

TAKE PROBIOTICS ALONGSIDE YOUR PRESCRIBED ANTIBIOTICS TO REDUCE DAMAGE TO YOUR GUT MICROBIOME, SAYS THE FIRST REVIEW OF THE DATA

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The first ever systematic review of its kind confirms that taking probiotics alongside antibiotics can protect against some of the negative impacts of antibiotics on the human gut microbiome. The review is reported in the *Journal of Medical Microbiology*, published by the Microbiology Society.

Millions of antibiotics are prescribed every year. Although they can be incredibly effective at treating infections, antibiotics usually do not solely target the bacteria that is causing infection. They also kill the harmless bacteria that live in our gut and help us stay healthy. There is evidence that this disruption to the gut microbiome composition can last for up to 2 years after antibiotic treatment. Gastrointestinal symptoms such as diarrhoea and bloating are also common side effects of antibiotic use.

Dr Elisa Marroquin, Assistant Professor at Texas Christian University, USA, and co-author of the paper, explained:

“Like in a human community, we need people that have different professions because we don’t all know how to do every single job. And so the same happens with bacteria. We need lots of different gut bacteria that know how to do different things.

“Even though we haven’t come up with a single definition of what is a healthy gut microbiome, one of the constant things we observe in healthy people is that they have a higher level of diversity and more variety of bacteria in the gut.”

Previous studies demonstrated that taking probiotics can reduce gastrointestinal side effects of antibiotics, but there has been debate over whether taking probiotics alongside antibiotics can also preserve the diversity and composition of microbes in the gut. Some healthcare professionals are reluctant to recommend probiotics alongside antibiotics for fear of further altering the delicate balance of microbes in the patient’s gut.

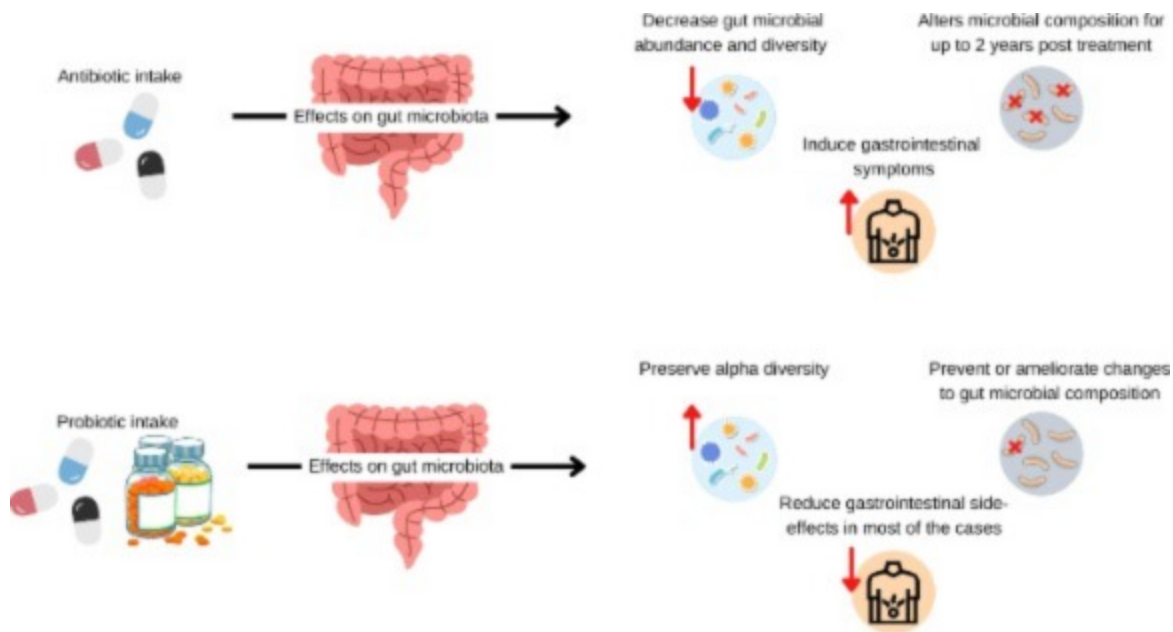
A new paper published in the *Journal of Medical Microbiology* reveals the first systematic review to assess the effect of taking probiotics alongside antibiotics on the diversity and composition of the human gut microbiome. Authored by researchers from the School of Medical and Health Sciences at Tecnológico de Monterrey, University of Texas and Texas Christian University, the review evaluates trends across 29 studies published over the past seven years.

The authors found that taking probiotics alongside antibiotics can prevent or lessen some antibiotic-induced changes to gut microbiome composition. Probiotics can also help protect species diversity and even restore the populations of some friendly bacteria such as *Faecalibacterium prausnitzii*, which reduces inflammation and promotes a healthy intestinal barrier.

Dr Elisa Marroquin said:

“When participants take antibiotics, we see several consistent changes in some bacterial species. But when treatment was combined with probiotics, the majority of those changes were less pronounced and some changes were completely prevented.

“Considering the human data available up to this point, there does not seem to be a reason to withhold a prescription of probiotics when antibiotics are prescribed.”



© Fernández-Alonso et al. 2022, *Journal of Medical Microbiology* Conceptual model of the effect of antibiotics and/or probiotics on the gut microbiota.

Notes to editors

The paper: Effect of adding probiotics to an antibiotic intervention on the human gut microbial diversity and composition: A systematic review by Melissa Fernández-Alonso, Andrea Aguirre Camorlinga, Sarah E Messiah and Elisa Marroquin is published in the *Journal of Medical Microbiology*

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For more information and to view the full article in advance under the terms of the embargo please contact press@microbiologysociety.org

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Conceptual model image: Fernández-Alonso *et al.* 2022, *Journal of Medical Microbiology*

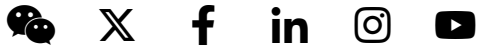
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