

# LEAKY GUT SYNDROME & GLUTEN INTERVIEW

Karen Brimeyer and Dr. Peter Osborne

[0:00:00]

**Karen Brimeyer:** All right. Hello everyone and welcome. Tonight we're going to be talking about a really good topic which gluten sensitivity. It's something that we could talk for hours and hours about even though it seems like a simple topic and we're very lucky to have online with us Dr. Peter Osborne who specializes in gluten sensitivity. So, I'm very happy to have him online with us today. I'm going to go ahead and do a bio on him.

Dr. Peter Osborne is the Clinical Director of Town Center Wellness in Sugarland, Texas. He is a doctor of chiropractic medicine and a board certified clinical nutritionist. He is an expert in orthomolecular and functional medicine. He has been practicing since 2001. His clinical focus is in the holistic natural treatment of chronic degenerative disease with a primary focus on gluten sensitivity and food allergies and he has helped thousands of patients recover from mysterious medical illnesses. He is also the founder of the Gluten-Free Society and hello there Peter, how are you?

**Dr. Peter Osborne:** I'm doing great. Thanks for having me on.

**Karen Brimeyer:** Yes. Well, we're really excited to go over this topic. This is definitely a huge topic when it comes to leaky gut. So, we got a lot of stuff to cover so we're going to go ahead and get started. The first question I'd like to ask you is what exactly is gluten and I know that this can be a little bit of a loaded question because usually when we think about gluten we just think about wheat, rye and barley but can you tell us a little bit more about specifically what gluten is.

**Dr. Peter Osborne:** I absolutely can. Gluten in a nutshell is a protein. It's a storage protein found in grains. So, if we think about what grain is, grain is the seed that grows off of the grass and there are a number of different varieties of grasses and so they all basically sprout a seed and within that seed we have the storage protein called gluten and that protein is designed to feed the germ of the seeds so that it sprouts a new grain of grass or a new blade of grass. So, basically its job is the perpetuation of the species and so when we talk about gluten we're really referring to not just one protein. We're referring to thousands of different proteins and a lot of people have the misconception that gluten is only found in wheat, barley and rye because of celiac disease.

Celiac disease is an autoimmune disease of the small intestines. It's caused in a lot of people – there's about an estimated million people in the U.S. that have celiac disease as a result of eating the proteins, the gluten proteins in wheat, barley and rye. And that actually goes back to the history. One of the reasons why we associate gluten with only wheat, barley and rye is because the original observation that it caused celiac disease came out of Germany and during World War II there was a shortage of grain and a

rationing and so grain was not available and kids in a particular hospital that had celiac disease in the 1940s, we didn't know what caused celiac disease, but these kids all went into remission. In other words, their celiac disease completely went away when grain was rationed and not available to eat.

And when the war ended and grain came back, these children all got sick again and there was an astute physician who made that observation. And what's interesting about that is that the staple foods or the staple grains of that region were wheat, barely, rye and oats and so that kind of just stuck and what was assumed at that time is that wheat, barley, rye and oats were the culprits and then they later went on to isolate one of the different types of glutes found in wheat. The name of the gluten is called gliadin and so this is the basis for a lot of the lab tests that are performed today. They measure a protein called gliadin or rather more importantly they measure an antibody against the protein called gliadin so it's – they measure the protein – they measure one type of gluten and they don't measure all the different types of glutes and they assumed that the other glutes are safe. Does that make sense?

**Karen Brimeyer:** Absolutely.

**Dr. Peter Osborne:** I just said a whole lot in a really short period of time so I want to make sure that what I'm saying is translating to you're listeners. So, in a nutshell, gluten is a protein found in all grains and there are grains like rice and corn and millet and sorghum. They are classically considered gluten-free based on that original observation more than 60 years ago and the problem with it is nobody has really gone back and studied these other grains.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** We have studied corn about a dozen times and every time we study corn gluten, guess what we find? We find that corn gluten causes damage to people with gluten sensitivity. So, we have researched on corn. We have a couple of small studies on rice that showed that rice causes inflammation of the colon but we really haven't studied the other proposed gluten-free grains and again they're not really technically gluten-free and we just assumed them to be safe. And if we looked statistically at patients with celiac disease who go on a traditional gluten-free diet meaning they go on a diet that is wheat, barley, rye and sometimes oats depending on who you talk to free, 60% of them don't get better and when you follow them for 10 years, you'll find that perpetually about 90% of these people continue to have gastrointestinal damage even though their symptoms reduced, they continue to have the markers of inflammation on lab tests when we investigate their gut.

**Karen Brimeyer:** This can actually make sense to why some people do lab testing and they come back, you know, showing that they're not gluten intolerant but, you know, when they take it away they feel a lot better even though the testing didn't necessarily correlate and it also shows why just eliminating gluten doesn't always, you know, fix the

problem because there is gluten in other – or just eliminating wheat, I'm sorry, doesn't always get rid of the problem because it's in other grains as well.

