# Journey to Health: The Microbiome - Why It's Important

By Eli Follick

The microbiome consists of trillions of organisms of thousands of different species mostly located in the small and large intestines. These include bacteria, fungi, parasites, and viruses, which synthesize vitamins in the gut, including thiamine, folate, biotin, riboflavin, pantothenic acid, vitamin K and B12. The microbiome is even labeled a supporting organ because it plays so many key roles in promoting the smooth daily operations of the human body.

Every person has a unique network of organisms that is determined by their DNA, and every person is first exposed to these organisms as an infant, during delivery and through the mother's breast milk. Later, environmental exposures and diet can change a person's microbiome to be either beneficial to health or place one at greater risk for disease.

In fact, the connections between the organisms and functioning of the microbiome and many illnesses continue to grow. The list includes diseases like arthritis, inflammatory bowel disease, Hashimoto's disease, brain disorders, cognitive decline, fatigue, joint pain, allergies, cardiovascular disease, high levels of cholesterol, asthma, infertility, autism, and mood disorders such as depression and anxiety. Diabetes and several types of cancer have also been connected to a malfunctioning gut microbiome.

When we take antibiotics, they not only kill the germs but they also may kill many of the organisms in your gut. Too much fatty red meat is also not healthy for the organisms in the gut.

Of all that has been learned, most important is that we can help our system by eating healthfully.

### Add Prebiotic-Rich and Fermented Foods to Your Meals

One way to do so is to eat prebiotic-rich foods – not to be confused with probiotics. Probiotics are the beneficial gut organisms themselves. These are found in supplements and fermented foods. Prebiotics are the foods for the organisms.

Prebiotics are found in foods such as apples, artichokes, bananas, oats, chia seeds, and ground flaxseeds. Broccoli, cauliflower, almonds, garlic, onions, beans, legumes, green and black teas, and even cocoa and other fiber-rich foods are beneficial. Wild-caught fish and dark chocolate, berries, nectarines, oranges, pears, plums, spices, and herbs are additional beneficial choices. Adding chia seeds to oatmeal, cooking with onions and garlic, adding chickpeas and black beans into salads and having a cup of green tea are delicious ways to increase prebiotic intake.

Fermented foods improve gut diversity. They act as a natural probiotic supplement. A few of the better ones include Greek yogurt, kefir, kombucha, kimchi, tempeh (fermented soybean food), miso (fermented soybean paste) and sauerkraut. Add sauerkraut to a sandwich or whip up a tasty salad dressing with miso paste. Your gut will surely thank you.

### **Include a Wide Variety of Plants** in Your Diet

One of the best ways to increase the diversity of your gut organisms



is to eat a wide variety of whole plant foods. Those who eat greater than or equal to 30 plant varieties per week have a more diverse gut microbiome compared with those who eat less than or equal to 10 plant varieties a week, according to the American Society for Microbiology. To reach your weekly quota, try adding one or two new varieties each week. Or, visit your local farmer's market to discover new varieties of seasonal produce. Additionally, cooking with fresh herbs and adding them to salads; snacking on fruit, nuts and seeds; and adding plant-based proteins into your meals with beans and legumes are all tasty, easy ways to promote a diverse gut microbiome.

### The Role of Postbiotics

Postbiotics also play a role in your health. This term refers to the waste left behind after your body digests both prebiotics and probiotics. Healthy postbiotics include nutrients such as vitamins B and K, amino acids, and substances called antimicrobial peptides that help to slow the growth of harmful bacteria. Other postbiotic substances called shortchain fatty acids help healthy bacteria flourish. You can increase the amount of useful postbiotics by increasing your intake of fermented foods like kefir, tempeh and kimchi.

As we have learned to protect ourselves from exposure to Covid and to listen to the doctor about losing weight, quitting smoking, imbibing less, and getting some good exercise and sleep, we need to take care of our insides to attain better health. That means eating properly prepared and sized portions, and healthful foods and drinks. Taking medications according to instructions and managing stress is also important. I hope this information on the gut microbiome adds another good set of habits to your daily routine. Enjoy your journey to health!

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