



**Medical
Blueprints**

DIAGNOSING DEPRESSION THROUGH THE GUT? REPORT #2799

BACKGROUND: Depression is a medical condition that is associated with symptoms such as melancholy, loss of pleasure, loss of energy, difficulty in concentrating, and suicidal thoughts. It is both a brain disorder and a state of mind. Depression affects over 18 million adults in the United States in any given year. It is the leading cause of disability for ages 15-44. Depression is the most prevalent, representing 99% of all mind-brain illness. The umbrella of depression encompasses major depressive disorder and its related mood disorders including bipolar disorder, postpartum depression, post-traumatic stress syndrome, anxiety disorder and suicide.
(Source: <https://www.hopefordepression.org/depression-facts/>)

GUT BACTERIA AND YOUR HEALTH: About 100 trillion bacteria, both good and bad, live inside the digestive system and are known as the gut microbiota. Science has begun to look more closely at how this enormous system of organisms influences and improves health conditions, from heart disease to arthritis to cancer. "This is a new frontier of medicine, and many are looking at the gut microbiota as an additional organ system," says Dr. Elizabeth Hohmann of the infectious diseases division at Harvard-affiliated Massachusetts General Hospital. "It's most important to the health of our gastrointestinal system, but may have even more far-reaching effects on our well-being." Everyone's gut microbiota is unique, but there are certain combinations and collections of bacteria that are found in healthy individuals. The main factors that affect a person's microbial mix are age, diet, environment, genes, and medications (particularly exposure to antibiotics, which can deplete gut bacteria). Gut microbiota metabolizes nutrients from food and certain medications, serves as a protective barrier against intestinal infections, and produces vitamin K, which helps make blood-clotting proteins. Most research has involved only preliminary animal studies; however, initial findings suggest gut bacteria may be the key to preventing or treating some common diseases.
(Source: <https://www.health.harvard.edu/staying-healthy/can-gut-bacteria-improve-your-health>)

THE FUTURE OF GUT HEALTH: Katya Gavrish, PhD, a microbiologist trained in Russia, and colleagues, are searching for new brain drugs in human stool samples. Diluting the samples is the first step toward isolating and culturing the bacteria in hopes it will produce new treatments for depression and other disorders of the brain and nervous system. Since its founding five years ago, Holobiome, a small start-up company in Massachusetts, has created one of the world's largest collections of human gut microbes. The targeted ailments include depression and insomnia, as well as constipation, and visceral pain like that typical of irritable bowel syndrome which are conditions that may have neurological as well as intestinal components. A growing number of researchers see a promising alternative in microbe-based treatments, which are being called psychobiotics. "This is a really young and really exciting field with a huge amount of potential," said Natalia Palacios, an epidemiologist at the University of Massachusetts, Lowell, who is looking into connections between gut microbes and Parkinson's disease.
(Source: <https://www.sciencemag.org/news/2020/05/meet-psychobiome-gut-bacteria-may-alter-how-you-think-feel-and-act>)

✉ **For More Information, Contact:**

Bruce Stevens, PhD
Professor, University of Florida
stevensb@ufl.edu

Ken Garcia, Media Relations
kdgarcia@ufl.edu

Free weekly e-mail on Medical Breakthroughs from Ivanhoe. To sign up: <http://www.ivanhoe.com/ftk>