Gluten, Mold & Nutrient Deficits: Inflammation's Trio Transcript

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Introduction and interview overview

Welcome back to the Heal Your Brain Masterclass. I'm your host Doctor David Jockers. And today I've got the great honor of interviewing my friend Doctor Peter Osborne.

We're talking all about gluten mold and nutrient deficiencies and how they drive brain inflammation. So doctor Peter Osborne, he's a clinical director of Origins Health Care in Sugarland, Texas.

He's a doctor of chiropractic functional medicine, and a board certified clinical nutritionist. He's often referred to as the gluten free warrior, and Doctor Osborne is one of the most sought after functional medicine doctors in the country, and he's the founder of Gluten Free Society, the author of the bestselling book No Grain, No Pain and the host of gluten allergy Masterclass series The Ultimate Guide to Going Gluten Free.

You can find his great work at drpeterosborne.com. And again today we're talking about gluten, mold and nutrient deficiencies and how they drive brain inflammation.

So we're going to we're going to talk about what is gluten and how does it impact gut and the brain. We're going to talk about major food sensitivities and impact inflammation.

We're going to talk about key nutrient deficiencies that are involved in food sensitivities and autoimmunity, and why chronic mold illness is on the rise and what you can do about it.

So you guys are in for a treat here. Doctor Osborne is actually going to go through his story on chronic mold. So you're in for a treat for that. And so without further ado, let's go into this interview with Doctor Peter Osborne.

What gluten is and where itu2019s found

Peter Osborne, always great to connect with you. And I know obviously your your expertise is in gluten and food sensitivities, food allergies. And so let's start by talking about gluten.

What is that? A lot of people here about gluten free and gluten. But what what actually is it and what are the foods that, you know, obviously contain gluten.

Yeah. So gluten is basically it's a family of proteins found in grains. So, you know, wheat, barley, rye or the classic grains people think about when they think about gluten, but they're actually forms of gluten also found in oats and rice and corn and sorghum and millet, which are, you know, again, classically, these grains are considered gluten free, but there's no such thing as a gluten free grain.

So gluten is the family of proteins found in the seeds of grass, which is what grains are. These proteins are soluble in alcohol. That's the botanical definition, if you will.

So any time you're eating bread, pizza, pasta made from these items, any time you have or using a gravy that's been thickened with wheat flour, any time you, you pick up a donut or any other type of baked good, you're going to be getting gluten exposure.

Yeah, absolutely. And so a lot of people will pivot to gluten free. And yeah it's funny because my wife and I kind of kind of laugh because I've got family members that'll be like, oh, this is gluten free light.

And they're and they kind of light up like, hey, I can eat as much as of this that I want. And, you know, it's healthy, but, you know, is there are all gluten free products healthy?

What is gluten actually do in the body? Let's let's kind of go through that. Yeah. So gluten as a protein, it can do several things. One of the newer research studies that this has come out in the last ten years or so, shows that gluten exposure can cause leaky gut.

And it doesn't matter who you are, whether you're gluten sensitive or whether you're not gluten sensitive. So, that's one of the downfalls to having a high gluten diet, is that it actually, you know, punches microscopic holes in your gut lining, allowing your poop basically a leak into your bloodstream and everything else.

How gluten drives leaky gut and brain inflammation

And so that's a precursor to most forms of autoimmune disease. So we don't want that, obviously. But gluten also is a neurotoxin. There's a there's a group of researchers at Oxford who've been studying this for decades now.

And they have MRI evidence that shows how gluten can form antibodies against brain tissue, nervous tissue actually shrink areas of the brain, causing diseases like imbalance, vertigo.

Tonight is and even gluten has been linked to diseases like bipolar and schizophrenia. It's actually actually its original name was Bread Madness. Which is which is an interesting history about gluten itself.

Now, what is the mechanism for that? How does gluten what does it do in the gut that will then cause increased intestinal permeability and leaky gut? Yeah.