**Dr. Peter Osborne:** That's right. As a matter of fact, there was a study done about I want to say it was done about eight months ago. A group of doctors in Australia led by a researcher by the name of Bob Anderson discovered 400 new gluten proteins.

**Karen Brimeyer:** Oh my goodness.

**Dr. Peter Osborne:** And these were glutes that nobody ever knew existed until, you know, last year and they found, what's really interesting is that they found that 40 of these 400 proteins caused damage in patients that have gluten sensitivity and prior to that study we didn't even know those proteins existed. So, if we look at the lab testing and we say okay, what are we actually measuring when we're doing lab testing for gluten sensitivity? We're measuring an enzyme called anti-tissue transglutaminase for measuring whether or not the body makes an antibody against this enzyme which is very non-specific for gluten so it's not all that accurate. But the other thing that a lot of doctors will measure is they'll measure another antibody against the protein gliadin which is only the name of one of the glutes, I just said we discovered 400 new ones, so it's only one gluten out of thousands of glutes.

So, when we get a test that comes back negative, it doesn't mean that it's negative, it just means that it's negative for that particular gluten and the other kicker is that it's – what they typically measure is a type of antibody called IgG–

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** We make five different antibodies. We make IgG, IgE, IgA, IgM and IgD and so for only measuring IgG to only one of potentially thousands of different glutes, how accurate is the test really going to be?

**Karen Brimeyer:** People can react completely differently into the same intolerance so yeah, it's not, it's not a very good way of testing and while we're on this subject, do you want to go ahead and talk about what testing you do recommend for gluten intolerance?

**Dr. Peter Osborne:** I recommend genetic testing. There's a particular gene called – actually two genes called HLA-DQ Alpha 1 and HLA-DQ Beta 1 and what these genes are responsible for doing is they create on the surface of our white blood cells, we have this antenna and the job of this antenna is to identify things in the body that don't belong in the body. In other words, they tell our immune systems to either ignore something or to attack something. And so the genes that are responsible for creating this antenna are HLA-DQ genes, the two genes that we like to test for gluten sensitivity.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** Research has shown that there are certain genetic variations or genetic patterns – let me just pre-phrase it by saying this. A lot of people think genes are exactly the same so like one person has, you know, 30,000 genes and they're the exact same as the other person's but that's not really true. The analogy is everybody has got two eyes, two arms, two legs, two ears unless they have some kind malformation, right.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** But there's differences in eye color and arm width and arm length, etc. So, there's variations in body parts. Well, if you think of genes in the same way, there are variations in genes. They're not all identical and so what these variations are called SNPs, single-nucleotide polymorphisms and what these variations are or rather we can look for these variations and certain variant patterns have been linked to people reacting more potently or stronger to gluten exposure. In essence, if a person has gluten-sensitive genes when they eat gluten, the odds are their body is going to look at that gluten as an enemy not as a food and therefore it's going to mount an immune response that goes after that protein and creates an inflammatory reaction. So, if we can identify these variant gene patterns, it doesn't matter whether a person is healthy or sick, if they have these gene patterns, the odds are if they continually eat gluten, then there's going to be either a prominent inflammation that leads to symptoms–

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** – or there's going to an eventual disease that crops up later in life because they put a food basically as poisoning them into their body for years on end and that damage accumulates over time leading to organ failure, tissue failure and subsequently one of the prominent things it causes is confusion in the immune system and that can lead to the process that we know as autoimmune disease. Autoimmune disease is when the body attacks its own tissues. Celiac disease is the most commonly associated autoimmune process associated with gluten sensitivity.

**Karen Brimeyer:** So, talking about celiac and genes, can you tell us the difference between what gluten intolerance is versus gluten allergy because there's a difference there that a lot of times we don't take into account.

**Dr. Peter Osborne:** So, classically an allergy is defined as a reaction that would trigger an antibody production and an antibody production, we're really referring to the type of antibody called IgE. And so this is what most people think of when we talk about an anaphylactic reaction. Somebody eats peanuts, their lips swell. Their throat constricts. They break out in hives. They end up in anaphylaxis and they – it's life-threatening and they end up in the hospital. That's called an acute allergy reaction and it's the most well-known type of allergy reaction. But then we all on the other side of the coin, we have this other type of allergic reaction called the delayed hypersensitivity allergy reaction. And so this reaction can happen up to two weeks after the ingestion of eating something that we shouldn't and so the symptoms are not always cut and dry and we don't always associate eating the particular food with the allergy reaction whereas with an acute

reaction, we can eat it and usually within 30 minutes we know we've got a problem on our hands. Does that make sense?

