KRESSER INSTITUTE
FOR FUNCTIONAL AND EVOLUTIONARY MEDICINE

Gut Diagnosis - Food Intolerances

In this section we're going to discuss the diagnosis and treatment of food intolerances.

Food allergy	Food intolerance
IgE mediated	IgG/IgA mediated
Trigger activation of mast cells and release histamine > allergic reaction	Immune response not fully understood
Immediate	Tend to be delayed
Mild to severe; can be fatal	Can be severe, but generally milder; not fatal
Often diagnosed during childhood by allergist	Often undiagnosed or diagnosed later in life

It's important to understand that intolerance is not the same as allergy. Food allergies are IgE-mediated, whereas intolerances are IgG- or IgA-mediated. In allergy, IgE antibodies trigger activation of mast cells and release of histamine and other chemicals that characterize the allergic reaction, and IgE-mediated allergic reactions tend to be immediate. They can be mild or they can be severe or even fatal in some cases, where people have an anaphylactic response. Food allergies are often but not always of course diagnosed in childhood by an allergist using a skin prick or oral testing or an oral food challenge. Food intolerances, on the other hand, as I mentioned are IgG- and IgA-mediated. In contrast to IgE-mediated allergies, the symptoms tend to be delayed. It can take hours or even a day or longer to appear. Symptoms are generally milder when compared to food allergy, though that's not always the case. People with food intolerances, for example, with the exception of celiac or non-celiac gluten sensitivity, can often eat small amounts of an offending food without experiencing dramatic response. So, for example, if someone has an egg intolerance, they can eat an egg and they're not going to necessarily be doubled over in pain or running to the bathroom, and be sitting on the toilet for the entire day, although that can happen in rare circumstances. More commonly, they'll just have some intestinal discomfort, they might have a skin rash, they might just feel tired or unwell to the point where they're not even necessarily able to trace it mostly to the food. This is an issue, because food intolerances for this reason will often go completely undiagnosed, or they're

not diagnosed until much later in life, and there can be some pretty serious consequences related to that.

Current statistics suggest that food allergies are common and increasing. We know that up to 15 million Americans have them, with 1 in 13 kids affected. And food allergies have increased by 50 percent between 1997 and 2011 alone. Now this is just for allergies, not intolerances, and unfortunately we don't have reliable statistics on food intolerance, and part of the reason for that is because IgG and IgA testing for food intolerance has not been standardized. It's not recognized by the conventional medical establishment, so we really have no idea how common food intolerance is, but I suspect that it's much more common than food allergy, which is a more serious presentation. And in the bonus interview with Dr. Vojdani, who's the scientific advisor for Cyrex Labs, we talk more about food allergy and food intolerance and how common food intolerances are in their experience, so make sure to listen to that if you haven't already.

IgG and IgA testing for food intolerance is a very controversial area, as I'm sure you may be aware. I did a podcast on this topic, and I've included a link to the recording and transcript and supplemental materials. Please do listen to that and read the transcript for much more detailed information. The short version, though, is this: I believe IgG and IgA testing is valid when it's done properly, but so far there's only one lab that I'm aware of that is completely reliable and follows the best practices, and that's Cyrex labs. However, even though I think Cyrex is following best practices and is better than other tests on the market, I do still have some reservations about the testing.

First of all, like any other test, they're just part of a larger diagnostic process, so we can't become too reliant on any single test and what it tells us. We need to understand their strengths and limitations, and that will become evident as we progress through the unit. The second thing is, at least at the time of this recording, there are some inconsistencies occasionally that have happened with the Cyrex testing, or any food intolerance testing, that trouble me. So what I mean is, a patient might get a test that has certain results, and then two or three months later, they might do another test without any treatment or intervention and the results are somewhat different, and there are a lot of reasons why this might happen, there might be changes that are happening physiologically during that period that the patient's not even aware of, or changes that they've made that weren't notable that affected the results, but I'm still somewhat uncomfortable with telling people to permanently remove foods from their diet based on the results of a single Cyrex test, and we'll talk more about this as we go through the unit and I will keep you updated via my blog and podcast, and perhaps the Facebook group as my experience grows and as my opinion changes, but at the time of this recording, that's how I feel. Very, very worthwhile to us, they can be incredibly helpful if you know how to use them, but should not be interpreted as the absolute, final word and used to suggest completely permanent changes in a patient's diet, with some possible exceptions that I'll cover.

