

Gut Health Compared to Leaky Gut Syndrome - What Is a Leaky Gut?

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So this is where it starts and really it comes down to this, what we used to call the ground zero of health disorders, this intestinal epithelium, the intestinal mucosa, and the microbiota. These structures are where everything happens and when these structures become dysfunctional, that's when disease starts. So if you look on the left hand side here, this is a schematic of what a healthy gut would look like.

So this light blue area is the top part of the mucosa layer. It's kind of the watery, more liquid part of the mucus layer. It sloughs off more often than the bottom part of the mucus layer and that's where the vast majority of your commensal microbiota live in your gut. They live in this top part of the mucus layer. That's where they're supposed to be and they conduct most, if not all, of their functions in that part. There are some immune cells that make their way up there to interact with the microbiota. Of course, food and drinks and other stuff that enters the gut enters on top of that layer through the lumen of the gut, which is the tube, the hole that goes through your intestines. And below that layer is this really important layer called mucin 2. This is a thicker barrier type layer that is supposed to essentially be sterile.

There aren't supposed to be bacteria within this space and this space is really the conduit for your intestinal epithelial cells, those soldier cells that sit shoulder to shoulder, to communicate with your microbiota. So lots of signals pass through this layer where your M cells and your L cells, so all of these immune cells within your epithelium, will use that information to communicate with the microbiota to understand what is going on up in this crowd of space. And a healthy microbiota, which I'll describe what that is, and a healthy mucosa leads to a healthy intestinal epithelium and everything functions hunky dory. Now the other thing that exists in this dark blue and the light blue area is of course immune cells. Your immune cells are constantly in here sampling what's going on in your microbiota, trying to decide whether things should be attacked or things shouldn't be attacked.

At the same time, crosstalk from the microbiota helps tutor your immune system to tell it what to attack and what not to attack. So this constant communication is going on. There are these very important layers that are separated, defined regions within the gut, and if you maintain these separations and then the crosstalk and communication, everything seems to be working out fine. Now disease occurs when things start to look like it does on this right hand side. The first thing you'll notice is that dark blue mucosal layer has been dismantled and really disintegrated. Now this is a very severe case. There's many different progressions to this, but basically at the end of the day, that population of microbes that are up here in the top part of the mucosa now starts penetrating closer and closer to the intestinal lining itself. So this is where we start seeing a major problem.

This is called leaky gut. It's called mucosal dysfunction. It's called barrier dysfunction. It's called enteropathy. There are many different ways of describing this process that's going on, but this process is the driver of most chronic illnesses.