**Karen Brimeyer:** Mm-hmm. Yes.

**Dr. Peter Osborne:** So, when we talk about classic allergy where we're talking about the acute reaction, it happens almost immediately within 30 minutes and when we talk about a delayed allergy reaction we're talking about a reaction that can occur several days later. So, that's an allergy and on the allergy side, we can make IgE which is acute and then we can other antibodies IgA, IgM and IgD and IgG and those are called delayed hypersensitivity reactions–

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** – but we can also have other types of reactions on that side of the equation, on that delayed side. We can have what's called an immune complex reaction or we can have a direct T-cell reaction and a T-cell reaction is we have a specific type of white blood cell called the T-cell that directly has a reaction to whatever agent it is that the body is not liking. So, most people get confused with allergy they're thinking if you go to an allergist, they'll do a skin prick test where they poke little things in your arm or back and they look for these flares on your skin, those are checking for IgE reactions only.

**Karen Brimeyer:** Okay. So, those are the immediate ones?

**Dr. Peter Osborne:** Those are the immediate ones. Now, you can also check IgE in the bloodstream which in my opinion is a little bit more accurate and then you can test the other IgA, IgM and IgG. You can test those in the bloodstream. You can test immune complex reactions and T-cell reactions in the bloodstream so the lab we use measures all of those things just so that we don't miss something but then you have – okay, so that's allergy, right, and then you also have what a lot of people are calling intolerance or sensitivity and the difference is an allergy is an immune system response. In other words, your immune system directly attacks or goes after whatever it is that the body doesn't like and it can happen quickly or it can happen slowly. So, that's what an allergy classically is defined as.

**Karen Brimeyer:** Okay.

**Dr. Peter Osborne:** But a sensitivity and even more – let's go – let's talk about intolerance first. An intolerance is when we eat something and we are not able to properly digest it or our body just doesn't agree with it but the way our body disagrees with it is not directly an immune response. In other words, an immune response is an allergy but a non-immune response like gas or bloating doesn't necessarily mean that we're having an allergic reaction, it just means that our body or a bacteria in our colon don't like that food and so with the way they digest it leads to excessive gas, excessive pain, some type of gastrointestinal symptom–

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** – or we just don't have the ability or the enzymatic capacity to digest that food and so our bacteria has to digest it for us or that food slips through into our bloodstream and then it mounts a secondary immune reaction. So, typically an intolerance is when we eat something and we don't see an immune reaction directly from the food but we can either see symptoms associated with gut problems or we can see an indirect immune reaction as a result of eating that food and then something else happens that leads to an immune reaction. For example, if the bacteria have to digest that food us, sometimes the by-product of the bacterial digestion of that food is a chemical waste product that the body doesn't like and that the immune system recognized it as an enemy and so we get a secondary allergic reaction. Does that make sense?

**Karen Brimeyer:** Yes, that's right.

**Dr. Peter Osborne:** So, we're not reacting to the food directly. We're reacting to the food indirectly.

**Karen Brimeyer:** Exactly and slipping through like as in leaky gut it's slipping through and to the blood and then our immune system is reacting to it.

**Dr. Peter Osborne:** Right.

**Karen Brimeyer:** So, how does eating gluten if you have an intolerance or if you have an allergy – I guess more of an intolerance, how would eating gluten affect you if you ate it and you had an intolerance or an allergy to it?

**Dr. Peter Osborne:** If you had an – well, if you had an allergy, a true allergy to gluten then usually what's going to happen is you're going to get a direct – when you do blood test, you're going to get a direct response, you're going to get a direct marker in the bloodstream that shows up depending on what you're measuring. So, if we're talking about gluten, now remember we're talking about thousands of different proteins so at this point in time no lab has the capability to measure all these thousands of different gluten proteins. So, there's really no accurate way to discern that via blood test at this point in time.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** We can check for gliadin and we can check for some other associated glutes but no lab tests really looks for all of them at this point. We haven't even really discovered them all at this point.

**Karen Brimeyer:** So, what about an intolerance, if you ate it and you had an intolerance to it?

**Dr. Peter Osborne:** Well, an intolerance, it depends on how the intolerance was developed. A person could have a true gluten intolerance and again they may lack the digestive enzymatic capacity to be able to process that food so it's going to usually lead to a secondary allergy response.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** But one of the things that gluten has been shown to do in individuals with intolerance is there's this protein called zonulin and zonulin regulates – do you know tight junctions are? I don't know if that term is something familiar to your audience.

**Karen Brimeyer:** It should be if they've read through the manual. I do talk about the tight junctions so if you can give a little bit of a background but if they brought manual, they should know what a tight junction is.

