

# Probiotic use may reduce antibiotic prescriptions, researchers say

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Use of probiotics is linked to reduced need for antibiotic treatment in infants and children, according to a review of studies that probed the benefits of probiotics, say researchers in the U.S., England and the Netherlands.

Their study, supported in part by the International Scientific Association for Probiotics and Prebiotics and published in the *European Journal of Public Health*, found that when the results from twelve studies were pooled together, infants and children were 29% percent less likely to have been prescribed [antibiotics](#) if they received probiotics as a daily health supplement. When the analysis was repeated with only the highest quality studies, this percentage increased to 53%.

The findings are very intriguing, the researchers say. "Given this finding, potentially one way to reduce the use of antibiotics is to use probiotics on a regular basis," says the study's senior investigator, Daniel Merenstein, MD, a professor in the Department of Family Medicine at Georgetown University School of Medicine. He is also director of research programs in the department.

According to the Centers for Disease Control and Prevention (CDC), there are about two million cases of antibiotic resistant infections yearly in the U.S., resulting in 23,000 deaths. Reducing the use of antibiotics is one strategy in combatting resistance.

"We already have evidence that consuming probiotics reduces the incidence, duration, and severity of certain types of common acute respiratory and gastrointestinal infections," Merenstein says. "The question is whether that reduction is solidly linked to declining use of antibiotics, and we see that there is an association."

"More studies are needed in all ages, and particularly in the elderly, to see if sustained probiotic use is connected to an overall reduction in [antibiotic prescriptions](#). If so, this could potentially have a huge impact on the use of probiotics in general medicine and consumers in general," says the study's lead author Sarah King, Ph.D., from Cambridge, UK.

How probiotics help fight infections, especially those in the respiratory track and lower digestive tract, is not clear. However, Merenstein says, "There are many potential mechanisms, such as probiotic production of pathogen inhibitors, immune regulation, among others.

"We don't know all the mechanisms [probiotic](#) strains may leverage. But since most of the human immune system is found in the gastrointestinal tract, ingesting healthy bacteria may competitively exclude bacterial pathogens linked to gut infections and may prime the immune system to fight others," he says.

The probiotics used in the reviewed studies were strains of *Lactobacillus* and *Bifidobacterium*.

Provided by Georgetown University Medical

Center

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