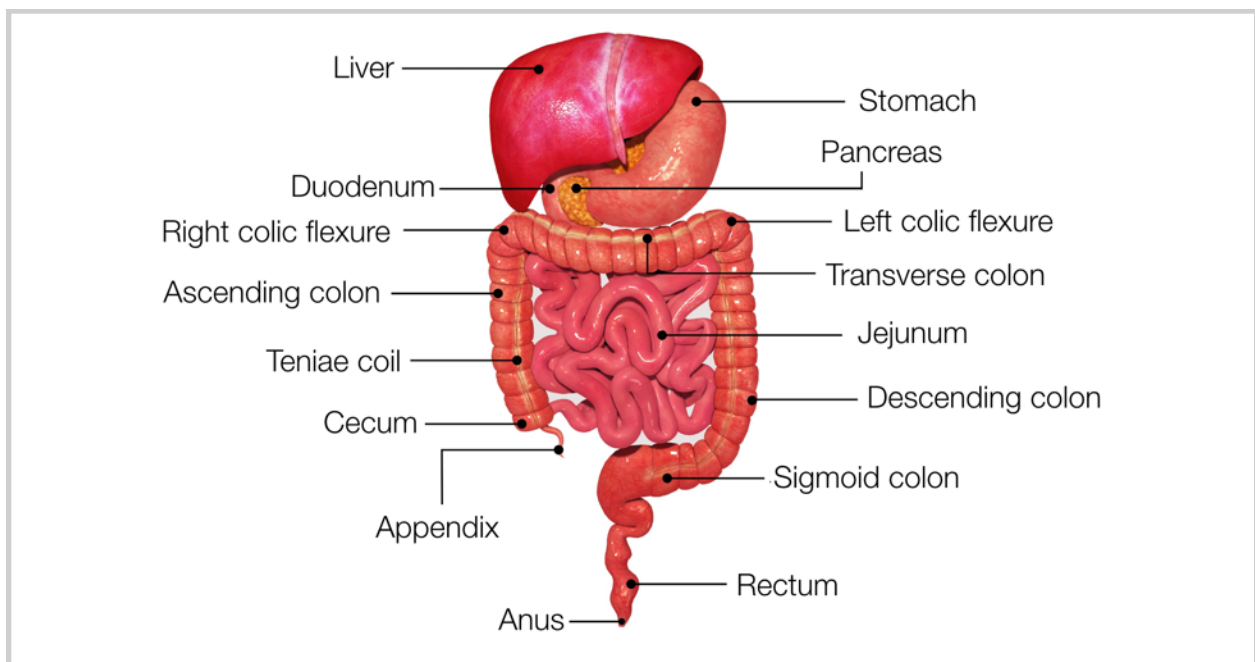


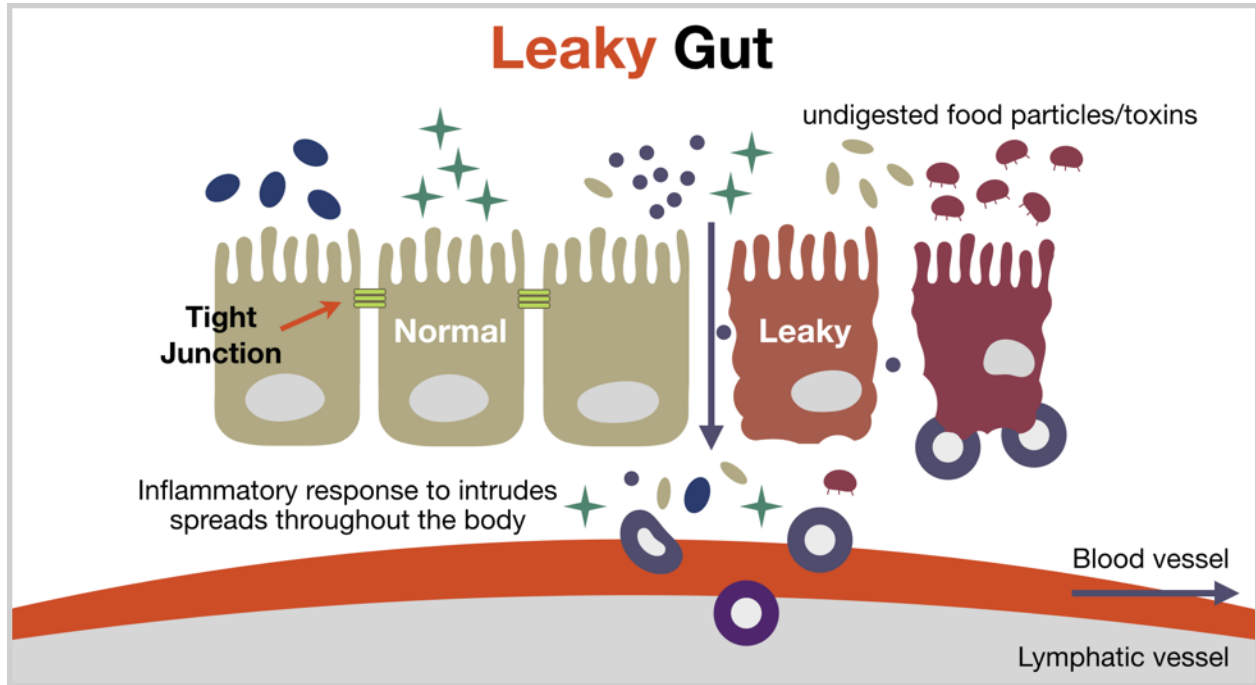
Nutrition: GERD, IBS, and Other Digestive Disorders - Part 1

Hey, everybody, in this section we're going to talk about customizing diet and lifestyle for GERD, IBS, and other digestive problems. Digestive disease affects a large portion of the population. In the US alone, 10 to 15 percent of the population have IBS, 60 percent experience reflux in a given year, and 20 to 30 percent experience reflux on a weekly basis. And of course, the health of the gut is critical to overall health. Poor gut function contributes to diabetes, obesity, rheumatoid arthritis, autism spectrum disorder, depression, chronic fatigue syndrome, and much more.



The gut and the gut microbiome serve many different functions. The gut's been referred to as the second brain due to its complex nervous system similar to that of the brain. Recent studies suggest that 70 to 80 percent of the body's immune cells are housed in the gut.

The gut microbiota is a very important part of the digestive system, and in fact, some researchers consider the gut microbiota an organ within an organ. The microbiota consists of over 100 trillion bacteria that play an important role in our health, and it plays three core functions: metabolic, breaks down nutrients and creates nutrients; structural, short-chain fatty acids that are produced after the metabolism of carbohydrates stimulate the growth of epithelial cells; and it has a protective function, the gut lining acts as a barrier between the outside world and the interior of the body.



