

An avocado a day keeps your gut microbes happy

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Adding avocado to your meal improves gut health, a new University of Illinois study shows. Credit: College of ACES, University of Illinois.

Eating avocado as part of your daily diet can help improve gut health, a new study from University of Illinois shows. Avocados are a healthy food that is high in dietary fiber and monounsaturated fat. However, it was not clear how avocados impact the microbes in the gastrointestinal system or "gut."

"We know eating avocados helps you feel full and reduces blood cholesterol concentration, but we did not know how it influences the gut [microbes](#), and the metabolites the microbes produce," says Sharon Thompson, [graduate student](#) in the Division of Nutritional Sciences at U of I and lead author on the paper, published in the *Journal of Nutrition*.

The researchers found that people who ate [avocado](#) every day as part of a meal had a greater abundance of gut microbes that break down fiber and produce metabolites that support gut health. They also had greater microbial diversity compared to people who did not receive the avocado meals

in the study.

"Microbial metabolites are compounds the microbes produce that influence health," Thompson says. "Avocado consumption reduced [bile acids](#) and increased short chain fatty acids. These changes correlate with beneficial health outcomes."

The study included 163 adults between 25 and 45 years of age with overweight or obesity—defined as a BMI of at least 25 kg/m²—but otherwise healthy. They received one meal per day to consume as a replacement for either breakfast, lunch, or dinner. One group consumed an avocado with each meal, while the control group consumed a similar meal but without the avocado. The participants provided blood, urine, and fecal samples throughout the 12-week study. They also reported how much of the provided meals they consumed, and every four weeks recorded everything they ate.

While other research on avocado consumption has focused on weight loss, participants in this study were not advised to restrict or change what they ate. Instead they consumed their normal diets with the exception of replacing one meal per day with the meal the researchers provided.

The purpose of this study was to explore the effects of avocado consumption on the gastrointestinal microbiota, says Hannah Holscher, assistant professor of nutrition in the Department of Food Science and Human Nutrition at U of I and senior author of the study.

"Our goal was to test the hypothesis that the fats and the fiber in avocados positively affect the gut microbiota. We also wanted to explore the relationships between gut microbes and health outcomes," Holscher says.

Avocados are rich in fat; however, the researchers found that while the avocado group consumed slightly more calories than the [control group](#),

slightly more fat was excreted in their stool.

"Greater fat excretion means the research participants were absorbing less energy from the foods that they were eating. This was likely because of reductions in bile acids, which are molecules our digestion system secretes that allow us to absorb fat. We found that the amount of bile acids in stool was lower and the amount of fat in the stool was higher in the avocado group," Holscher explains.

Different types of fats have differential effects on the microbiome. The fats in avocados are monounsaturated, which are heart-healthy fats.

Soluble fiber content is also very important, Holscher notes. A medium avocado provides around 12 grams of fiber, which goes a long way toward meeting the recommended amount of 28 to 34 grams of fiber per day.

"Less than 5% of Americans eat enough fiber. Most people consume around 12 to 16 grams of fiber per day. Thus, incorporating avocados in your diet can help get you closer to meeting the fiber recommendation," she notes.

Eating fiber isn't just good for us; it's important for the microbiome, too, Holscher states. "We can't break down dietary fibers, but certain gut microbes can. When we consume [dietary fiber](#), it's a win-win for gut microbes and for us."

Holscher's research lab specializes in dietary modulation of the microbiome and its connections to health. "Just like we think about heart-healthy meals, we need to also be thinking about gut healthy meals and how to feed the microbiota," she explains.

Avocado is an energy-dense food, but it is also nutrient dense, and it contains important micronutrients that Americans don't eat enough of, like potassium and fiber.

"It's just a really nicely packaged fruit that contains nutrients that are important for health. Our work shows we can add benefits to gut health to that list," Holscher says.

More information: Sharon V Thompson et al, Avocado Consumption Alters Gastrointestinal Bacteria Abundance and Microbial Metabolite Concentrations among Adults with Overweight or Obesity: A Randomized Controlled Trial, *The Journal of Nutrition* (2020). [DOI: 10.1093/jn/nxaa219](#)

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