So there's an interaction that occurs in the immune system. Once once your immune system sees gluten then it presents it to your your immune cells. Your dendritic cells will then launch into two possible, scenarios.

One of the scenarios is you'll make antibodies against that. These antibodies are basically little weapons that are trying to neutralize gluten. But in the process of neutralizing gluten, they cause inflammation to the surrounding tissues.

So it's kind of like, yeah, friendly fire killing, killing the wrong person. Right. So if that inflammation is occurring in the gut, you get inflammatory damage to the gut.

That's what leads to the classic celiac disease or villus atrophy. Is is the hallmark, you know, sign of that, which is basically just an erosion of the folds of the intestine.

So it causes malabsorption and, and really severely can affect a person's health. We see the same kind of antibody reaction also occurring in brain tissue.

There's an enzyme called tissue trans glutamic acid or TTG that that is present also in the brain. And so some people, when they're exposed to gluten, the antibody responses are occurring in the brain tissue.

And so you can get the outcome of that can be what we call brain inflammation, right. The brain inflammation which can contribute to depression and anxiety.

And bipolar situations, even schizoaffective or schizophrenics have been shown to have a high percentage of them have been shown to have gluten, gluten antibodies.

We've actually seen in our clinic a number of schizophrenics get better. Now, I'm not saying that all schizophrenia is caused by just gluten. There's certainly a, an array of different potential things that can happen with neurological disease, but gluten is a major trigger as far as the madness component.

There's a there's a mold component to to gluten. And originally when it was when it was called bread Madness, it was because, the grain flours have a high propensity to grow mold on them.

And there was an alkaloid of mold called ergo ergot that was a hallucinogenic mold byproduct. And so individuals

eating moldy bread for example, would develop bread.

Madness, right? They'd have schizo affective hallucinations. And that's where that term comes from. Oh, yeah, that's really interesting. Now, a lot of people will go gluten free and they'll buy stuff that's gluten free.

And a lot of it's made with what's considered gluten free sources like corn and rice. What are your thoughts on those those types of things? They're bad news for several reasons.

One, rice has a form of gluten in it called auxin, and corn has a form of gluten in it called Zayn. These types of gluten are equally inflammatory to people with gluten sensitivity.

In my experience, we see this all the time. We actually have named it. It's called gluten free. Whiplash is when a person originally goes gluten free.

Generally they go wheat, barley, rye free. There's a period of improvement that they start feeling better. But once they start discovering that gluten free food all with all the corn and rice products, they start going backwards.

They start whip lashing backwards into health issues again. So, it's not something I recommend, although technically, you know, the FDA considers those grains gluten free.

They do have they're just different types of gluten that can stimulate similar types of inflammatory reactions.

Why gluten-free grains can still be inflammatory

So gluten free source is not necessarily good. Especially you know, if they're labeled gluten free. What should people stick with when it comes to an anti-inflammatory diet.

How do you approach that in your clinic. We test them I mean the best thing to do is test. Don't guess that's my opinion of it. So we test to see because the person could be gluten sensitive, but they could also be reactive to dairy.

They could be reactive to broccoli. I see people reactive to blueberries. I mean it's it's a, it's a it's an array of potential possibilities. And so when we, we establish a person's diet, we first test them to discern what their immune systems perceive to be the threat.

Right. And then we can modify their diet based on their own uniqueness. And in that way that's that's the ultimate personalized, you know, anti-inflammatory diet.

Now, if we're generalizing, you know, a safe bet would be buy organic foods. If when you're talking about, you know, plant based products, try to avoid processed food at all costs.

There's major studies coming out now on ultra processed food, really causing a lot of inflammation and damage. And so it's just a safe bet to stay away from those types of things.

So whole foods, organic food, when it comes to meat, grass fed, free range, organic, wild caught are some good general guidelines to follow. If you're just trying to make sure that you're avoiding the chemicals and the processing and some of the other things that are just not good for any human.

