LEARN ABOUT: The Brain-Gut Connection

Anxiety and depression have been thought to contribute to gastro conditions like irritable bowel syndrome (IBS). A Johns Hopkins expert explains how what’s going on in your gut could be affecting your brain.

If you’ve ever “gone with your gut” to make a decision or felt “butterflies in your stomach” when nervous, you’re likely getting signals from an unexpected source: your second brain. Hidden in the walls of the digestive system, this “brain in your gut” is revolutionizing medicine’s understanding of the links between digestion, mood, health and even the way you think.

Scientists call this little brain the enteric nervous system (ENS). And it’s not so little. The ENS is two thin layers of more than 100 million nerve cells lining your gastrointestinal tract from esophagus to rectum.

What Does Your Gut’s Brain Control?

Unlike the big brain in your skull, the ENS can’t balance your checkbook or compose a love note. “Its main role is controlling digestion, from swallowing to the release of enzymes that break down food to the control of blood flow that helps with nutrient absorption to elimination,” explains Jay Pasricha, MD, director of the Johns Hopkins Center for Neurogastroenterology, whose research on the enteric nervous system has garnered international attention. “The enteric nervous system doesn’t seem capable of thought as we know it, but it communicates back and forth with our big brain—with profound results.”

The ENS may trigger big emotional shifts experienced by people coping with irritable bowel syndrome (IBS) and functional bowel problems such as constipation, diarrhea, bloating, pain and stomach upset. “For decades, researchers and doctors thought that anxiety and depression contributed to these problems. But our studies and others show that it may also be the other way around,” Pasricha says. Researchers are finding evidence that irritation in the gastrointestinal system may send signals to the central nervous system (CNS) that trigger mood changes.
“These new findings may explain why a higher-than-normal percentage of people with IBS and functional bowel problems develop depression and anxiety,” Pasricha says. “That’s important, because up to 30 to 40 percent of the population has functional bowel problems at some point.”

New Gut Understanding Equals New Treatment Opportunities
This new understanding of the ENS-CNS connection helps explain the effectiveness of IBS and bowel-disorder treatments such as antidepressants and mind-body therapies like cognitive behavioral therapy (CBT) and medical hypnotherapy. “Our two brains ‘talk’ to each other, so therapies that help one may help the other,” Pasricha says. “In a way, gastroenterologists (doctors who specialize in digestive conditions) are like counselors looking for ways to soothe the second brain.”

Gastroenterologists may prescribe certain antidepressants for IBS, for example—not because they think the problem is all in a patient’s head, but because these medications calm symptoms in some cases by acting on nerve cells in the gut, Pasricha explains. “Psychological interventions like CBT may also help to ‘improve communications’ between the big brain and the brain in our gut,” he says.

Still More to Learn About Mind-Gut Link
Pasricha says research suggests that digestive-system activity may affect cognition (thinking skills and memory), too. “This is an area that needs more research, something we hope to do here at Johns Hopkins,” he says.

Source: Johns Hopkins Medicine.org
LEARN ABOUT: Five Ways to Support Gut Health

A Johns Hopkins digestive health expert discusses the ways your digestive system changes with age and shares the best ways to guard gut health and prevent digestive discomfort.

Digestive system problems such as heartburn, gas, bloating and constipation reflect what’s happening throughout your body. “As we age, the natural cycles slow down and don’t work as well,” says Johns Hopkins gastroenterologist Gerard Mullin, MD, MS.

The main drivers of gut health change are shifts in stomach acid and gastrointestinal flora—the complex ecosystem of bacteria in your digestive system.

When gut health is good, he says, you’re less likely to experience damaging inflammation and lapses in immunity.

The following ways to protect your digestive system may sound surprising because they’re not just about diet. “Everything ties together,” Mullin says.

1. **Eat the right foods.**

   “Americans’ fiber intake is 40 to 50 percent of what it should be,” Mullin says. A balanced diet rich in fruits and vegetables provides the fiber that builds good bacteria and gut health.

   Other foods that build a healthy digestive system include kefir (a fermented milk drink that’s similar to yogurt and is rich in probiotics) and other fermented or pickled foods (such as kimchi, sauerkraut and pickled ginger).

   Ask your health care provider about foods for specific problems such as constipation or bloating.
2. Get more sleep.
   Not getting enough sleep is linked to a higher prevalence of obesity, which sets you up for digestive system disorders.

3. Move more.
   As with other aspects of health, exercise is the best way to lose weight and maintain a healthy body weight to ward off digestive system problems.

   Reducing stress is one of the best ways to reduce heartburn, Mullin says. “There’s no magic diet that works.” Try relaxation techniques and social involvement, along with other mind-body therapies.

5. Get help for issues like anxiety and depression.
   Mood and digestive system health (especially disorders like irritable bowel syndrome) are closely linked via the brain-gut connection.

Source: Johns Hopkins Medicine.org