

## **Gut-Brain Axis**

How many times have you had a gut feeling about something? Have you ever experienced a diarrhea attack right before an exam or a job interview? These are examples of what scientists now call the Gut-Brain Axis, a two-way communication between your brain and gastric system. It is now known that many people with Irritable Bowel Syndrome (IBS) may also suffer from migraine, fibromyalgia, or depression as a consequence.

The human gastric system has its own nervous system, named the Enteric Nervous System (ENS). It can function independent of our Central Nervous System, but is linked to it via our vagus nerve. In the early days of modern medicine, stomach ulcer was treated by surgeons by cutting the branch of vagus nerve that enervates the stomach, without discontinuing digestion.

The ENS controls muscles of the GI tract and secretes many neurotransmitters that are also secreted by the brain such as serotonin, dopamine, GABA, and many more. In fact 90 percent of our serotonin (a mood regulator) is produced in the gut where it facilitates peristalsis and gastric secretion.

The gut also is endowed with a very complex hormone producing system of cells that secrete up to 16 hormones, named collectively Gut-Brain Peptides.

Any emotional stress affects GI secretions and motility and in extreme cases could disrupt our digestive wellness. In turn, down regulation of our digestive function affects our emotional and cognitive wellbeing. While stress can play a role in digestive illnesses, GI illnesses can in turn contribute to the onset or worsening of brain disorders.