Yeah, yeah, that makes sense. So obviously trying to get rid of the processed foods, really sticking with whole real foods. It's a great baseline as far as nutrition goes.

Now, what are some of the nutritional deficiencies that you see associated with people that, you know, maybe dealing with, autoimmunity, gluten sensitivity, a lot of different issues that you're seeing in your in your clinic.

Yeah. We've been tracking this now for over 20 years. And the top five deficiencies, that I've recorded through

testing on individuals with gluten issues.

Number one, vitamin D, number two, iron, number three, B12, number four, zinc. And number five, omega three fatty acids. So those five are the most common we see.

And so it's, you know, if you're if you're at home, you know, watching this and you're thinking, should I maybe take some supplements, you know, think about those five based on my own, my own clinical experience.

Testing food sensitivities and choosing an anti-inflammatory diet

But but really ideally go get them tested, like work with your doctor to get those levels tested, because you may not have one of those five. You may have something totally different and you may need something different.

So it's always best to get a personalized recommendation, in my opinion, through through lab testing. Yeah, especially with some of those like iron, for example.

A lot of people have high iron, right? So certainly we see iron deficiency anemia, which tends to be a lot more common in menstruating females in particular, or people that have inflammatory bowel disease where they're they have malabsorption.

Then it's you. Then those individuals are at higher risk. But most men, for example, actually have too much iron already. So they start supplementing with iron.

It's actually going to cause more oxidative stress and inflammation in their system. So yeah, you just don't want to you don't want to guess. I know you didn't mention magnesium is that somewhere in your top ten?

Actually, no, it's probably in my top 15. But I know that's probably counter to what a lot of people see on the internet. And I'm not saying that magnesium is not important, but I don't think that many people, at least not in my experience in over 10,000 tests, actually more than ten, that probably closer to 50,000 tests, but over 10,000 individual people where we just don't see magnesium as frequently as what it's being reported.

Now, I think a lot of people benefit from magnesium because it actually has therapeutic effects, right? It's a natural muscle relaxer. If you've got anxiety or muscle tension, it's going to have a therapeutic effect in that that effect may not be correcting a deficiency per se.

It may just be the relaxation effect that magnesium presents. It makes a person feel better, but we don't see the level of deficiency that's oftentimes reported.

I've seen reports where it's like, you know, eight out of ten people are deficient magnesium. And that just has not been my experience. Yeah. That's really interesting.

I see a lot of people respond really well putting them on magnesium. But like you said maybe the calming effect, the effect on helping balance the glutamate to Gaba ratio in the brain, glutamate is the the the gas pedal and theta is the brakes.

And most people, when they have inflammation, particularly brain inflammation too much, they have a distorted ratio, too much glutamate, not enough Gaba.

And the nervous system is overexcited and magnesium is real powerful, calming brake like effect. And a lot of people are noticing improvements there with improved sleep, relaxation, better stress, resilience, things like that.

Yeah for sure. And then on the gut too. With constipation, a lot of people use it. It's a negative. Again, it's it's I look at magnesium as the almost like a one of the antidotes for sympathetic dominance.

Common nutrient deficiencies and the role of magnesium

So when somebody is in chronic inflammation mode their, their, their nervous system is generally sympathetic, dominant and so magnesium can kind of help balance that.

And certainly therapeutically can be very effective. And there's not really a great danger to using magnesium. So I think I think if it helps a person more power to them.

But I'm always cautious in practice that we don't try to use what I call green medicine, which is where you use supplements to appease their symptoms without digging for why their symptoms exist.

So I'm perfectly fine with saying, yeah, take the magnesium for now to improve your quality of life, but let's really try to understand the deep underlying reasons as to why your problems exist, so that you don't need to take magnesium forever for the rest of your life in extra high doses.

Yeah, that's that's always a good idea. Just try to find the root cause factors. Now, when people have severely damaged gut issues, obviously an elimination diet like you talked about is key.

What are some of the key supplements that you see that, that help support people healing their gut? My favorite for that really, honestly is vitamin C.

