Introduction to Functional Medicine and Inflammation

These days in conventional medicine, we talk about really treating people from a band-aid approach. Hey, you've got this issue. We're going to give you a drug.

Now, functional medicine focuses more on the root cause approach, and one of the really important root causes that doesn't get enough attention is chronic inflammation.

Chronic inflammation is a relevant issue present in the majority of diseases these days, anything from autoimmune inflammatory illnesses, anything that ends with an itis, there's definitely an inflammation component, and we need to do more to address that chronic inflammation.

It's not necessarily a root cause in itself, so it's an ibuprofen deficiency, it is not an NSAID deficiency. There's a reason that the body responds with inflammation, Today, I'm super excited to have Dr.

Tom O'Brien, a longtime friend and mentor on the Thyroid Pharmacists Healing Conversations podcast. I am your host, Dr Isabella Wentz, your thyroid pharmacist.

If you have not heard of Dr Tom, he is somebody that's been a leader and pioneer in the functional medicine world. He was one of the first people that brought awareness, mass awareness to gluten sensitivities.

to the United States and I would say the world at large with his gluten summit. He has been a very compassionate and wildly recognized international speaker talking about topics like autoimmunity, what causes it, how do we reverse it.

He's been talking about environmental toxins, food sensitivities, and overall, he is an inspiration at 73 years young, vibrant, living his best life. And it's such a pleasure to have him here.

Welcome, Dr. Tom. Thank you so much. It's a wonderful introduction. My pleasure. So you were first on my radar with the gluten summit. This was around the time when I had figured out that Hashimoto's and gluten were connected.

Hashimoto's, as many people now know, they didn't believe me at the can be caused by celiac disease. It can sometimes be cause by gluten intolerance. For some people, I have seen Hashimoto's antibodies going away, thyroid function normalize with just getting gluten out of their diet.

for other people they see really significant improvements and symptoms and they might need to do a bit more work, but this is such a relevant issue. I would say about 88% of people with Hashimoto's really, really find that gluten intolerance or sensitivity is driving some of that inflammation and autoimmune inflammation.

We actually have science now on that, remarkable science. You know, I'm a geek, right, and I am reading the literature. Professor Yehuda Schoenfeld in Tel Aviv University in Israel is considered the godfather of predictive autoimmunity.

Now, he's got so many titles or so many accomplishments, but the one that really caught me was when I interviewed him, 26 of the PhDs in immunology who received their PhD from him medical doctors who went on to get a PhD in There are many, many more that have received their PhDs from him, but 26 of them chair departments of immunology in medical schools and hospitals around the world.

Gluten, Hashimoto's, and Autoimmunity

They're his students. This is the Godfather. He published a paper three years ago that showed that 87% of Hashimoto's patients get better on a gluten-free diet.

87%. It was the most common autoimmune disease to respond positively to a Gluten-Free Diet. And that's not a low-gluten diet, you know, You can't be a little pregnant.

You Can't have a Little Glutton. Once your immune system has crossed the line of tolerance and you're making antibodies to gluten, you can't go back and have a little because the impact of just one cheat day is that you'll increase the antibodies once again for two to four months from a single exposure.

So you cannot have little once in a while if your system is fighting gluten. there's other things your immune system could be fighting. So it's fascinating that it was 87%. I did just an outcomes research with some of my clients and readers and I came about 88%, which is 3,000 people or so, but it is remarkably close and it just goes to show a lot of times clinicians in the world are seeing things that may not be yet mainstream because I feel like we were seeing this in 2013, right?

And now some of this research is coming out in 2022, 2023, 2024, so on and so forth, where we're seeing a lot of things, drivers of autoimmunity, drives of inflammation, issues with people dying early because of their lifestyle.

What are some of the things that you're focusing on these days? You've done so much for the functional medicine world and educating and mentoring so many.

Well, you know, I had the privilege of being in Jeff Bland, the father of functional Medicine, in his first talk in Chicago in 1978, and I've been following him ever since.

It just takes me a while to get this. But what we're looking at now Well, the first thing I guess I'd say is that I encourage doctors to stop using the language root cause medicine.

Well we found the root causes of your problems. No, you didn't. There are many causes. there is not a root Cause. However, there's a Root Mechanism. which you introduced here this morning already, and that is it's always inflammation.

The CDC tells us that 14 of the 15 top causes of death are chronic inflammatory diseases. It's your immune system creating inflammation, Now, Mrs. Patient, your immune system is the armed forces in your body.

