

hand hygiene

Travelers Beware!

BY HEATHER SAUNDERS, MPH, RN, CIC

I am a gram-negative bacillus (rod-shaped bacterium) from the Enterobacteriaceae family. I'm a particular concern in regions of the world with poor sanitation and limited access to clean water. It's only humans who have to fret about me, though. I don't have the ability to infect other critters. When given entry to the human body, I invade the bloodstream and the intestines with my infection. My flagella, the hairlike structures that cover my microbial body, allow for my movement through a host. When I reach the host's cells, I inject my proteins into their cytoplasm with my fancy type III secretion system. I might be microscopic, but you better bet I am mighty.

I caused quite a stir back in 1906. I took up residence in this poor, unsuspecting woman, Miss Mary, who'd become a cook for the wealthy folk. She didn't know what she'd been shedding in people's foods. She was healthy as could be, but, you see, that's the thing with my disease: A small number of folks can carry it without them even knowing. She'd figured it out by the time the 11th person in the house she cooked for fell ill with my scourge. But she just kept on cooking.

They first blamed the freshwater clams for it, thinking they had been the cause of all that suffering. But it didn't take sanitary engineer George Soper long to learn the truth. In 1907, he started following the

lady, trying to prove that she was carrying and spreading my disease to other people. They say 3000 New Yorkers fell ill with me that year. Miss Mary was a significant cause of that outbreak. Eventually, they'd isolate an immunization for my disease, and antibiotics would reduce the havoc I caused to someone's body.

Remember how I said I'm a particular problem in areas with poor sanitation and a lack of clean water? That's because I spread around by contaminating the food and water. I shed in the stool of infected people, and if my bacteria make their way to the food or water through unclean hands or contaminated drinking water, then I can find my way to the next host. Most folks fall ill with me during travel to areas of the world struggling with sanitation and hygiene.

In the US, approximately 350 people are diagnosed with me every year. But just about 11 million to 21 million people around the world become sick with my bacteria, with 200,000 deaths every year. Thankfully, my vaccine is making its way into childhood immunization programs for countries where my bacteria is endemic.

At first, it's difficult to tell whether you've been sickened with my bacteria

To discover who I am, visit [InfectionControlToday.com/view/May-2024-bug-month](https://www.infectioncontroltoday.com/view/May-2024-bug-month)

or got a case of influenza. I'm rather sneaky at my onset, with symptoms such as fever, headache, constipation or diarrhea, fatigue, and chills. Rose-colored spots may be present on the trunk of my host, but this isn't always the case. In the worst cases, hosts may experience acute confusion, delirium, and even intestinal perforation, usually 2 to 3 weeks after the onset of my disease. Diagnosis is made by reviewing a patient's travel history and performing diagnostic tests such as blood, stool, and urine cultures. Antibiotics are the recommended course of treatment, although recent resistance of my bacteria to certain antibiotics is making treatment tricky these days.

Prevention is critical when fighting against my disease. Folks need to remember to wash their hands after using the restroom and before handling food, particularly in regions where disease is common. This would significantly reduce the number of cases I cause. Additionally, improving sanitation and access to clean water in developing regions of the world will reduce my ability to reach a host.

I am Salmonella typhi! 