

## Jeans remain surprisingly clean after a year of wear (w/ Video)

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(PhysOrg.com) -- How gross is it to wear the same jeans day in and day out, without washing them for over a year?

It's actually not so bad, says University of Alberta student Josh Le. And, as it turns out, not so unhealthy, either.

After 15 months and one week of wearing his raw denim jeans, Le thought it was time to wash them. Just for fun, he and one of his University of Alberta professors, Rachel McQueen, turned it into an informal scientific experiment, taking bacterial counts from the pants, then tossing them into the washer, and doing the same thing again a couple of weeks later.

Aside from the psychological yuk factor, the bacteria load on the jeans was surprisingly harmless. Though the bacterial count was high, the strains found were not a threat to human health, said McQueen, a professor of textile science in the Department of Human Ecology.

"I expected to find some bacteria associated with the lower intestine such as E. coli, but was surprised to find there weren't any, just lots of normal skin bacteria," said McQueen, who carries out research in the development of odour and its relationship to bacteria in textiles.

As well, McQueen found that bacteria growth was virtually the same from the jeans after 15 months with no washing, compared to two weeks after being washed.



The counts showed between 8,000 and 10,000 colony-forming units per square centimetre in the crotch area of the jeans, 1,500 to 2,500 on the back and 1,000 to 2,000 on the front.

"This shows that, in this case at least, the bacteria growth is no higher if the jeans aren't washed regularly."

Le bought his pants in fall of 2009, taking a cue from a friend who wore a pair of raw denim jeans through Grade 12, as part of a growing fashion trend. "I decided to test for myself raw denim's claims to perfectly fitting jeans and explore the trend," he said. Le took weekly photos of his jeans to document the evolution of the garment as it took on its unique patina of wear.

He also wanted a pair of jeans that would mould to his body shape, and treasures every customized crease and fold.

Raw denim, also known as dry denim, hasn't been chemically treated or pre-washed. After months of wear, the jeans will fade and crease to the wearer's body. Washing the jeans removes the excess dye and makes the fading and creases more pronounced.

Le also wanted to find out if the impact on the environment could be eased by wearing clothing longer between washings, and that would appear to be the case, said McQueen.

Though McQueen doesn't recommend waiting a year or more to launder garments, the trial findings indicate that going longer between washings doesn't appear to pose a risk in the general population.

"Most bacterial organisms transferred into jeans come from the person wearing them, and providing there are no cuts or abrasions to the skin, the bacteria should not harm the wearer," McQueen said.



While stringent laundering practices are important in many workplaces such as hospitals and kitchens, washing an everyday garment like a pair of jeans less often, "has greater potential benefits to the environment than to the potential risk of the wearer."

Le wanted to "show the world that wearing jeans for a period of time isn't that bad." He had no problem wearing his form-fitting denims for more than a year, even sleeping in them sometimes. "You wake up and already have your pants chosen for the day. And I think I gained more friends and had more conversations because of the jeans."

He wore them for five out of every seven days during the summer and more steadily over the winter, but aired them out three times a week "to let them breathe" and to keep odours at bay. He didn't experience any ill effects such as skin rashes.

Le didn't take long to put the jeans on again after they were washed, and was relieved to find that while the garment had shrunk a bit, it has again taken on its familiar feel. After all the use, he is giving them a bit of a break.

"I've appointed them my weekend jeans."

Le was pleased with the experiment's results.

"It's encouraging to see that the raw denim movement isn't dangerous for your health—in my case, at least. It supports the idea that washing your clothes less frequently isn't as bad—maybe more frequently than 15-month intervals between washes—but maybe less frequently than after every wear," he grinned.

He added: "If anything, I learned that I'm much cleaner than I thought!"



## Provided by University of Alberta

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