

In Rochester, a tale of tainted tattoos

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The New England Journal of Medicine ©2012

(Medical Xpress)—If you end up with a rash on a new tattoo, you should probably think twice before brushing it off as an allergic reaction or a normal part of the healing process.

A recent study in the [New England Journal of Medicine](#) documents 19 cases in the Rochester, N.Y., area – the largest ever reported – of tattoos infected with a type of bacteria often found in tap water. Evidence points to a premixed gray ink, the type used in currently popular portrait or photography tattoos, as the culprit.

Mary Gail Mercurio, M.D., a dermatologist at the University of

Rochester [Medical Center](#), saw 18 of the 19 individuals infected. She says some people with tattoos have allergies or experience other dermatologic complications, but it's not common. "I've seen people with tattoo-related issues over the years, but never this many: The volume of patients impacted makes this a real public health concern.

"Patients and doctors need to have a certain level of suspicion when they see a rash developing in a tattoo. Many of the patients I saw thought their skin was just irritated and the issue would go away during the healing process. In actuality, they had an infection that needed to be treated with an antibiotic; it wasn't going to go away easily on its own."

The investigation of the outbreak, which was also highlighted in the U.S. [Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report](#), started with a previously healthy 20-year-old man who had a history of multiple tattoos in the past without any issues. In October 2011, he received a new tattoo on his arm and subsequently developed a persistent, inflamed rash in that area. After learning of his case, the Monroe County Department of Public Health explored the issue and identified 18 other individuals who developed similar rashes after getting tattoos at the same parlor, from the same artist.

Tests conducted at the Medical Center revealed that a specific type of bacteria, *Mycobacterium chelonae*, was in the patients' skin and led to the red, itchy bumps in their tattoos. Further testing found that a premixed gray ink, which the local artist had bought from a manufacturer in Arizona, contained the same bacteria and likely transmitted it to the skin.

Robert F. Betts, M.D., a long-time infectious disease expert at the Medical Center who treated almost all of the patients, confirmed that the infection was only in the areas tattooed with the gray ink. Also called gray wash, it is used to achieve shading and a three-dimensional quality in [tattoos](#).

According to the local tattoo artist, the manufacturer diluted black ink with distilled water to create a gray color. "This organism, *M. chelonae*, is found in some water supplies," said Betts. "What probably happened is that the water used to dilute the ink introduced the bacteria into it and the trauma associated with getting the tattoo compromised the circulation to that area of the skin, allowing the organism to enter into the skin and grow."

Betts says that this species of bacteria grows best at around 86 °F, a little bit below normal body temperature, which is approximately 98.6 °F. The skin is cooler than the rest of the body, which may explain why the bacteria flourished in the tattooed areas.

Following the investigation, the CDC issued a nationwide alert about the outbreak and the manufacturer voluntarily recalled the ink. Betts evaluated and treated 16 of the 19 patients with standard antibiotics – azithromycin and doxycycline – and everyone improved, although at different speeds based on the extent of the infection.

Both Betts and Mercurio believe that tattoo-associated infections are probably more common than we think and that physicians should think about infectious causes if patients aren't responding to topical or other dermatologic treatments that would typically dispel any sort of allergic reaction to a tattoo.

Provided by University of Rochester Medical Center

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