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**TECH & SCIENCE**

# Tattoo Regret? A Topical Removal Cream May Help

BY **PAULA MEJIA** / FEBRUARY 19, 2015 6:27 PM EST

*Updated* | It's fairly simple to get a tattoo, but undoing that decision is a far more arduous undertaking. Recent data from Nova Scotia's Dalhousie University estimates that 15 to 25 percent of Americans have at least one tattoo—and 17 percent of them have considered removing their ink. These contrite millions may not have to worry about costly laser removal (over \$75 per session) anymore. Alec Falkenham, a Ph.D. candidate at Dalhousie, has developed a tattoo removal cream that would cost just \$4.50 per application, and causes none of the inflammation, blistering or scarring that comes with traditional removal procedures.

Falkenham came up with the idea three years ago—while working on his Ph.D. proposal and thinking about getting his first tattoo. He did some research, and he realized that the immune system cells he and his colleagues had been researching to help heal the heart following heart disease—macrophages—were the same cells that hold on to tattoo ink.

Macrophages fight to rid foreign agents from your body, including the pigment injected in your skin when you get a tattoo. When you come home from your tattoo session, the macrophages will immediately start to eat up all the ink in an effort to keep the pigments from infecting nearby tissue. Some of those macrophages will then head to the lymph nodes, where both the cells and ink are destroyed. But other ink-filled macrophages stay embedded in your skin, where they safely sequester the pigments from the rest of your cells—and form the coloration of your new tattoo.

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Tattoos will eventually fade when new macrophages come in, eat up the old ones (along with their ink) and carry them to the lymph nodes for elimination. Falkenham's cream stimulates this natural replacement process, causing tattoos to fade rapidly. Lab tests on mice and pigs in the lab have been

successful—tattoos faded after two applications of the cream. But Falkenham says to “take it with a grain of salt, because we’re talking about mice and things could be very different [with humans].”

Dr. Emmy Graber, a dermatologist at Boston University, questions whether the cream will be able to penetrate human skin deeply enough. “Macrophages are found in the dermis, and human skin is definitely thicker than that of mice,” she said. But, she adds, if the cream does work on humans, it will have one other huge advantage over laser removal: It works no matter what color the tattoo is, whereas current laser tattoo-removal technology often doesn’t work with certain pigments, such as reds. So go ahead: Get that arrow-pierced heart tattoo your teenage self always wanted. It might not be as permanent as your parents told you.

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