**Dr. Peter Osborne:** So, okay, a tight junction is a protein that basically anchors the intestinal cells closely together because if we don't have closely anchored intestinal cells, in other words, if the cells aren't tightly compacted together or very close together, we develop these leaks in our intestines and this is where a lot of food can leak through into the bloodstream. Hence the term leaky gut. The technical name for that is intestinal permeability. But gluten causes this, of regulation of this protein zonulin and zonulin causes the gut cells to spread apart and so gluten in and of itself directly can create a leaky gut. So, that was discovered eight or nine years ago at the University of Maryland by Dr. Alessio Fasano who's one of the leading researchers in the field of celiac disease. So, that's one of the components of the gluten intolerance aspect. It's not a reaction. It's a gut dismantling which then leads to subsequent immune reactions and this is one of the reasons why some people can go through life not react, no react and then one day and then all of a sudden they're starting to react.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** Well, they were always reacting. It was just the process that was building over time.

**Karen Brimeyer:** Yeah, more and more damage was being done as they were eating it more and more.

**Dr. Peter Osborne:** Right.

**Karen Brimeyer:** So, a lot of people say that they don't have any digestive issues so they automatically rule out gluten intolerance and I know that that's not always the case. Can you talk a little bit about that?

**Dr. Peter Osborne:** Well, actually there's a lot of research that's being done in the field of gluten and how it affects the nervous system. And the actual most leading researchers

now think that gluten doesn't affect the gut directly. It actually affects the nervous system in the gut and that's what leads to the problem. So, one of gluten's primary targets is nerve tissue and of course, the nerves, you know, from your brain to your spine to your organs, your nerves feed absolutely every tissue in the body. So, gluten – it's actually now thought that gluten affects other tissues more commonly than it affects the gut. In essence, celiac disease is more of a rare manifestation of gluten sensitivity as opposed to some of the other ways that gluten can affect people. And so some of those ways might be – one of the more common is called gluten-induced neuropathy.

So, it can cause nerve damage and some people manifest it as ataxia or vertigo so they lose their ability to stand in balance. Some people develop tremors or seizure disorders. Some people develop psychological disorders. We've linked gluten to schizophrenia, bipolar disease. Most people are aware that gluten sensitivity has directly been linked now to autism, in Asperger's disease and ADD and ADHD with the groups of doctors that have been prescribing gluten-free diets for autism. That's been out in the press quite a bit. So, gluten can affect, literally it can affect the nervous system in a host of different ways. Think of it like a drug. If we give 1,000 people an identical drug, we're going to get 1,000 reacting in different ways. We're not going to get everybody reacting exactly the same way to a drug.

Well, gluten much the same way acts like a drug and different people are going to react to it in different ways depending on their own unique biochemistry. So, some of the other diseases associated with gluten sensitivity and gluten intolerance are autoimmune disease as a general rule and there are 140 different autoimmune diseases. We've got rheumatoid arthritis as one, lupus, Hashimoto's which is a type of hypothyroidism, Graves disease, Addison's disease which is an adrenal failure disease. We've got psoriasis and eczema, dermatitis herpetiformis. These are all autoimmune diseases that a lot of people are just not aware that there's an association with gluten causing autoimmune disease. So, they go to their rheumatologist. Rheumatologists are doctors that specialize in the treatment of autoimmune disease and they're given a bunch of heavy drugs and unfortunately the heavy drugs don't really do a whole lot. They kind of relieve pain a little bit but beyond that they shorten your life by about 20 years and they never fix the autoimmune disease at its core and so until rheumatologists get on board and start looking at gluten in their offices, we're going to – we have kind of an uphill battle to get the information out there to people with autoimmune disease.

**Karen Brimeyer:** And gluten really can affect, you know, pretty much any area of your body. It's not just celiac diseases. There are so many other areas that it can affect. So, who would you say should do gluten intolerance testing or do you think that people can just eliminate it and find out. Do you recommend that they do testing or?

**Dr. Peter Osborne:** I recommend testing and the main reason I recommend testing is because you want a definitive answer–

**Karen Brimeyer:** Mm-hmm.



**Dr. Peter Osborne:** And a lot people will go gluten-free and so what happens is they go gluten-free and let's just say they don't go gluten-free long enough, so you know oftentimes you've got to go gluten-free for six months and you really have to be strictly gluten-free. You can't follow this what you see in the media, wheat, barley, rye free, go out and buy gluten-free pasta bread and cereal and think that that's going to get you healthy, right. I mean, because the cardinal rule in nutrition is you got get eat healthy food especially if you're already sick.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** But in a lot of these gluten-free products are really not gluten-free based on the true definition of what gluten is. Does that make sense?

**Karen Brimeyer:** Yes.

**Dr. Peter Osborne:** So, if a person just assumes and they want to go gluten free and they trust what the media and what the government is saying about what gluten is and they continue to eat corn, rice and other grains, most of them aren't going to get better. They're going to get frustrated with the diet and they're going to quit.

