed and continue to grow. Resistance to antibiotics is increasing in *Salmonella*, which can limit treatment options for people with severe infections. One way to slow down the development of antimicrobial resistance is by appropriate use of antibiotics in people and animals.

**Symptoms**

Most people with *Salmonella* infection have



- Watery diarrhea that might have blood or mucus<sup>1</sup>
- Stomach cramps that can be severe

Some people also have

- Headache
- Nausea
- Vomiting
- Loss of appetite (not feeling hungry)

Symptoms usually start 6 hours to 6 days after infection and usually last 4 to 7 days.

<sup>1</sup>Mucus is thick fluid produced by some parts of the body, including the nose, lungs, and intestines. It may be slippery, slimy, or jelly-like.

## When to talk to your doctor

Call your doctor if you have these symptoms

- Diarrhea or vomiting lasting more than 2 days
- Bloody poop (including diarrhea) or pee
- A fever higher than 102°F
- Signs of dehydration (listed below)
- Long-term complications (listed below)

## What to look for

### Dehydration

Dehydration is not having enough fluids in the body. If you have diarrhea or vomiting, be sure to drink plenty of fluids.

### Do not wait

Dehydration can happen quickly in young children. Give children with diarrhea or vomiting extra fluids, such as Pedialyte<sup>®2</sup> or oral rehydration salts.

Signs of dehydration include little or no peeing, having very dark pee, being very thirsty, having a dry mouth or throat, feeling dizzy or lightheaded, and crying without tears.

## Complications

### Diarrhea lasting a long time

Some people with a *Salmonella* infection might have diarrhea for several months.



### *Infection that spreads to other parts of the body*

Sometimes, *Salmonella* infection can spread to urine, blood, bones, joints, the brain, or other internal organs, causing symptoms related to that body part or system.

Some examples of infection outside the intestines include:

- Infection of the blood (bacteremia)
- Infection of the membranes lining the brain and spinal cord (meningitis)
- Infection of the bone (osteomyelitis)
- Infection of a joint (septic arthritis)

Some of these infections can have long-lasting effects.

### *Reactive arthritis*

A small number of people with *Salmonella* infection develop pain in their joints called reactive arthritis. This condition can last for months or years and can lead to chronic [arthritis](#). People with reactive arthritis may also have irritated eyes and pain while urinating. Reactive arthritis following a *Salmonella* infection is most common among people who are 15–35 years old.

### CCU Disease Hunter Screen information

Undergraduate students at Coastal Carolina University working with Dr Paul E. Richardson have developed a genomic based test to detect the bacteria *Salmonella* using primer specific for two genes in *Salmonella*; inA and 16s rRNA. Primers were identified from literature that were specific for *Salmonella*. In the lab the students refined the method using polymerase chain reaction to amplify small genetic sequences to identify the bacteria based on specific size DNA fragments. Water samples were collected, and DNA was isolated from the samples and screened for *Salmonella*. If a band of the expected size was present, that was called a positive result.

**Please Note:** This test only detects the presence of the disease in water. At this time, we are studying the factors that are responsible for its presence and what level of bacteria is needed to cause disease. This is a research project and not a clinical test. **This test CANNOT determine if there is a threat to the community**, it only determines the presence of the disease in a community. More work must be done before we can make those statements.

If you have any questions, please contact: **Dr Paul E. Richardson** [prichar@coastal.edu](mailto:prichar@coastal.edu)  
**Research Website:** <https://professorrichardsonresearch.com/>