And there's some there's some pretty good research on, celiac not not fully seeing a resolution of inflammation. And less vitamin C is used. I've used vitamin C for 20 years in practice, and I just see it do fantastic things for people.

We actually have a vitamin C flush protocol that we put people through where we're giving them, approximately six grams of vitamin C every 15 minutes to flush out the bowel.

Then that's just to saturate their system with vitamin C. And then once we do that, we keep them on five grams of vitamin C daily to, to just keep that, to keep that going.

And vitamin C, it's amazing. It's you asked about deficiencies earlier. It's s in the top ten. And I see quite a bit of scurvy actually in my practice.

Like, you know, we always hear about there's no such thing as scurvy people don't, you know, not in the modern world. I bet you I see 20% of the people walking through the door having, low vitamin C and and in low, because we measure it two ways, we measure it intracellular early, but we also measure it in the, in the serum, in the plasma.

And we find that a lot of people are below the threshold in the, in the blood for vitamin C is 0.2. And I find people all the time with undetectable levels.

And then when you match their symptoms to, to scurvy, it's like textbook. It's not like it's not like scurvy. Like they're losing their mind. They're going crazy in their teeth or falling out scurvy.

But it's like muscle pain, muscle aches. Gums are bleeding all the time. They have high anxiety. These are these are kind of the early what would you call subclinical or preclinical before full blown scurvy sets in.

But these people are definitely scurvy now. Really interesting. I haven't heard that. I know also that you've had experience with mold, and a lot of your clients are coming in with mold.

You personally had an experience with that, and you're actually working on a documentary series right now all about mold. So let's go into that. Let's talk about what mold, you know, where we can be exposed to mold and then how mold, drives inflammation.

Yeah. So I mean, mold can get in. Let's talk about environmental mold because environmental molds and most people have heard of black mold and as the bad mold.

Right. But there are other environmental molds beyond even sticky botrytis which is black mold. Aspergillus, Penicillium, Fusarium or cerium are or other types of mold that produce different types of toxins that can make people very sick.

A lot of these have been shown to be, inhibitory of DNA, RNA and protein synthesis. So what happens when you're in mold is it slows down your body's cells ability to regenerate DNA, RNA and protein.

So basically age is you. It accelerates the aging process. The body starts breaking down. A lot of people in mold will if they're trying to work out, they'll get injured very easily.

And those injuries won't heal a lot of people and mold will develop, hormonal shifts or hormonal changes. Men will will be more prone to hyper estrogen ism because there's certain mold toxins that mimic estrogen.

Women will be prone to the symptoms of, estrogen dominance.

Vitamin C, scurvy, and gut healing support

And so we see this a lot already in clinical practice, right. Even without without mold. But these are some hallmarks of of what mold can do once once you're in mold consistently being exposed to mycotoxins, it can cause anything that gluten can cause.

It can cause anything that line can cause. It can cause anything that heavy metals can cause, because it's basically stimulating your immune system to generate an inflammatory response, to try to help you heal and repair.

And because you're never getting out of the environment, that immune response never really goes away. So your immune system just stays on high alert. It's stays in chronic activation mode.

It puts the body in a sympathetic dominant state. And it really just makes it hard to heal and repair. A lot of these people, they've changed their diet like they've gone gluten free grain free.

They're you know, they're avoiding dairy. They've been allergy tested. They're just not finding any kind of improvements with the typical changes that we might see a person make that recovers really well.

So if you're if you're one of those individuals where you've worked with a functional doc and you've done diet and lifestyle change and you're still struggling, you really want to consider the potential that you might have.

Mold, mold exposure. Myself, personally, I was in a house that was only two years old. And when we when we started suspecting mold and tapped into the wall cavity, we we measured and in some of the wall cavities, over 200,000 spores, of different species of mold were present, in our wall cavities.

So it was it was quite a toxic environment, quite a toxic situation that nobody, nobody really suspected until we started asking deeper questions. Wow. Yeah.