**Karen Brimeyer:** Yeah.

**Dr. Peter Osborne:** And so that's why I recommend testing because if you know that you have gluten-sensitive genes, now you have the idea that you need to get it out of your diet for the rest of your life, there's no question about it and so it's no longer a trend for you. It's no longer a fad diet that you're going to lose a little weight or feel a little bit better on and then go back later on when you feel better and start eating it again. You get a definitive answer so that you can make a definitive decision and get properly educated so that you can make the right decision about your diet and that's why I recommend testing. Now, a lot of people will say well, I don't need to test because I feel so much better when I don't eat it and I'm just not going to eat and they're okay with that and to that person I say more power to you. You just get educated about what gluten really is and don't fool yourself about those other gluten free products. But as a general rule of thumb, I'm going to recommend testing.

**Karen Brimeyer:** Yeah. Absolutely. Well, too, people don't want to give up grains and gluten if they don't have to so absolutely testing can help out in that area. I have a couple of questions about that. So, if somebody does not have a gene for gluten intolerance, can they still become gluten intolerant on throughout, you know, poor dietary and lifestyle?

**Dr. Peter Osborne:** I would say theoretically yes but I've never seen that be the case clinically. And what I mean by that is, you know, what I know and what I have seen is that generally when I test people for gluten sensitivity if they're positive and we get gluten out of their diet, it generally always improve. If they're negative, in my practice from what I seek as I treat, you know, 99.9% of what I treat is autoimmune disease. So, the bulk of the people coming in here are gluten sensitive. So, I don't have enough data

to really say okay, a person doesn't have genetic aspirations toward gluten sensitivity. If they cut gluten out they'll get better because I just don't see that clinically. Now, if we randomly tested the population and we found, you know, I would say 100 people that were genetically not gluten sensitive and we took gluten out of their diet, would they potentially get better? My thought process says yes, they probably would and here's why. Most products that contain gluten are generally not good for us anyway. And so when we cut out unhealthy foods, generally we're going to feel better. Does that make sense?

**Karen Brimeyer:** Yeah. So, you were saying to go on a gluten-free diet, you need to cut out all of the gluten so that would be basically cutting out all grains. Correct?

**Dr. Peter Osborne:** Correct.

**Karen Brimeyer:** What about you see a lot of, you know, blogs and websites that, you know, are people who have gluten sensitivity or a celiac disease and they, you know, have a whole bunch of recipes with rice flowers and all of these other flowers, are they really not getting the results that they could get if they would just completely cut out grain altogether?

**Dr. Peter Osborne:** Well, that's what the research says. When we follow celiac patients and we've done several studies where we followed patients with celiac disease who go on, I like to call it a traditional gluten-free diet which is your standard wheat, barley, rice, sometimes oats free diet—

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** – when we follow these patients for years at a time and we measure the intestinal damage and the intestinal inflammation and how well they're able to repair that, being on that traditional gluten-free diet, 92% of them don't heal.

**Karen Brimeyer:** Oh wow.

**Dr. Peter Osborne:** Their symptoms go away. They feel better but their guts are not healing. So, I mean, what does that lead us to speculate? That leads us to say well, why are they not healing? And so, you know, in my experience I've treated thousands of patients with gluten sensitivity, generally speaking, the one thing go traditionally gluten-free, get some better but never restore their health. The average celiac person will go gluten free and they will go on through their medical career, through their medical life, they will go on and develop an additional seven autoimmune diseases.

**Karen Brimeyer:** Oh my goodness.

**Dr. Peter Osborne:** So, why are they developing all these other autoimmune diseases and, you know, my theory, my thought is is that they'll probably just go either one, they're just ignoring it, they're eating gluten anyway. Two, they're eating all these

unhealthy gluten-free products that aren't really gluten-free. So, those are the kind of the two main theories that are out there. I mean, nobody knows for sure because nobody has really studied it but what we have studied again as we studied that people go traditionally gluten-free still don't heal.

**Karen Brimeyer:** So, we know that there's a genetic component so if you have a gluten intolerance, would it be a good idea to get siblings and, you know, children tested as well? Do you see a pretty strong correlation, you know, between siblings and your own children if you have a gluten sensitivity?

**Dr. Peter Osborne:** Absolutely. I mean, genes are passed from one generation to the next so, you know, your DNA is 50% of your mom's and 50% of your dad's and so my advice is if there's a direct family member that has a known celiac disease or gluten sensitivity, they should be genetically tested—

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** – and they should eat and get gluten out of their diet accordingly based on their test results.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** And a lot of people they say oh, I don't have this problem and it's not necessarily that they don't have the problem, it's just that either they're not willing to look at it because they don't want to give things up in their diet because they're just too married to their food or they just, you know, they just – they don't feel bad enough to make a change—

**Karen Brimeyer:** Exactly.

**Dr. Peter Osborne:** – and unfortunately sometimes it takes 35, 45 years of gluten induced damage for a person to feel bad enough to start that change. As a matter of fact, the average person won't get a diagnosis until they're 45.

