Ask Me Anything with Dr. Mayer # 6

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From Toril: Can your gut affect your heart and give heart palpitations, even hurting? Do you believe that we can have parasites that affects the gut and our organs?

- Yes, the gut and the heart are interconnected through multiple communication channels, including circulating metabolites and immune cells originating from the gut microbiome. While some metabolites have been identified to increase the risk for cardiovascular diseases, I am not aware that there is a link with palpitations. Most palpitations are not directly caused by gut issues but by a combination of stress, diet, sleep, and cardiovascular factors. If you experience painful sensations in your chest, you should definitely consult a healthcare professional! As for parasites, globally, intestinal parasites remain an important cause of serious health issues. However, in the U.S. and other developed countries, clinically significant parasites are uncommon, and those identified by some stool tests (i.e. *Blastocystis hominis*) are not harmful. More often, what people think of as "parasites" here turns out to be microbiome imbalance or food intolerances rather than true parasitic infection.

From Colleen: I am unfamiliar with eating fermented foods but I'm trying my best to incorporate it into my diet. The idea of food sensitivities is finally being accepted it seems. I would just like to know how to eat so that I can live a more peaceful life.

- Naturally fermented foods like yogurt, kefir, sauerkraut, and kimchi, introduce beneficial microbes and bioactive compounds that support a healthy gut microbiome. You don't need to eat large amounts; small, regular servings are enough to see benefits. When it comes to food sensitivities, keep in mind that the science is still evolving. Rather than eliminating many foods at once, I recommend starting with a balanced Mediterranean-style diet, rich in plant diversity. If you identify certain components of this diet that reproducibly cause abdominal discomfort, gas or bloating, reduce or eliminate this particular food item from your diet. You don't need food sensitivity or allergy tests to do this! The individual approach nourishes your gut microbes and lowers inflammation, which over time often improves tolerance and reduces symptoms.

From Pam: I have problems with fiber rich foods, yet I understand the importance of them. I've tried supplementing with fiber, but that has been difficult as well. I have been avoiding biologics, but at this point am at a loss as to try adding fiber or to avoid it.

- Fiber is crucial for feeding beneficial microbes, but it can also cause bloating or discomfort, particularly if you have been on a fiber deficient diet or if your gut is hypersensitive. The key is to start low and go slow. Gradually increase fiber from well-tolerated sources, cooked vegetables rather than raw, or soluble fibers such as oats and psyllium before insoluble fibers like bran. Fermented foods can also help your microbiome adapt. And pay attention to stress, sleep, and physical activity, all of which affect gut motility and sensitivity. If symptoms persist, working with a dietitian experienced in gut health can help personalize your approach.

From David: Your research has been pivotal in showing how the gut and the brain communicate. For people like me who are new to the topic, what are the most important things to know about the brain gut microbiome system and how it affects mental and physical health?

- Think of the brain–gut–microbiome system as a three-way communication network. Your gut microbes produce neurotransmitters, hormones, and metabolites that send signals to the brain, influencing mood, stress response, and even cognition. At the same time, your brain sends signals back to the gut, affecting motility, secretion, and inflammation. These bidirectional loop mean that what you eat, how you manage stress, and your lifestyle choices can influence not only digestive health but also mental well-being and resilience. You may want to read my book The Mind-Gut Connection to get a overview of the topic

From Michael: Diet clearly influences the brain and the gut microbiome. What do you recommend people focus on in their eating habits to maintain a healthy gut and help prevent cognitive decline as they age?

- Focus on dietary patterns rather than single nutrients. The best evidence supports a Mediterranean or largely plant-based pattern rich in a variety of vegetables, fruits, legumes, nuts, seeds, whole grains, olive oil, fermented foods and fish. Aim for diversity - different plant foods feed different microbes, creating a more diverse and resilient microbiome. Limit or better avoid highly processed foods and added sugars, which can erode microbial diversity and promote inflammation. Regular physical activity, good sleep, and stress management complement these dietary habits to protect brain health over time.

From Kerry: What do you personally do day to day, both physically and mentally to stay sharp, resilient and healthy?

- I try to live by the same principles I teach. My daily routine includes a largely plant-based Mediterranean diet with plenty of polyphenol-rich foods like berries, nuts, olive oil, and leafy greens. I exercise almost every day, walking, biking, or resistance exercise, and I regularly practice brief mindfulness or breathing exercises to manage stress. I make sleep a priority and keep a consistent schedule. Just as important, I stay intellectually curious and socially engaged; reading, writing, and meaningful conversations are powerful forms of mental exercise that help keep the brain agile.