And what percentage of of your patients are you seeing? Mold. Oh, man. It's a high percentage. It's. Yeah, more than half. I was actually what happened I was I was praying I said, God, please quit sending chronic mold cases to me.

And because it's just a it's a tough thing and it's tough for many reasons.

Mold exposure and how it fuels inflammation

Like as a practitioner, it's it's it's very hard to watch people go through it. It's so I, I'm empathetic. So I take a lot of people's energy into me.

And that's just part of that's just part of the work. Right. But it's also very challenging sometimes to convince people

that mold is their problem. This is part of why I love testing and being objective, because, you can't just walk up to somebody and say, we think it's mold, get out of your house, walk away from your house. Right?

You have to have an overwhelming amount of evidence that it's kind of like building a court case. You've got to have an overwhelming amount of evidence to prosecute mold as the guilty party, so to speak, and you're responsible for hurting the client or the patient.

So, it's just tough. But but that was my prayer. It was just please quit sitting and chronic mold. And then I had mold in my house within six months. So I think that God's answer to me was, no, we're not going to stop seeing mold.

You're going to get better at it and you're going to learn more about it. And I'm going to put you through it to make you learn. And that's what happened.

And so at this point, I know more about mold. And I ever wanted to know, and know more about architecture and more about building technology and more about, all the things that go into creating a mold in an environment, in a home environment.

And the alarming part about mold is we've been the builders have been using, cheap non skilled labor to save money. And so the infrastructure, of a lot of the newer housing developments and things of that nature are compromised.

And so there's a huge great risk for mold to grow in homes that probably didn't exist 30 or 40 years ago. But it's it. We're seeing it so much more, I think.

I think mold toxicity is going to become the new gluten sensitivity of, of the next decade, just because the problem is pervasively getting worse, because mold grows more as time goes on.

And, what I mean by that is you could have you could have a new house and you could have mold in that house, that the more there's a water source or a and it doesn't have to be a running water doesn't have to be a broken pipe, and it doesn't have to be a leaky roof.

You could just have a humidity control problem in your home and, that humidity is a source of water. And if you've got a chronic source of humidity where the vapor barrier of your home is compromised, which was my case, that mold will spontaneously continue to grow.

And the longer that problem exists, the stronger that mold gets, right? So the more more rains that come, the more the humidity is uncontrolled, the bigger and bigger and bigger that problem gets with time.

And so what happens is sometimes it starts out as the small thing, but it gets bigger, bigger, bigger and bigger. And then people start getting sicker and sicker.

And because it takes so long, they don't even realize because there wasn't like they moved into this home and all of a sudden they're sick from this home.

It was just that environment got more and more poisonous as time went by. And so that's that's where model can get tricky because you don't always suspect it.

Now some people move into a moldy environment and it's like a switch, right? They start getting sick right away. Maybe they move into a mold mature home where that where the mold is already matured and it's really separating and it's really kicking out toxins.

But, it's one of those things that can happen slowly. That's kind of the way it did in my house. Is it in the first couple of years we lived in, it wasn't that big of a deal.

And then my family started getting sick, and then my dog died. And then, you know, it's just all kinds of things

started happening until we we were able to figure it out.

Yeah, absolutely. And what are what are some things outside of getting out of the house. What what do you see? As far as maybe nutritional supplements, strategies that people are taking to get healthy from mold.

You can do binders to but it's it's like a stopgap. It's not going to solve the issue. So you could do like zeolites and charcoal activated, charcoal.

If you try to do heavy, Liberty talks vacation through bio transformers like alpha lipoic acid and acetyl cysteine. Glutathione own a lot of times if they're still in mold, they get worse because as their as they're in it, they're being exposed to the toxins.

And then here you're trying to mobilize those toxins out of the body. And the body shoves those toxins in fat cells to to try to, you know, contain the damage.

But when you use, high dose nutrients for detox, you're mobilizing that stuff into the blood. Plus, you're being exposed from the environment. So a lot of people feel really bad.