**Karen Brimeyer:** Do most people who have a gluten sensitivity, do they end up – most people end up developing autoimmune or is that too broad of a statement?

**Dr. Peter Osborne:** No, it's not too broad at all. It's been studied hundreds of times. Yes, autoimmune diseases highly correlate to gluten exposure.

**Karen Brimeyer:** Wow, because we're only seeing it increase more and more. Why is gluten sensitivity – why is it that we didn't know about it before but why does it seem like it's so much more prevalent? Why is autoimmune disease so much more prevalent now than it used to be?

**Dr. Peter Osborne:** Well, it's on the rise and that's a great question. There's actually 23.5 million cases of autoimmune disease, more than cancer, more than heart disease so autoimmune disease is actually the number one disease in the U.S. And the problem with the recognition is that we subclassify autoimmune diseases by specific types. So like, you know, people with lupus or rheumatoid arthritis or Sjogren's, you know, we don't bunch them altogether. We bunch all the cancers together. We put all the cancers in the same category. We put all the heart disease classifications in the same category. We don't do that with autoimmune disease so it kind of seems like it pales compared to cancer and heart disease.

But one of the reasons why we're seeing the increase is it's actually multifactorial. I don't think it's just gluten although gluten is a scientifically confirmed and valid way in which autoimmune disease can be induced in the human. It's not the only way and there's a lot of science that's showing and it's being studied now that it shows us that environmental chemicals and pollutants and toxins and other things can also contribute to the process of autoimmunity but I think what we see what the grain in the last 50 years is we see the genetic manipulation of grains to contain double the quantity of gluten and so that's a problem because now we've increased the gluten content of the American diet by 50% even if we were eating the same amount of grain as we were 50 years ago. We've doubled the concentration of gluten in the diet but actually that's not case.

We've more than doubled it because not only have we genetically manipulated the grain to contain more but we've allowed the government to push this food guide pyramid that's very loaded in grain, eight servings a day is the recommendation and nowhere in science has it ever been proven that a person needs that much grain to sustain normal human physiology. As a matter of fact, if you look at the history of grain introduction into the diet of man as a staple food, we can go back to the 1800s and we can see that where we introduced rice especially the white polished rice, we caused disease to occur in these cultures that didn't use grain or we brought grain into them. We induced diseases like pellagra and beriberi because the rice was so malnourishing to eat that it caused B vitamin deficiency and so that's kind of – what a lot of people don't realize about grain is that grain in the U.S. has to be fortified to be sold. If you didn't fortify it, it would cause disease and so what the cereal companies have done, they've really done a brilliant job from a marketing perspective. They have told us how great grain is because it's fortified instead of saying we couldn't sell this to you if we didn't fortify it. They tell you how to great it is because it's fortified.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** And that's where a lot of people don't realize the history of the fortification of grain is because grain caused and induced diseases. So, going back to the food guide pyramid, if we recommend such large quantities of a food that doesn't really supply all that great of a nutritional quantity and we make it a staple food in the U.S. diet and we promote it to kids on TV 24/7 in the guise of whole grains, you see the whole – one of the commercials, the whole grain check on the boxes of like Trix cereal, I mean,

humans evolved not eating any grain at all and it was really only in the last really 5,000 years that grain has become a major staple in the human diet.

**Karen Brimeyer:** Yeah. So, if you look back over all of human history it is a miniscule amount of time that we've actually been eating grain compared to us not eating grain, so that being said, what kinds of foods do you believe should be the base of our diet?

**Dr. Peter Osborne:** I believe that the basis of the human diet based on our evolution should be fruits and vegetables and meat and I believe that the general rules and the general guidelines should be if we're going to eat fruits and vegetables which we should eat ample amounts, then they need to come from sources that are locally grown, that are not genetically modified and that are not loaded with pesticides, herbicides and fungicides. So, buying organic locally-grown would be a smarter choice and when it comes to meat, I recommend – a lot of people think beef is unhealthy because of heart disease but that's never been proven. Actually the opposite is true. If you look at the Alaskan Eskimo, they eat 90% whale fat straight off the whale and they eat it in raw form and they don't have an incidence really of heart disease or cancer. Why is that? Why is it that they can eat all that animal fat and not heart disease and cancer?

Well, the simple solution is that animal fat doesn't cause that but when you mistreat the animal, when you feed the animal counterintuitively to the health of the animal, so when we lock these cows up in a 6 x 6 pen in their own feces and we shove grain in them for the last four months before their slaughter then they gain a 1,000 pounds because we're fattening them up to marble-lize the meat, that's not healthy meat to eat and so that type of meat is definitely associated with cancer and heart disease but if you take a normal natural, grass-fed cow that's been appropriately cared for, been out in the sun, been able to get exercise and has relatively low stress life and you eat meat from that type of animal, the chemical composition is completely different. The fat composition is completely different. It's a much healthier animal and it's much healthy to eat.

