

TerranearPMC Safety Share

Week of November 28, 2016 – Typhoid Mary

In 1884, a woman named Mary Mallon arrived in the United States from Ireland. She was able to find employment within the New York City area: first as domestic help for wealthy families and then finding her niche as a cook. Unbeknownst to her, Mary was a carrier of the bacteria, *Salmonella Typhi*. The disease caused by this bacteria is widely known as typhoid fever, or simply, typhoid.

Symptoms of typhoid vary from mild to severe and usually begin six to thirty days after exposure. Often there is a gradual onset of a high fever over several days. It is a multisystemic illness, meaning various biologic functions can be affected. Weakness, abdominal pain, constipation, and headaches commonly occur. Diarrhea is uncommon and vomiting is not usually severe. Some people develop a skin rash with rose colored spots. In severe cases the patient may become delirious. Without treatment, symptoms may last weeks or months. Other people, may carry the bacterium without being affected; however, they are still able to spread the disease to others.

From 1900 to 1907, Mallon worked as a cook in the New York City area for seven families. Each of these households had members develop typhoid fever and once the illness was manifested in one house, Mallon would leave and seek employment as a cook at another home. In one of these homes, a laundress died from this disease. The news of this sickness spread throughout the city while its cause remained a mystery. Eventually, after a concerted effort by sanitation engineer, these illnesses were finally pin-pointed to Mary Mallon. And while she was confronted by health officials for testing and thereby confirm her as the carrier, she continuously refused to cooperate. Eventually, she was taken into custody and placed in isolation. The news of Mary Mallon made front page headlines and soon Mary was known throughout New York as *Typhoid Mary*.

Mary admitted poor hygiene, saying she did not understand the purpose of hand-washing because she did not pose a risk. In prison, she was forced to give stool and urine samples. Doctors found a significant deposition of typhoid bacteria in her gallbladder. Authorities suggested removing her gallbladder, but she refused as she did not believe she carried the disease. She was also unwilling to cease working as a cook. Mary was held in isolation for three years at a clinic located on a small island on New York's East River (North Brother Island).

Finally, Mary agreed to change her occupation as a cook and gave her assurance by affidavit that she would, upon her release, take the appropriate hygienic precautions and thus ensure those with whom she came in contact from infection were protected.

Upon her release, Mallon tried her hand at other domestic occupations but found the pay to be less than that of a cook. So she changed her name to Mary Brown and returned to her former occupation despite having been explicitly instructed not to. For the next five years, she worked in a number of kitchens; wherever she worked, there were outbreaks of typhoid. However, she changed jobs frequently, and therefore, became difficult to find.

In 1915, Mallon started another major outbreak, this time at Sloane Hospital for Women in New York City. 25 people were infected and two died. Once again, she was arrested and returned to quarantine.



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She was still unwilling to have her gallbladder removed, which resulted in her being placed in confinement for the remainder of her life.

Typhoid Mary became a minor celebrity and was occasionally interviewed by the media. Interviewers were told not to accept anything from her - even a glass of water. Years later, Mary was allowed to work as a technician in the island's laboratory, washing bottles.

Mary Mallon is referred to as an **asymptomatic carrier**, which is a person (or organism) that has contracted an infectious disease, but who displays no symptoms. Although unaffected by the disease themselves, carriers can transmit it to others. Maybe because she never exhibited any symptoms of the disease, Mary had difficulty believing she was, indeed, carrying a disease. Even after her condition was verified, she remained in denial. Just why Mary maintained her adamancy of innocence, without a doubt, has been a topic of conversation within the community of psychology and other related fields. Maybe she was just scared of having her gallbladder removed (keep in mind that in the early years of the 20th century, a visit to the hospital or having such an evasive procedure as removal of a gallbladder was probably a less-than-assuring experience).

The lesson to take from the annals of Typhoid Mary – from an occupational S&H point-of-view, is that when we observe something in either ourselves or in others – especially when we are working in the field, we cannot ignore, deny or look the other way when we see notice something that needs to be addressed. Maybe we see a frayed electrical cord or someone climbing up a drill rig without fall protection- we all have the responsibility to say something. Maybe there is an acceptable explanation for a questionable scenario or maybe someone just acted without thinking to take the appropriate precautions. Either way, it's OK to ask a question. And when you ask a question, an appropriate answer is required – ALWAYS. This is what is known in the Nuclear Safety Culture as a questioning attitude.

A questioning attitude helps to prevent “group think” by encouraging diversity of thought and intellectual curiosity. It can challenge an entire organization to get clarification when something comes up that doesn't seem right.

Examples include situations as simple as walking by a broken door day after day without stopping and questioning why it remains broken; or skipping over a confusing step in a procedure you use every day rather than getting clarification. It could include ignoring an alarm because nuisance alarms go off all the time and they never indicate an actual emergency. Or it could be something a little more complicated such as not speaking up to question a calculation that doesn't seem right because the senior engineer performed the calculation.

Mary's reluctance to address her situation just may be due to a sadistic desire to cause sorrow and pain in people. But maybe she just didn't trust others about her health or truly refused to believe she was a carrier of typhoid. Times really have changed since the early 1900s and companies throughout the US understand the importance of employee ownership and its value towards improving the work environment. And that means all of us have the opportunity - and the right - to question something when we see a potential problem.

Everyone thinks of changing the world, but no one thinks of changing himself - Leo Tolstoy