



Could Your Gut Be Affecting Your Brain Health?

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Did you know that your gut and brain are in constant communication? This powerful relationship, known as the gut-brain axis, has profound implications for brain health.

Emerging research shows that the health of your gut microbiome can directly influence your risk for neurodegenerative diseases like Alzheimer's, Parkinson's, Multiple Sclerosis (MS), and Amyotrophic Lateral Sclerosis (ALS).

Let's explore the science behind this connection and how you can take charge of your health.

The gut-brain axis is a bidirectional communication network that links the central nervous system (your brain and spinal cord) to the enteric nervous system (the nervous system in your gut).

This connection occurs through:

- **The Vagus Nerve:** A primary communication highway between the gut and brain.
- **Microbial Metabolites:** Gut bacteria produce compounds like short-chain fatty acids (SCFAs) that influence brain inflammation and function.
- **Hormones and Neurotransmitters:** Gut microbes produce serotonin, dopamine, and GABA, which are critical for mood regulation, cognitive function, and overall mental health.

Emerging Research and Support for Specific Neurodegenerative Diseases:

- **Alzheimer's Disease:** Studies suggest that poor gut health may increase the risk of plaque formation and brain inflammation. Diets high in fiber, prebiotics, and fermented foods are linked to a lower risk of Alzheimer's.
- **Parkinson's Disease:** Research has found that changes in the gut microbiome often precede motor symptoms by years. A Mediterranean-style diet rich in prebiotics and polyphenols has been shown to support both gut and brain health.
- **Multiple Sclerosis (MS):** Dysbiosis can exacerbate autoimmune activity in MS, while probiotics and anti-inflammatory foods may help reduce symptom severity.
- **Amyotrophic Lateral Sclerosis (ALS):** Emerging evidence suggests that ALS may involve gut inflammation and oxidative stress. Supporting gut health through antioxidant-rich foods, anti-inflammatory diets, and probiotics may help manage these contributing factors and reduce inflammation associated with ALS.

Microbial Toxins and Brain Function

In my practice I use holistic testing to assess levels of imbalanced bacteria in the gut. Harmful gut bacteria in the gut can release endotoxins, such as lipopolysaccharides (LPS), which cross the blood-brain barrier and trigger inflammation. This process has been linked to cognitive decline and mood disorders.

Neurotransmitter Production

About 90% of serotonin, the “happiness hormone,” is produced in the gut. Gut health directly affects levels of serotonin and other neurotransmitters, influencing mood, memory, and even sleep patterns. Disruptions in this production process have been associated with anxiety, depression, and cognitive impairment.

Dietary Tips to Optimize Gut Health for Brain Health

To support your gut and, in turn, improve brain health, consider the following dietary tips:

- **Prioritize Fiber-Rich Foods:** Aim for 25-35 grams of fiber daily from vegetables, fruits, and whole grains. Fiber feeds beneficial gut bacteria, promoting the production of SCFAs, which protect against inflammation. Whole-food fiber is far superior to added functional fibers.
- **Add Probiotic and Fermented Foods:** Include yogurt, sauerkraut, kimchi, miso, and kombucha to populate your gut with good bacteria. These fermented foods have been shown in research to reduce inflammation in the gut. Probiotic supplements can also be beneficial.
- **Incorporate Prebiotics:** Foods like garlic, onions, asparagus, and bananas help to FEED the beneficial bacteria in the gut, helping to keep them alive and healthy.
- **Reduce Pro-Inflammatory Foods:** Limit processed foods, added sugars, and refined carbohydrates that promote dysbiosis and inflammation. A diet high in refined carbohydrates is particularly harmful for those at risk of neurodegenerative diseases like Alzheimer’s, as it contributes to brain inflammation and potentially accelerates cognitive decline due to blood sugar spikes and increased insulin levels.
- **Boost Polyphenols:** Antioxidant-rich foods like berries, green tea, turmeric, and dark chocolate can help combat oxidative stress.
- **Stay Hydrated:** Proper hydration supports digestion and nutrient absorption. Research shows that dehydration can increase inflammatory immune compounds in the gut as well as more harmful bacteria.
- **Consider Omega-3s:** These healthy fats, found in fatty fish, walnuts, and flaxseeds, have anti-inflammatory effects and support brain function. Research shows that these facts can even influence gene expression, leading to better neurological outcomes.