So, as opposed to being vegetarian, I recommend people eat meat because humans have teeth and they have digestive capacity and they have acid production in the stomach because we're supposed to eat meat. I just recommend eating it from a valid healthy source. So, wild-caught fish as opposed to farm-raised fish that are fed genetically modified grain, grass-fed, pasture-roaming beef or buffalo or bison and then wild game, venison deer, elk, whatever it is a person has the ability to get a hold of in their local area or has the ability to hunt for themselves.

**Karen Brimeyer:** Yep and this is exactly what, you know, my diet is based off of is the exact foods that you're eating and these are the healing foods that people can eat especially if they had any kind of gut dysfunction because they're the foods that were meant to eat and it's interesting that you're talking about how they use grain to fatten up cattle because that's exactly what it does to us, too. A lot of people find that when they go on a grain-free diet, they automatically lose quite a bit of weight and it's not by reducing their caloric load, it's by, you know, getting the grains out of their diet. So, that's another interesting thing with grains is they definitely do cause you to gain weight.

**Dr. Peter Osborne:** Well, grains are very insulinogenic meaning they cause spikes in the hormones that cause the body or tell the body to store fat and retain water. So, we get swelling. We get bloating. We get what's called third spacing of water fluids and this is why a lot of people get swollen their hands and their feet get swollen when they eat grain and it's why hormonally they develop – a lot of them develop diabetes because we're constantly promoting excessive insulin production, excessive cortisol production which eventually leads to heart disease, cancer and diabetes.

**Karen Brimeyer:** Absolutely. So, this next question, I already know the answer to but I'm going to ask it for my listeners and the question is can you if you completely heal up your gut lining, could you ever add gluten back into your diet and do okay with it?

**Dr. Peter Osborne:** I don't recommend it especially not if you've been genetically positive tested and the reason why is – I'm going to give you an analogy. If I have diabetes and I cut sugar out of my diet and I exercise and I put the diabetes into remission and I'm feeling great, do I start eating sugar of all a sudden just because I'm doing better?

**Karen Brimeyer:** No, that's going to–

**Dr. Peter Osborne:** No.

**Karen Brimeyer:** – bring your symptoms back. Yeah.

**Dr. Peter Osborne:** Exactly. So, why do the thing that made you sick in the first place just because you're feeling better again.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** We stick to a pattern of healthy, good decisions and choices because that's what keeps us healthy.

**Karen Brimeyer:** Mm-hmm.

**Dr. Peter Osborne:** Does that make sense?

**Karen Brimeyer:** Absolutely. I have a lot of people that ask me, you know, how long do I have to do the diet and, you know, when can I go back to my old eating habits and my answer to that always is if you go back to your old eating habits, then you're going to develop all of the things that you just got rid of. You're going to develop all of the symptoms all over again. So, it really isn't worth it. It really is a lifestyle change and not just, you know, a short dietary change just to get rid of some symptoms. So, what kinds of tips can you give to my listeners on how to eliminate gluten because it's not always just as easy as, you know, getting rid of grain products because gluten is in a lot of other stuff as well. So, what kinds of recommendations can you give?

**Dr. Peter Osborne:** So, the first is obvious, eliminate bread, pasta and cereal. Those are going to be your major sources of grain. Secondly, real food, if it comes with a label, you always run the risk of having it cross-contaminated whether it's got some hidden source of chemically-added gluten or whether in the factory that it was produced in they used the same equipment to make bread or to process some other type of grains. So, eat food more without labels and you'll do really really well at avoiding gluten as a general rule of thumb. If you're in a time crunch, if you're one of those that it has a limited ability or a limited amount of time like if you're a working mom and, you know, and you live in a – and you have a family where dad and mom both work and so nobody can stay home and just be focused on, you know, domestic cooking and those types of things, my advice is to cook a lot of food when you do cook so that you have things that you can store in your refrigerator.

You can also – there are certain companies in our local area here in Houston, we've got certain companies that have developed out of all this new health information for diet. One of the companies in our region is called Snap Kitchen. I don't know if they're national or if they're just local but they actually serve a meal that's prepared to go and it's a paleo meal so there's no grain whatsoever in it and so it actually is very reasonable to afford and, you know, it tastes just fine so you can maybe find a local place that's doing something like that if you're one of those people that are in a tight bind. But the other thing a lot of people lose sight of is they use that time, kind of that time constraint as an excuse. If they don't have enough time, well my thought is well you have enough time to surf on the internet, you have enough time to drive to Starbucks, you have enough time to do all these things that are derogatory to your health, you have to make time for your health.