So let's start with gluten intolerance. Again, another controversial topic, I've written a ton about it, we'll put all the articles that I've written … actually, we've already condensed them into an eBook which I'll make available in the supplemental materials section. I suggest you read that before you go much further in this section because it provides a lot of important background and will answer some questions that might pop up for you. And it's really important context for some of the tests that we're going to be talking about. But as promised, when you join this course, we're going to be focusing more on practical application and how to really use this stuff in your practice to get good results and I'll direct you to the necessary background information and let you do that on your own, rather than just rehashing it here.

So there are two primary forms of gluten intolerance, celiac disease and non-celiac gluten sensitivity, it's also called non-celiac wheat sensitivity, which is probably a more accurate term, because gluten is only one of the compounds in wheat that can cause problems, and gluten intolerance is another term that's used to describe that. Celiac disease is an autoimmune disease characterized by an inflammatory response to wheat peptides, particularly gluten, and tissue damage in the small intestine. The signs and symptoms typically include diarrhea, bloating, abdominal pain, fatigue, lethargy, and malnutrition, but this is really, really important to understand, can't emphasize it enough, celiac disease can also manifest with atypical signs and symptoms ranging from chronic headaches to dermatitis to joint pain to insomnia. This is crucial to understand, because as the slide says for every one diagnosed case of celiac disease, 6.4 cases remain undiagnosed.

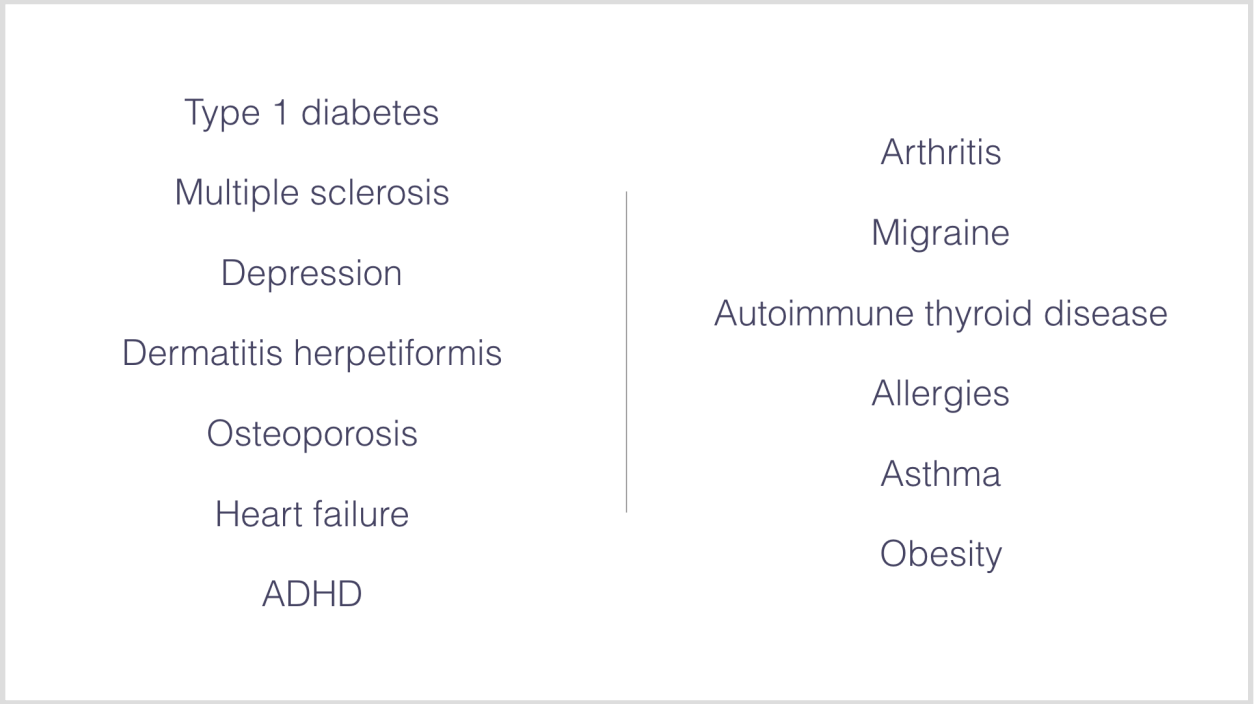
The reason for this is that let's say a patient goes in to see the doctor, they've got headaches, they've got dermatitis, and very few doctors are going to even bother to do a test for celiac disease or gluten intolerance in that situation, and even if they do do a test, they're probably just going to do a simple blood test that looks at antibodies to alpha gliadin only, and so that is extremely limited and so many people with gluten sensitivity and celiac are missed for that reason. Official statistics right now suggest that celiac affects about 1 percent of the population, but because of what I just said, experts believe that the actual rate is much higher.

