

Getting 'inked' may come with long-term medical risks, physicians warn

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In what they believe to be the first survey of its kind in the United States, researchers at NYU Langone Medical Center have found that as many as 6 percent of adult New Yorkers who get "inked"—in other words, those who get a tattoo—have experienced some form of tattoo-related rash, severe itching or swelling that lasted longer than four months and, in some cases, for many years.

"We were rather alarmed at the high rate of reported [chronic complications](#) tied to getting a tattoo," says senior study investigator and NYU Langone dermatologist Marie Leger, MD, PhD, whose team's latest findings appear in the journal *Contact Dermatitis* online May 27.

"Given the growing popularity of tattoos," says Leger, an assistant professor in NYU Langone's Ronald O. Perelman Department of Dermatology, "physicians, [public health officials](#), and consumers need to be aware of the risks involved."

Leger says some adverse skin reactions are treatable with anti-inflammatory steroid drugs, but others may require laser surgery. For stronger reactions, surgery is sometimes necessary to remove tattooed areas of the skin or built-up scar tissue and granular [skin lesions](#), which can rise several millimeters on the skin and cause considerable itching and emotional distress.

According to Leger, an estimated one in five adult Americans now has at least one tattoo.

Leger says the study findings, derived from survey interviews with some 300 adults in New York's Central Park in June 2013, mirror those in other European countries, which have only recently begun to monitor medical [complications](#) associated with tattoos.

Leger cites the lack of regulatory oversight as an underlying weakness in measuring the true scope of the complications tied to tattooing, noting that the chemical composition of colored inks used in the process is poorly understood and not standardized among dye manufacturers. "It is not yet known if the reactions being observed are due to chemicals in the ink itself or to other chemicals, such as preservatives or brighteners, added to them, or to the chemicals' breakdown over time," says Leger. "The lack of a national database or reporting requirements also hinders reliable monitoring."

"The skin is a highly immune-sensitive organ, and the long-term consequences of repeatedly testing the body's immune system with injected dyes and colored inks are poorly understood," says Leger. "Some of the reactions appear to be an immune response, yet we do not know who is most likely to have an immune reaction to a tattoo."

Among the study's other key findings was that similar types of short-term complications, including delayed healing, pain, swelling, and infection within weeks of getting tattooed, occur in as many as 10 percent of people. In addition, the data showed that only a third of those who did experience a reaction sought medical advice or help. Instead, Leger notes, other studies have shown that many go back to the tattoo parlor for advice.

Most long-lasting complications occurred in skin regions injected with the two most common tattoo ink colors, red and black. Almost half (44 percent) of chronic reactions were to red ink, even though only slightly more than a third (36 percent) had tattoos with red ink. One-third of

chronic cases involved black ink, while over 90 percent of tattoos encompass black coloring.

Survey respondents ranged in age from 18 to 69, with a majority having no more than five tattoos. One had 53, and the arm was the most popular tattoo site (at 67 percent).

Leger has plans for a larger survey to determine what colored inks and possible dye components are most closely tied to adverse reactions. She says her investigation might also reveal other factors that might put people at greater risk of suffering chronic complications.

Provided by New York University School of Medicine

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