And so making time for your health means preparing real food but even if we're talking about not preparing food, we're talking about convenience, there's nothing more convenient than peeling a banana or biting into a washed apple or carrying around a handful of almonds and eating those or stick of beef jerky that's not loaded with weak gluten. So, you've got options that are also convenient along those lines. I mean, Mother Nature provides a lot of convenient foods. We just have to allow ourselves to eat them versus eating something that's less healthy, more processed and not good for us.

**Karen Brimeyer:** Exactly. Exactly. What about eating out?

**Dr. Peter Osborne:** Eating out is hard to do. I don't really recommend it a lot. There are certain restaurants that will cater. I've got a restaurant here locally. The guy is a French chef. He serves wild-caught meat. He serves organic produce and that's all he serves in his restaurant. I mean, he doesn't touch the other (stuff what his niche is). Maybe if you've got a place locally in your area that's doing something like that and you can kind of venture that eating out but other than that you're going to run the risk regardless of where you go, you're going to run the risk of cause contamination and so some people that are so sensitive to gluten, they get cross contaminated and they're out for a week. They're sick for two, three, four days.

**Karen Brimeyer:** Yeah.

**Dr. Peter Osborne:** Some people end up in the hospital. You got to ask yourself is it worth doing? Is that eating out, is that social environment like that worth, you know, worth the damage that's going to create to you and so my advice is if you want to be social and go out and eat with friends, you know, stick to things like the salad, maybe take in your own salad dressing, you know, stay as safe as you possibly can or just eat before you go and go out with your friends and enjoy the social aspect of being with them as opposed to making the food the reason that you're getting together.

**Karen Brimeyer:** That's pretty much all of the questions that I had. Do you have anything else that you'd like to add before we get off the call?

**Dr. Peter Osborne:** I just think it's critically important for people that are attempting to go gluten-free, if they don't get tested to really get educated about what gluten-free really is. We mentioned this earlier I mean, you know, if you're buying gluten-free products and they're really, you know, they're really not gluten-free, you want to get educated about that component because if you're not you're not doing yourself any good. The research shows that those people stay sick, they stay inflamed. They develop additional autoimmune diseases so just educated. Educate yourself. That's probably the best thing that you can do to maintain your health and the health of your family.

**Karen Brimeyer:** Mm-hmm. Yeah. So, not going out and buying all of the rice cereals and bread because I've had people think that they're doing a great diet and send me a food log with all kinds of processed, you know, gluten, well, it said it's gluten-free but gluten-free products and they're doing horrible and they're wondering why and it's because they're not eating real wholesome healthy food. So, that's an excellent excellent point to make because it is really important if you're trying to heal you gut and if you have any kind of gluten intolerance that you're eating healthy foods and not eating the processed stuff that claims to be gluten-free. So, well, I think that was about it that I have for tonight unless you have anything else to add. So, I think, I want to thank you very much for doing this call with us and yeah, thank you very much.

**Dr. Peter Osborne:** Well, thanks for having me and I'm always glad to come on and share information because I just feel like people need to get this information and get educated and get healthy.

**Karen Brimeyer:** Yeah, I definitely agree and I think a lot of people try to deny that they have a gluten intolerance and I'll tell you just from experience that going off of gluten was one of the best things – well, we don't need any grain either and going grain-free is one of the best things that I, you know, ever did for my health and for my family's health. So, absolutely if you're having any kind of, you know, autoimmune or any kind of digestive issues going gluten-free for a period of time to test it out or getting genetic testing is absolutely essential in getting your health back. So, well, thank you very much Peter and can you go ahead and give us your website so that if anyone would like to look into, you know, what you do further, they can have access to it.



**Dr. Peter Osborne:** Our website is <http://glutenfreesociety.org>, just <http://glutenfreesociety.org> and mainly what we do is we just specialize in educating people about gluten and so if they want to come over and learn, get educated, they can sign up for our free newsletter which is sent out once or twice a week depending on how much time we have and our staff has to write and put out meaningful material. But we try to stay abreast of all the latest research and literature in the field so if you, you know, if you want to stay on top of the game this is – we're the, I think we're probably the best site in the world really that continues to provide that type of information without all the come buy our gluten-free rice, pasta, come buy our gluten-free products. You know, we don't host any products that are designed to – and since we don't have a gluten-free mall where people can come and buy a bunch of unhealthy food. What we really try to do is provide really really good quality information and educate the folks.

**Karen Brimeyer:** So, make sure that you go visit that site. It's got a lot of wonderful information if you're going gluten-free or if you already are gluten-free and really had to avoid gluten and get your health back. So, Dr. Osborne I want to say thank again and have a wonderful night.

**Dr. Peter Osborne:** Thank you, too.

**Karen Brimeyer:** Thank you.

[0:45:53]