It's the Army, the Navy, The Air Force, and Marines, a Coast Guard. We call them IGA, IGG, IGE, IgM, cytokines. They're all branches of the Armed Forces there to protect you.

So when you have inflammation, it means that the immune System has been activated to Protect you, so the million dollar question is what is it trying to?

Protect You from and that's what most people are missing. and we're trying to put the inflammation out, quiet down the immune system, when you really shouldn't be suppressing theimmune system most of the time.

You may need some symptomatic relief. So, of course, turmeric should be in everyone's palate, everyone, because it's such a powerful anti-inflammatory for so many reasons.

But it is not a turmeric deficiency that's causing their symptoms, right? Or NSAIDs, as you said, or other anti inflammatories. We have to identify what is your immune system trying to protect you from.

And when you reduce the exposure of whatever that is, whether it's gluten or it is chlorine or its toxic air or mold or accumulated mercury, it just depends on what it.

When you reduced the amount of that exposure, your system starts to calm down. That's why if you go on a gluten-free diet with Hashimoto's, 87% of the time you get better, meaning the antibodies come down because you're

reducing throwing gasoline on the fire.

A lot of symptoms improve as well, so some people will see. Dozens of symptoms, symptoms they didn't realize were connected to Hashimoto's or their immune system will improve inflammation, chronic pain.

They will have more energy, their headaches will go away, they will be able to lose weight effortlessly. And this is something that I've seen time and time again with other autoimmune conditions.

With Hashimoto's specifically oftentimes hormones are given, which can be extremely helpful when somebody has destruction of their thyroid gland. Steroids were kind of trialed and immune modulators aren't really like a big thing.

But one of the concerns I have as a pharmacist with other autoimmune conditions, whether that's ulcerative colitis, even inflammatory conditions like eczema, there people are being put on like heavy duty immune modulating medications, which basically like tell that part of the immune system just to shut up.

Right, right. And that's so dangerous, because it's not the overactive immune systems that are the problem. That's your body trying to protect you. And what you have to do is identify what is it trying to protect you from.

And when you reduce that exposure, the immune system starts to calm down. I mean, it's just 101 science that we forget because we're always chasing the symptoms.

We're trying get the patient to feel better as quickly as possible. There's nothing wrong with that, of course. You may need to take an anti-inflammatory pharmaceutical base for a short period of time.

That's okay. It's okay, but it's not long term. You know, I have so many patients who they have to take their Tylenol or their Advil before they play tennis and then they're fine.

But what they don't understand is they are tearing up their gut. They're getting more permeability, which is going to cause systemic inflammation. If you pull at a chain, the chain always breaks at the weakest link.

You know, it's at one end, in the middle, at your heart, your brain, liver, kidneys, wherever your weak link is. That weak-link is determined by two things.

Your genetics, which you can't do anything about, that's the deck of cards that you were dealt, but then your antecedents. And that is a geek word for how you live your life.

You eat tuna fish three times a week, you likely have mercury toxicity because most of the tuna has mercury in it, right? That's an antecedent. So it's how you live your life and what your weak link is in the chain that determines which link on the chains is going to break.

Well, the pull on chain is inflammation. So you manifest the symptoms of wherever your weak link is. So what we want to do is educate patients, stop pulling on the chain so hard, right?

Which means, well, what does that mean? It means reduce your inflammation. Well, how do I reduce the inflammation if I'm not taking Advil? You find out why is your immune system activated.

Do you have heavy metals? Do have mold exposure? Have you crossed the line of tolerance with wheat? Are you having dairy sensitivities? You have accumulated lead or mercury or arsenic because there's arsenics in the water now.

What is it that your immunity is not one thing? It's usually a number of things. That's why what I say with every patient, in God we trust, All others require data.

You just have to find out, what is it that your immune system is activated trying to protect you from?

Why Root Cause Means Root Mechanism

In my case, like gluten and dairy were very, very significant, but I also had a lot of antecedents. So I grew up in Poland on the Ukrainian border. At age three, I was exposed to Chernobyl, and we know that people exposed They have higher rates of all kinds of thyroid disorders from Hashimoto's to thyroid nodules to Thyroid Cancer.

And then as life went on, I also had other issues. A few things that happened before I got my Hashimoto's diagnosis. I had an Irritable Bowel Syndrome diagnosis, And for me, I kind of thought, okay, there's like a connection there between my gut and my thyroid because I was looking at doing a health timeline and it was like IBS came here.

