

hand hygiene

# I Like Swimming in Water and Popping Up in Food

BY LOIS LEVINE, MA

I am a bacterium that likes swimming through water or food contaminated with fecal matter. Once I am ingested, I multiply and spread into the bloodstream. I am a highly infectious villain; around the globe, approximately 9 million people get sick from me every year, and 110,000 people die. Children aged 5 to 19 years are at the greatest risk of infection from me.

If you've "caught" me, symptoms can start slowly but can then cause prolonged fever, fatigue, headache, nausea, abdominal pain, constipation, or diarrhea. In some people, I show up as a rash. A few weeks after having me, I can cause problems in the intestines, presenting as stomach pain, a very swollen stomach, and even sepsis.

These days, urbanization and climate change can increase my spread. Increasing resistance to antibiotic treatment makes it easier for me to spread in communities without safe drinking water or appropriate sanitation.

I only spread in human beings. Typically, people carry me in their bloodstream and intestinal tract. And even when symptoms go away, people can still carry me around, meaning I can still spread to others through shedding or feces.

An English doctor named William Budd treated an outbreak of me in 1838 when he noted that I was present in the excretions of the infected and could be transmitted to healthy people through drinking contaminated water.

Budd was also one of the first scientists who suggested isolating the excrement to help control future outbreaks. In 1880, I was "officially" discovered by Karl Joseph Eberth, a German pathologist and bacteriologist, who identified the bacillus suspected of carrying me. In 1884, pathologist Georg Theodor August Gaffky confirmed Eberth's work, and I was then given a name. However, some historians believe I was also responsible for a widespread plague in Athens, Greece, (as far back as 430 BC), which proved fatal for 33% of the population, including Greek leader Pericles. Hundreds of years later, in the colony of Jamestown, Virginia, scientists believe I may have been the cause of that settlement dying out, proving fatal for more than 6000 of those settlers between 1607 and 1624.

One person now carries my name forever in the history of infectious diseases. A young woman from Ireland, hired as a cook for a wealthy family in New York in 1896, was responsible for hosting me, contaminating everything around her and threatening her surrounding environments. Today, her name is now part of folklore legend.

Military and war environments have often been vulnerable to my presence throughout history. More than 80,000

To discover who I am, visit [InfectionControlToday.com/view/Nov-2023-bug-month](https://www.infectioncontroltoday.com/view/Nov-2023-bug-month)

soldiers died because of me in the American Civil War, and the Spanish-American War led to many people contracting my infection on the field and in training camps.

The first effective vaccine for me was introduced for military use in 1896. This vaccine significantly improved the health of soldiers, who were more likely to be killed by me than during combat. Over the following years, the vaccine was developed further in London, England.

Today, I am usually diagnosed in laboratory tests, one of which is called the Widal test. This test may not always be positive, even in the presence of the infection, as the test has a poor sensitivity, missing approximately 30% of positive infections. More reliable tests include blood, stool, urine, and bone marrow cultures. Timing is essential in preventing me from escalating and becoming life-threatening. If I am detected early, you can treat me with oral antibiotics, which must be taken for 7 to 14 days. Additional home treatment includes complete bed rest; regular, healthy meals; drinking lots of water; and good personal hygiene. More advanced cases of me are usually treated with intravenous antibiotics in a hospital.

*I am Salmonella Typhi (Typhoid).* □