One of the hallmarks of mold toxicity, in my experience, is, is, detox supplement intolerance. So if people can't tolerate, you know, the methylated versions of B vitamins or alpha lipoic acid or cysteine or glutathione, and this is a this is a common, issue where we see mold as a, as a reason why.

So, but binders can be taken. Usually most people tolerate those. It's a stopgap. Other stopgaps that I've seen work really well when people are still in mold is the carnivore diet.

And one of the reasons why is the carnivore diet has, virtually no mold in it. So one of the top foods that contain mold in mycotoxins is grain. And that's another reason why, when I wrote, I wrote my book No Grain, No Pain.

The book title wasn't No gluten, No Pain. It was because there's a lot of things in grain, and mold is one of them. But carnivore diet reduces a ton of potential for mold exposure.

And so these people in mold generally tend to do better on carnivore, even if they're still in mold. I've got patients right now that are in mold. They can't get out of it.

They can't afford to leave their house.

Living with mold, detox strategies, and carnivore as a stopgap

They can't afford the remediation. We've got them on carnivore diets. They're doing a lot better than they were not being on a carnivore diet. And they're doing a lot better on a carnivore dive than they say they were doing on like, a, a, a grain free diet.

Right. So that's something else that, that I think a lot of reasons why the carnivore community has gotten so popular is because mold is such a big deal.

And you talk to a lot of these folks that are doing carnivore, one of the back trends that you'll typically find is many of them are in mold. So but but that's what a person can do if you're still in it.

So like going carnivores and potential option using binders. But number one thing you can do is to get out of the mold. And that sometimes can be easier said than done.

Yeah. It's great. I look forward to seeing your docu series on that, and that'll probably be out what end of this year and next year, 2025. Yeah, we're we're aiming next year early next year.

Fingers crossed. Yeah yeah for sure. Well it's a work that needs to get out there. Obviously a lot of people like you

talked about dealing with mold issues and you know, depending on your level of sensitivity, some people are better at detoxing mold than others.

This is why, you know, mold is not healthy for anybody. But you can have, you know, husband, wife living in the same house. Wife's got all these chronic health issues.

The husband doesn't, husband seems like everything's fine because his body is able to detox it better than, better than his wife's. And so her body starting to break down, although it's not healthy for him as well.

Yeah. And it's also a dose exposure issue. Right. Usually, usually in my experience, it's the stay at home wife. So she's home all day. She doesn't leave home and the husband goes off 12 hours a day is out of the house.

So she's getting double exposure. She's probably, well, typically she weighs a lot less than him. So there's a there's already a physical disparity between, men's capacity to withstand chemical stressors versus women.

They're just stronger at dealing with things. And then you add a dose exposure that's twice as long. It's not uncommon to see women get sick first or kids or pets.

So if you're, you know, if you're in a moldy situation or you think you might be in a moldy situation, husband may be doing just fine. But the kids and the pets and and the wife are all, you know, doing poorly, then you might want to suspect, you know, mold as a potential and get a you get a good inspector to come out and maybe do an investigation or help you do an investigation.

Yeah, really important stuff. Well, Doctor Peters has been a great interview. Any last words of inspiration for people? You can, of course, go out and get his book.

No grain, no pain. Really, really great book. And, where can people find out more about you and how to work with you and your team?

Where to learn more and closing remarks

Yeah, they can find us at Gluten Free society.org. That's our our hub for all things autoimmune and diet related. So if you want to learn more about those to just come over, we've got a bunch of free things.

When you sign up for our newsletter we send you resources. You can also come to us over at YouTube. It's Doctor Peter Osborn on YouTube. And, we do a live Q&A every Thursday.

And we do, a masterclass every Tuesday. So anybody's welcome to come and join. Awesome. Well, thanks so much for your time. Appreciate that Doctor Peter Osborne. Guys.

Check out his website. Check out YouTube and we'll see you in a future interview. Be blessed everybody.