And then after that, all of these symptoms started worsening. No lie. And all of them came out negative until one of then finally came up positive and it was an infection called blastocystis hominis, which I was like, okay, we can treat that.

A lot of my food sensitivities started lifting. My antibodies dropped and I thought, this is interesting. The antibodies to your thyroid? Exactly. Dropped, yeah.

I started working with thyroid clients and a large percentage of them, about 30% of, them had this infection. And then since that time, there's been research that shows when you have that infection, you've got Hashimoto's, treating that Infection can get the Hashimoto's into remission.

This is one thing that can also make you gluten and dairy sensitive and sensitive to a ton of different foods. But the challenge I have had in recent years Is that that diagnostic test that was very helpful has gone away.

So that company is no longer making stool tests. And, you know, like there have been people that have said, OK, well, I've tested my gut and there's nothing there, but I still have autoimmunity.

I. Still have Hashimoto's. And I think in this beautiful world, we're constantly evolving and we are having new types of tests coming on the market. I know that you're a thought leader and a speaker for various different test companies that have been using for many years with your clients.

What are some of the helpful tools and tests that your using these days? You bet, you bet. So when I'm on stage to introduce this concept of laboratory medicine to doctors, I'll pull out my phone and I will say, You know, Docs, if I had told you 25, 30 years ago, 1990 or so, In a couple of decades, I'm going to have this little black thing in my hand about the size of a walnut.

There's no buttons on it. But if I just run my hands across, i can tell you in five seconds that the air particulate matter here today in Austin is 64. It's not a good day to exercise outside.

There's too many toxins in the air. In Chicago, it's 31. That's a bad day. San Diego, 75. I can tell you anything you want to know in five seconds. Why?

Because I've got the encyclopedia of the world in my hand. And if I had told you that 30 years ago, you would have thought I was watching too much Star Trek.

Oh, yeah. Right? We didn't have a paradigm to understand what was possible and how quickly things can develop. We don't even imagine the possibility of it.

The same technology, the same improvements in science have occurred in laboratory medicine. Most of the doctors are using tests that are 30 years old, 25 years.

And the tests are good. They're helpful, but they're wrong two or three out of 10 times. Completely wrong. Now, I discovered this because I would have patients who absolutely, if they ate wheat, they felt bad, But the test came back negative.

You do the blood test with the laboratories, it comes back, no, see, you're fine. Wheat's not a problem for you. Because the tests would check one peptide, one component of wheat called alpha-glydon.

And 50% of celiacs will be elevated with alpha glydon, but the other 50%, don't. Nobody thinks about that. Well, wait a minute. But we know celiac is the only autoimmune disease that we absolutely know what the primary trigger is.

It's wheat. And I did the test for wheat and it's negative, but you've been diagnosed with celia. Well, and then doctors would just forget about it. You know, they say, oh, well, whatever.

Then they go on to some other line of thinking. But wait, the blood test was negative and there was a problem. Why did that happen? It was the test. Right.

It's a test because we know there's 62 peptides of wheat, poorly digested wheat that can activate the immune systems called immunogenic. There are 62 immunogenetic peptide of poorly-digested wheat.

Not just one. So the question that I began asking is why are we only testing one? But no laboratories were offering better testing. Then now as you know I cut my teeth on celiac and gluten sensitivity and I was talking about this back in 2008. In 2008 I did 26 eight-hour days sponsored by nutrition company Metagenics around the world and we'd have hundreds of doctors in each of the talks and i was saying why are we only testing one and there was nothing else available no other laboratory tests were available and the conundrum of gluten sensitivity.

Well, you test for it and it's negative. And it was eight hours of study after study of the problem and how wheat might manifest in your body. But we don't have the test.

There is no test that's accurate. And I would talk about the main researchers at that time. I called them the four horsemen. You know, there are many, but these four stood out.

There's Stefano Guandelini, University of Chicago, Alessio Fasano at Harvard. At that he was at the University at Maryland, now he's at a Harvard, Peter Green at Columbia, and Joe Murray at Mayo.

And Joe Murray is the guy that has leather patches on the elbows of his jacket, bow ties, and horn rim glasses. You know, the geek of geeks. But his papers are so wonderful to read as a clinician.

Very understandable, very technical stuff, but explained in a way that every doctor can understand them. In January of 2016, Joe Murry's team published an article.

He referred to a new era in laboratory medicine with 97 to 99% sensitivity and 98 to 100% specificity, which means it's right on the money every single time.

And that test, and I read that article, I said, oh my God, this is what I've been hoping for for years. What I'm talking on stage on is that we don't have any tests that are accurate.

