

## Depression: Part 1

"Eat the foods that are necessary to feed and maintain your microbiome. It not only helps with depression, you will see dramatic changes in how you look and feel."

Are you feeling depressed? Is it any wonder, the world is changing so fast, and people are stressed to the max. Does that mean we have to go the pharmaceutical route and start experimenting with the drugs we see on TV? Absolutely not. Because if you look at long term data, drugs are really not that effective, and they all have long term side effects.

Consider Irving Kirsch's book, The Emperor's New Drugs:
Exploding the Anti-Depressant Myth. Kirsch and colleagues have spent well over a decade looking at data and trying to make sense of the fact that some people have had life changing effect from anti-depressants. Yet when the data is seen clearly, "there doesn't seem to be any difference whether study participants

received the drugs themselves or the placebo."

So, let's review some of the powerful tools you have at your fingertips. You may have heard your wellness clinician talk about the Gut-Brain connection. The short version is that our intestines have a single cell layer that separates our blood stream from the contents of our intestinal tract. Bacteria and to lesser extent fungi and viruses in our gut make up what's called the microbiome.

The microbiome is really the core of a healthy gut. Here are few examples of their diversity; The microbiome digest many fibers to make essential short chain fatty acids, vitamins, and amino acids. Microbiome also make many antifungal, antiviral, and anti-bacterial compounds. They

create healthy mucus and keep pathogenic bugs in check. They detoxify many of the environmental toxins as well as naturally occurring toxins. In essence, your microbiome protect and maintain the lining of your gut through multiple mechanisms.

What happens when the microbiome is challenged? Well, a study showed that a single course of antibiotics increases the risk of depression 23-25%. If 2-5 courses of antibiotics are taken, the risk of depression increases 40-56%. The risk of anxiety increases by 17% after a single dose of penicillin and 44% after multiple doses.

The microbiome is really the core of a healthy gut. Lipopoly-saccharides or LPS's are normally only present in the gut. The single cell lining keeps them

in the gut. However, if the gut becomes permeable, what is commonly called leaky gut, they enter the blood stream and travel throughout the body and eventually affect the brain. Researchers have shown that when we have a leaky gut, we will also have a leaky blood brain barrier. LPS's that originate and should only be in the gut, have been found in the brain of patients with Parkinson's, Alzheimer's and severe depression. Even low levels of LPS have been shown to cause acute anxiety, depressive symptoms, cognitive deficits, and decreased visceral pain tolerance. LPS can also cause reductions in serotonin production.

Substances like LPS shouldn't cross the blood brain barrier, but they do. And when they do, they activate the immune system in the brain called microglia. White blood cells called macrophages are then recruited, and the result is the release of excitatory neurotransmitter glutamate as well as other inflammatory messengers called cytokines. Think about what happens when you get a virus like the flu, you develop symptoms like depression from the inflammation generated by these cytokines. You can see why more and more researchers are considering depression a side effect or consequence of inflammation. Reduce the inflammation and the symptoms of depression and anxiety are reduced.

So, we want to address a leaky gut and the systemic inflammation that occurs as a result. Some of the causes of a leaky gut are environmental toxins, highly processed foods, pesticides, food allergens, especially gluten and dairy, and of course stress.

Here's a quick overview of the healing process for depression. Support the microbiome, which includes healing the gut. Supply the body with the nutrients and foods that have been shown to reduce inflammation, and then address lifestyle factors that stimulate life in your mind and body.

Let's look at how we can support the microbiome. Scientists identify the microbiome as a living organism. You can support your microbiome with real food and supplements like BioFiber Complete as fiber and probiotics like BioDoph-7 Plus.

The average American ingests 15 g of fiber/day. The goal for fiber is 14 grams per 1,000 calories consumed, so for women that means about 25 grams a day for men about 38 grams. BioFiber Complete combines 10 different types of fibers. Each scoop contains 5 grams of fiber, 3 grams of protein, and 4 grams of healthy fats from flax and chia seeds. BioFiber Complete is over 70% organic, gluten free, dairy free, and, GMO free.

We used to think of foods as sources of vitamins, minerals and antioxidants, and they are, but the real value of our food is how it feeds our microbiome. So, it's not just the high fat, processed food diet that supports the growth of pathogenic organisms. More importantly is the lack of nuts, seeds, vegetables, fruits, sprouts etc. that feed and maintain your healthy microbiome.

Your wellness clinician will have products and services that can help you heal your gut, but when you make a commitment to eat the foods that are necessary to feed and maintain your microbiome, it not only helps with depression, you will see dramatic changes in how you look and feel.