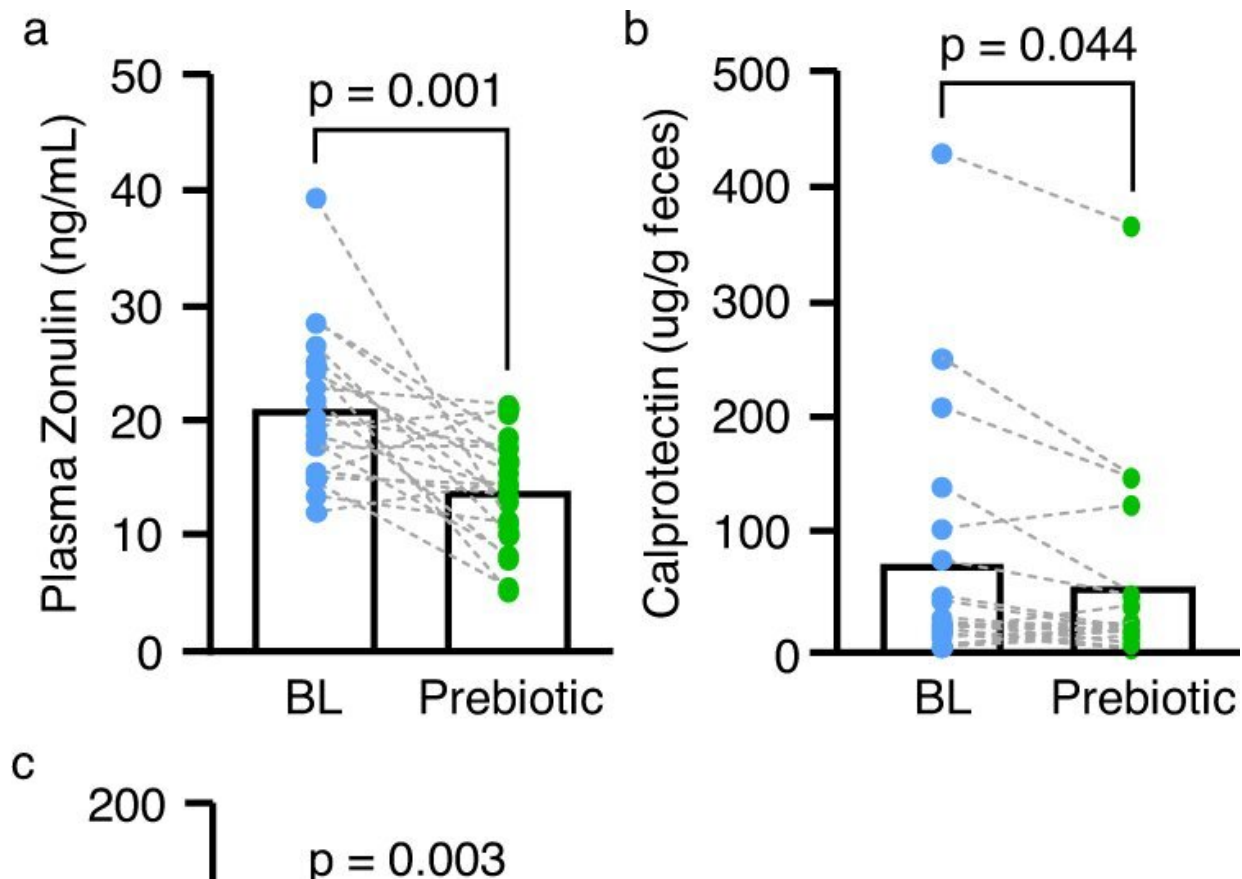


# Using prebiotics to help treat Parkinson's disease

July 20 2023, by Ariana Baldassano



Ten days of the prebiotic intervention had effects on biological outcomes.  
 Credit: *Nature Communications* (2023). DOI: 10.1038/s41467-023-36497-x

Constipation can be caused by many factors, not all of them serious. But

it could be a sign of Parkinson's disease. A new study from RUSH neurologist Deborah Hall, MD, looks into how the bowel and the brain are linked.

Hall says constipation can be one of the very first symptoms for the disease, showing up as early as 10 years before a Parkinson's disease diagnosis.

"The microbiome, or [bacteria](#) composition in the [bowel](#), is abnormal in Parkinson's disease. We're trying to understand if the same microbiome abnormalities are happening even earlier, before diagnosis. If you can diagnose that early, there may be an earlier time where you can intervene in the disease."

The study, published in the journal *Nature Communications*, looks at how introducing a prebiotic bar into a patient's diet would impact Parkinson's disease's symptoms. The research involved both patients who were newly diagnosed and not yet medicated and those who were more advanced in the disease and actively receiving treatment.

Hall found that the bar helped decrease the severity of GI symptoms for patients with more advanced Parkinson's disease and could be an effective strategy to help treat it.

## **How prebiotics help**

Constipation can be caused by a leaky bowel, which is one of the symptoms of Parkinson's disease. Having a leaky bowel happens because bad bacteria from the disease ends up damaging the intestine's lining. To help reduce inflammation and address the leaky gut, more [good bacteria](#) need to be introduced. That's where prebiotics come in.

Prebiotics help good bacteria grow in the gut. They have elements called

short-chain [fatty acids](#) (SCFAs), which serve as a [food source](#) for the good bacteria. If a patient ingests a prebiotic compound, the good bacteria will eat it and will multiply. With more good bacteria introduced to the bowel, inflammation can be reduced, and it can help normalize the leaky bowel.

Right now, there's nothing on the market that has a similar SCFA makeup that Hall thinks would change the [gut microbiome](#), so a prebiotic snack bar was a good place to start.

"It's not a medicine, it's not a [surgical intervention](#), it's easy," Hall says.

The prebiotic bar showed signs of easing patients' bowel symptoms, but more work needs to be done to see whether a patient's motor symptoms improve with the bar. To do that, Hall says they're looking to do another clinical trial that would include more patients and would last longer than the initial study's 10 days.

Hall also wants to investigate other ways to implement the [prebiotic](#) into a patient's diet. Patients in the study reported feeling full and eating less food while implementing the bar into their diets. In a follow-up study, Hall says they might consider creating some sort of supplement instead.

Overall, Hall says the results from the study are promising and will open many doors for more research that can help more Parkinson's disease patients have a higher quality of life.

**More information:** Deborah A. Hall et al, An open label, non-randomized study assessing a prebiotic fiber intervention in a small cohort of Parkinson's disease participants, *Nature Communications* (2023). [DOI: 10.1038/s41467-023-36497-x](https://doi.org/10.1038/s41467-023-36497-x)

Provided by Rush University Medical Center

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