

Ask the Doctor: Healing the Gut for a Stronger Brain

With Dr. Raphael Kellman, M.D.

*Dr. Raphael Kellman is a pioneer in functional medicine with a holistic approach to healing. He is a graduate of Albert Einstein College of Medicine in New York and has performed cancer research at the famed Sloan Kettering Memorial Hospital. Dr. Kellman is author of three books, including his latest, *The Microbiome Diet*. He is in private practice at The Kellman Center for Integrative & Functional Medicine in New York.*



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Independent Healing: *Let's start at the beginning. What is the microbiome?*

Dr. Kellman: The microbiome is a huge ecosystem, a hidden world inside our bodies. It is actually composed of more cells than our body. The cells in our microbiome outnumber those of our body tissues by 10 to 1. The microbes within us play a profound role in our overall health. It is, in a sense, the software of our health. We and the microbes that inhabit us are interwoven. We are inseparable.

IH: **How is it possible that microbes in our digestive system can affect our brain?**

Dr. Kellman: This happens in many ways. Gut bacteria produce the same chemicals the brain does, the same neurotransmitters. They're communicating with the brain because they speak the same chemical language. They are one contiguous system. The microbiome influences many hormones, and these hormones in turn influence the brain. Gut bacteria can also signal messages to the vagus nerve—the large nerve that runs from the brain to the abdomen and communicates to the brain. The microbiome and gut bacteria communicate to the immune system, and the immune system communicates to the brain. It's as if the microbiome and brain speak numerous languages to each other.

IH: The number of people suffering from depression, anxiety, and other mood disorders is huge and growing. Could this be a consequence of our modern diet?

Dr. Kellman: Yes, a significant percentage of our brain issues—depression, memory, neurodegenerative and neurodevelopment diseases—are absolutely linked to the microbiome. The research backs it up. Diet is an important way to treat these diseases. This is a very, very important foundational aspect of treatment. When you treat with diet, you're treating deeper causes of the problem than you do when taking an antidepressant drug. The effects are more widespread. You see a deeper and more profound response.

IH: What specific mental issues are linked to the microbiome?

Dr. Kellman: The big ones are depression and anxiety. People can suffer from these because of imbalances in gut bacteria. And it's not only due to diet, but to stress. Prescription antibiotics and antibiotics in meat can cause imbalances. GMO foods affect the gut and microbiome. Certain medications have an impact. PPIs (proton pump inhibitors) for heartburn affect the gut. People are put on drugs such as Prilosec and left on them for years. They face health consequences down the road.

IH: What foods are most likely to improve a person's gut flora in a way that improves mood or helps with mental issues?

Dr. Kellman: It has to be a comprehensive change. We developed a very in-depth program to make big changes in the ecology of the gut. Eating prebiotic foods certainly helps. These include jicama root, leeks, radishes, and Jerusalem artichokes. Probiotic foods—sauerkraut, kimchi, and kefir—are important after the gut is healed.

IH: What foods are detrimental to the microbiome?

Dr. Kellman: Processed foods and GMOs. It's not a luxury to remove these, it's a necessity.

IH: Antibiotics can kill beneficial gut microbes. What guidance can you give regarding taking antibiotics? If you absolutely must take them to fight an infection, is there a way to prevent them from destroying your good bacteria?

Dr. Kellman: When it's warranted, I'm in favor of antibiotics. The problem is antibiotics are used when they are not needed. When you have an upper respiratory infection, there's no evidence antibiotics will help you.

We need to change the mindset of doctors and patients regarding antibiotics. If you don't know about natural alternatives, you're more likely to take an antibiotic. It's about knowing other options. We're taught in medical school that the only things that work are pharmacological interventions. What about giving zinc when a person is deficient? Or vitamin C? Or vitamin D? And you have to reduce the antibiotics you're getting in meat. You have to go organic.

Intelligent medicine should be what unifies conventional and holistic medicine. In that world, you're less likely to use antibiotics.

IH: Probiotic supplements have become hugely popular in recent years. Are these helpful to boost mood and if so, which types are best?

Dr. Kellman: Probiotic supplements absolutely help with mood. Improving the microbiome in general helps. Once you heal the gut, then you can focus on targeted probiotics. These include *Lactobacillus helveticus* r0052 and *Bifidobacterium longum* r0175, and many others. They have to be used intelligently. One has to improve their diet and overall health, otherwise probiotic supplements can be an exercise in futility.