



Wellness Minute

Health Information You Can Use On Your Path To Wellness

Have Any Of These?

Brain Fog
Chronic Pain
Depression
Anxiety
Parkinson's
Autoimmunity

It Could Be Your Gut!



Metabolic Endotoxemia

“Toxins that are produced by the microbiome in your gut and the metabolic dysfunction that these toxins create on our overall health.”

Have you ever heard the term “Metabolic Endotoxemia?” It refers to toxins that are produced by the microbiome in your gut and the metabolic dysfunction that these toxins create on our overall health. We’ve heard of amoeba, yeast, or bacterial agents causing dysbiosis, and we should be because one of the major causes of endotoxemia comes from dysbiotic byproducts.

I know it’s corny, but 25 years ago, a medical doctor, Dr. Dietrich Klinghart, made a statement that I never forgot. In his unforgettable German accent, “It’s the pees and the poops of these organisms that cause problems.” And yes, that has been documented in the literature, but these organisms also expire, and their cellular

materials create destruction as well. The primary one most people are sensitive to are called Lipopolysaccharides or LPS. Lipo meaning fat and saccharides meaning a long sugar chain. The presence of excessive LPS create innate immune responses that are sub-clinical, persistent, and are often the cause of low-grade systemic inflammation.

Just to give you an idea of how destructive LPS are, when researchers want to create arthritis in animals to test their drugs, they inject LPS into the joints of animals. LPS only come from the gut. That means if we can support the single cell lining that separates our gut from our blood stream, we can prevent LPS from entering the blood stream, ramping up

inflammation. LPS even at low dosages have been shown to cause acute anxiety, depressive symptoms, cognitive deficits, and decreased visceral pain tolerance.

A medical conference in Houston Texas called EPIC hosted international speakers and Dr. Jill Carnahan focused on the gut-brain connection. She shared some clinical pearls that you will want to know about. In this video, I will share a few of those clinical pearls.

Clinical Pearl Number 1:

The vagus nerve acts as a major highway of bi-directional communication between the gut and the brain. The word bi-directional is very important because what we think and

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what we are meditating on affects the pH of our gut. The pH has a profound influence on the environment where the microbiome live. From the south end, microbes in the gut can produce neurotransmitters like serotonin and GABA that affect mood, behavior, and how we think. Inflammatory markers, triglycerides, even insulin are affected by LPS. I didn't know endotoxin concentration increase during the first 5 hours after a meal.

So, **Clinical Pearl Number 2:**

If you have brain fog after eating, suspect metabolic endotoxemia. We've discussed in the past that gut microbes can also affect brain health. For example, it's well known that LPS, secrete inflammatory messengers. One of them is called IL-6, and IL-6 is associated with major depressive disorders. If our brain is inflamed, it's not working efficiently. And it makes sense. Depression, or for that matter anxiety, could be part of the picture. Yet, we never think about healing the gut when we experience depression. LPS have been associated with leptin resistance, chronic constipation, mood disorders, depression, cognitive decline, memory loss, anorexia nervosa, anxiety, chronic pain, Parkinson's, and autoimmunity. Let me repeat that slowly. LPS have been associated with leptin resistance, chronic constipation, mood disorders, depression, cognitive decline, memory loss, anorexia nervosa, anxiety, chronic pain, Parkinson's, and autoimmunity.

Clinical Pearl Number 3:

As we increase short chain fatty acids like butyrate, we increase GLP-1. GLP-1 stimulants like Ozempic are being prescribed in record

numbers, yet they have a dark side. Yes, they increase satiety. Not only are they expensive, but studies show they reduce lean muscle mass, and for many people, they need to be maintained for long-term results. Sure, they give quick results, but at what cost?

Our GI tract makes GLP-1 naturally from a four-carbon fatty acid called butyrate. Speaking of butyrate, Biotics Research supplies a concentrated form of butyrate in a product called Butyric Cal-Mag that is 3 stronger than regular butyric acid supplements. Biotics was the first company to introduce butyrate to the market and over time switched to ButyraGen™, a Tributyrin Complex as the source of butyrate instead of the commonly used salt. 2 capsules of Butyric Cal-Mag supplies 1000 mg of butyrate vs 6 capsules of the earlier form. The Tributyrin form is more bio-available. It's better tolerated, and creates less gas and odor.

Clinical Pearl Number 4:

We make butyrate by increasing fiber in our diet. The goal is 35 grams, of which about a third are soluble fibers. Soluble fiber provides food for our healthy microbiome, which create microbial diversity. Microbial diversity refers to thousands of different bacteria, yeast, even viruses that self-police our gut. In other words, it's the good bacteria that keep order in the gut, crowding out and sending messages to the innate immune system to kill the dysbiotic organisms.

Most clinicians understand that no matter what we are treating, we want to fix the gut first. So, talk with your wellness clinician to see if Metabolic Endotoxemia is part of your clinical picture.