

Germs for the holidays—house guests leave trail of tiny, immunity-improving bacteria

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Bacteria

The holiday season brings in all the usual guests to visit, but for every one there's a host of unexpected visitors. That's because each family member, friend and neighbor entering our homes emits 38 million bacterial cells an hour.

Even if a guest walked into the [kitchen](#) and held their breath, they still would slough off 10 million [bacterial cells](#) in just 60 minutes through skin shed.

While the idea may seem revolting, Jack A. Gilbert, UChicago associate professor in ecology & evolution and group leader for microbial ecology in the Biosciences Division at the U.S. Department of Energy's Argonne National Laboratory, assures us it's not.

"Nearly all of the germs graciously donated by our friends and family are not disgusting," said Gilbert, who has made a career of exploring how microbial communities assemble themselves in natural and man-made environments. "They are probably good for us in many different ways."

Gilbert said our over-sanitized environment may ultimately leave us weaker than our ancestors, who were agrarian and were constantly surrounded by a wide variety of plants and animals. Their bodies adapted to such changes—and so our bodies expect to encounter them, too, he said.

"Our ancestors experienced many different types of bacteria on a regular basis," he said. "When you live with such rich biodiversity, the body expects to see it and when it doesn't, it freaks out, which is why we are seeing an explosion in allergies, asthma and hay fever. Our bodies are overreacting to the absence of these organisms."

Our constant hand washing—though it might prevent a nasty flu—might also keep us from developing immunities.

"We have done a really good job at keeping the bad bugs at bay," Gilbert said, "but we've failed at keeping in those that we need because we live an indoor, sedentary lifestyle."

Inviting friends and family to come around on a regular basis may help stimulate our immune systems, he said. Likewise, having very young children interact with a wide variety of animals is only beneficial to their health and greatly outweighs the slim chance of exposure to something harmful, he said.

In fact, Gilbert believes some of the social rituals we carry out today—hand shaking, hugging, kissing—may have evolved over

millennia as a way to share, spread and develop immunities to bacteria. Kissing, for example, may promote healthy digestion, train the immune system and may even lead to better cognition, Gilbert said.

Germes are so prevalent and impossible to eliminate, Gilbert said, there is no need to go overboard scrubbing the house after holiday gatherings.

"I would say there is no real reason to increase cleanliness protocols in your property unless one of your guests is really sick, in which case you can isolate them—or tell them not to come over at all," he said.

Provided by University of Chicago

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