The protective function of the gut is one of the areas where we've seen a tremendous amount of research in the last few years. If you've heard of leaky gut, or intestinal permeability, you know what I'm referring to. When the intestinal lining becomes leaky or permeable, substances that shouldn't escape the gut, like large undigested protein molecules and bacterial toxins, pass into the bloodstream. This then triggers an immune reaction since these particles are viewed as foreign antigens or invaders by the body. This immune reaction then contributes to everything from autoimmune disease to depression to obesity to skin disease.

So how do we prevent and treat intestinal permeability? Diet is of course a large part of prevention and treatment. You'd want to reduce or eliminate the intake of substances which can provoke intestinal permeability. Gluten is one of the major players here. It activates signaling of a protein called zonulin that regulates intestinal permeability and can induce intestinal permeability, and this is true even in patients without Crohn's disease. The Standard American Diet is full of processed foods, and industrial seed oils, excess sugar, and refined flour can all have a negative impact on gut health. So, as is so often the case, a great starting place is a Paleo type of diet because it has a lot of nutrient-dense and anti-inflammatory foods that humans have been eating for millennia, we're well adapted to. It's got plenty of fermentable fibers which feed the beneficial gut microbiota and promote overall gut health, and it eliminates processed and refined foods that are known to provoke intestinal permeability.