For non-celiac gluten sensitivity or non-celiac wheat sensitivity, there's no consensus yet on how to define it, but the most common definition is a reaction to wheat or gluten that is not celiac disease and not wheat allergy, or an IgE-mediated problem. Another definition would be a reaction to gluten that resolves when gluten is removed from the diet and after celiac disease and gluten allergy have been ruled out. The symptoms of non-celiac wheat or gluten sensitivity are similar to celiac disease, of course all of the gut symptoms, gas, bloating, diarrhea, constipation, et cetera. Also, headache, fatigue, brain fog, skin issues, neurological problems, anemia, joint pain—really the list goes on and on. This is all in the scientific literature, numerous studies correlating problems in just about every system of the body can be traced back to gluten sensitivity. It's hard to estimate the prevalence of non-celiac wheat sensitivity because there's no definitive test for it, and another problem again is that symptoms are so diverse and non-specific that many patients and doctors don't even suspect it, so like celiac disease, it's probably

significantly underdiagnosed. Having said that, the most recent estimate suggests that non-celiac wheat sensitivity may affect up to one in 10 people.

Some medical professionals, reporters, and armchair Facebook scientists continue to insist that non-celiac wheat sensitivity doesn't exist, which is just absolutely preposterous at this point. The body of evidence that supports its existence is large, growing all of the time, and I've covered this in detail in the e-book, in my blog articles, my podcasts and my book, and there's really just no basis at this point for the claim that non-celiac wheat sensitivity doesn't exist, and anyone who makes that claim is just uninformed, that's what it comes down to. They haven't read the scientific literature in detail, they're likely just referring to a single study, like the study that suggested that most people with gluten sensitivity actually just are sensitive to FODMAPs. I debunked that study, or the significance of that study at least, in one of the articles in the e-book, so you should really read that e-book and arm yourself with the knowledge that you need to educate your patients on this very potentially serious problem.

Both celiac disease and non-celiac gluten sensitivity are associated with a pretty astonishing range of diseases. I've included only a partial list on the slide:



Type one diabetes, multiple sclerosis, depression, dermatitis herpetiformis, osteoporosis, heart failure, ADHD, arthritis, migraine, autoimmune thyroid disease, allergies, asthma, obesity, and really there are new conditions associated with gluten intolerance seemingly on a monthly basis, so this is, like I said, only a partial list. The reason for this is that gluten intolerance can affect nearly every cell or tissue in the body, including the brain, endocrine system, the stomach, the

liver, blood vessels, smooth muscle, and even the nuclei of cells. There's an especially strong connection, though, between non-celiac wheat sensitivity and neurological and psychiatric disease, including depression, schizophrenia, and autism spectrum disorder. Just to give you an example, studies suggest that up to 40 percent of patients with ataxia, which is a form of paralysis, and 25 percent of patients with schizophrenia produce antibodies to gluten.

So it's, like I said, a potentially serious problem, it's one that you really need to be thinking about and looking for, even with patients without gut symptoms, and I highly recommend reading the e-book and listening to my podcast on this subject that we link to in the supplemental materials section to give yourself the necessary background if you haven't already. Okay, next time we're going to dive into detail on Cyrex Array 3, which is their wheat gluten proteome reactivity and autoimmunity panel. We're going to jump right into looking at a whole bunch of real test results from real patients, how to interpret them, and the various markers on that panel and what they mean. So I look forward to that, and I'll see you soon.