Soluble and Insoluble fiber lists

High in soluble fiber content	High in insoluble fiber content
Carrots	Green beans
Winter squash	Whole peas, snow peas, snap peas, pea pods
Summer squash (specially peeled)	Kernel corn
Starchy tubers (yams, sweet potatoes, potatoes)	Greens (spinach, lettuce, kale, mesclun, collards, arugula, watercress)
Turnips	Bell peppers
Rutabagas	Eggplant
Parsnips	Celery
Beets	Onions, shallots, leeks, scallions, garlic
Plantains	Cabbage, bok choy, brussels sprouts
Taro	Broccoli
Yuca	Cauliflower

But if a patient has really compromised gut health, even within the context of a Paleo type of diet, there are some additional considerations. First would be the type of fiber they consume. All of the vegetables listed on this slide are extremely healthy and beneficial, when you're just looking at it from a nutrient density perspective. But when we think about it from the perspective of symptoms that a patient might experience, if someone has an extremely sensitive gut, they're prone to gas and bloating, they have a really irritable bowel, then you may want to consider having them modulate their intake of insoluble fiber. Insoluble fiber is a type of fiber that adds bulk to the stool, but it doesn't get fermented by the gut bacteria, at least not very much, and it tends to aggravate an irritable bowel. And so, some patients with these kinds of conditions will do better focusing on higher-soluble-fiber content.

Soluble fiber is a type of fiber that is fermented by the beneficial gut bacteria, and it has a soothing effect on the gut. So the vegetables that are higher in soluble fiber would be carrots, winter squash, summer squash, some of the starchy tubers like yam, sweet potatoes, potatoes, turnips, rutabagas, parsnips, beets, plantains, taro, and yuca. Now, the vegetables that are higher in insoluble fiber include green beans, whole peas, snow peas, snap peas, all the various peas, all of the winter greens like kale, collard greens, spinach, watercress, arugula, and then lettuces, bell peppers, eggplant, celery, onion, shallots, leeks, scallions, garlic, cabbage, bok choy, Brussels sprouts, broccoli, cauliflower.

Now, it's crucial to understand that you don't want your patient to eliminate these foods, because these are very nutrient-dense vegetables and they should be part of the diet, but there are some different ways to consume them that can reduce the likelihood that they'll cause problems. So I [wrote an article](#) about this that we'll link to in the resources section, and essentially it boils down to

how they're consumed and how they're prepared, so you can avoid eating them raw, for example, if they're eaten raw they'll tend to be more irritating to the gut, so if they're well-steamed or pressure-cooked or something like that, or roasted for a longer period, they'll be easier to digest. If they're chopped or diced or blended, that breaks down the insoluble fiber a bit, and they'll be easier to digest for that reason. With winter greens like kale or collards, you can stem them, you remove the stems and just eat the leaves, and that will make them easier for the digestive system to process, so there are a number of different strategies that can be used to make them easier to process, and patients can still get the benefit of consuming them but won't be as triggered in terms of their gut reaction.

Those with digestive symptoms may also have individual food sensitivities, and we're going to talk about food sensitivities in more detail elsewhere in this training program, but for now you should know that when dealing with any digestive disorders, the patient should ideally be tested for any food sensitivities, as these can also provoke leaky gut and irritate the digestive system. Common food intolerances are gluten, grains, dairy products, and then FODMAPs and foods with amines like histamine and tyramine can also provoke a response in some patients.

Alcohol should be limited, as it can provoke intestinal permeability indirectly by promoting the growth of certain types of bacteria. So, if you look at studies on alcohol consumption in the general population, you see that modest alcohol consumption is associated with health benefits, and I believe that's true, but here we're talking about patients with gut conditions, and if they already have leaky gut, consuming a lot of alcohol can create a further shift in the gut bacteria, and lead to additional problems or exacerbate the situation. So I'd suggest limiting alcohol consumption to four to six drinks per week for those who have a current gut issue, at a maximum, and in some cases they'll need to eliminate it completely. Those with GERD, of course, might notice immediate symptoms when they drink alcohol, and if that's the case, they should eliminate it until they've addressed the underlying problem.