I found out the lab, the technology of this, that lab was called Vibrant. So I called them and I asked to speak to the president. Said, well, may I ask what this is about?

You know, they're screening the call. I said, tell them it's Dr. Tom O'Brien. And I tried, you don't see what happened. The guy gets on the phone. Yes, yes, is this the Dr Tom, O Brian?

I say, Well, I don' know if it' about gluten, maybe, because I've been on stage then for eight years already talking about, Yes. How can we help you? Are these your tests?

Yes, yes. Please come visit the laboratory, please. So I went to Silicon Valley and I visited this laboratory. And you have to wear a space suit in the labratory, literally, you know, completely covered because it's silicone chip technology.

It has to be a dust free environment. and it is not some little machine on a table. These are two story tanks and all kinds of just overwhelming equipment.

But they can test six thousand antigens in one blood draw. Six thousand. Now, no doctor has ever thought about that before, right? And they don't, you know, but they'll check many.

with 97 to 99% sensitivity, 98 to 100% specificity. And this is Joe Murray at Mayo, one of the four horsemen that wrote about this. So I knew the credibility of him.

I'd been studying him for years.

Testing for Food Sensitivities and Autoimmune Triggers

Okay, this makes sense to me. Now one more thing happened that set the stage for me to appreciate the quality of this lab. Since 2008, I've had this problem with testing patients and it would come back negative.

So what I started doing was I would do double blinds, meaning when I draw blood on a patient, i would take a second tube of blood out of the same blood draw and I will label that second to Joe Smith.

I would then set both tubes, the patient's name and then Joe Smith, to the same lab in separate containers. And of course, I have to pay for Joe's Smith's blood draw.

You can't charge a patient, you can charge insurance, so I'd pay myself. I did 10 tests with the laboratory I was using this way, and I had to Two or three out of 10 times, the results were so different, you didn't know which one to use.

Wait, what? What? Do I talk to the patient about the one with their name on it that says everything's okay? Or do I talked to patient with the name Joe Smith that say you got a problem here?

Same blood, same patient, draw. Two or three out of ten times that happened. And I was just, well, wait, that's what I knew we were dealing with from 2008 until, no, I started doing this in 2010. So 2010 to 2016, so for that five to six years I wasn't trusting the blood tests anymore.

And so my messaging to patients was explaining this predicament that the blood test might be right. They might not, but let's just assume that this is a problem for now.

A trial period of a couple of months won't hurt you. And, so from that perspective, patients were compliant and they'd see the results come there. Hashimoto's antibodies go down or the rheumatoid or whatever it should be.

I read this paper in January of 2016 about a new era in laboratory medicine and silicone chip technology and my experience at this laboratory. Now I knew that I could trust my test results and I've done five double blinds with them and it comes out within two to three percent every time.

So I know we now have the technology available to have accurate measurements about autoimmune antibodies, about food sensitivities, and about gut issues.

And you've referred to the gut zoomer from this laboratory. I don't work for the laboratory, I wish I had stock in the company. It's a game changer for doctors to use this technology because it's right on the money every single time.

Yeah, it's been quite impressive because I know working with clients for so many years, people would be celiac negative and they would even get certain food sensitivity tests and say, you're not sensitive to gluten, not to wheat.

And I would say let's just try to do an elimination diet. They would go, holy cow, I feel so much better. And I think you can do that sometimes, and it works really, really well.

But it's really nice to actually know what you are reacting to. Well, the danger in the elimination diet, I take the Elimination Diet is good, but there's a danger.

The danger is it is based on how you feel. I really don't care how your feel, Mrs. Patient. And, of course, in terms of clinical decision making, I don't care if you don' feel better when you're gluten free because if your immune system is fighting gluten and the weak link in your chain is the collagen in you joints, you are going to continue developing rheumatoid arthritis until you kill off so much collagen and your joints.

Now it's obvious and you have symptoms. So symptom relief is not the indicator. of whether or not it's good for you. But if you get symptom relief, it is a validator.

So it will validate that this is, well, I can have it once in a while and I don't feel bad. No, you can't. You can be a little pregnant. Yeah, it's kind of like you might not actually feel it in your body, but then your numbers might show it.

You talk a lot about oral tolerance and how we can lose that even starting in utero. Can you share more about that? The loss of, so tolerance means you can have a little insult in your body and it doesn't have any type of a negative effect.

Not just how you feel, but internally in terms of immune response or anything. So with my son, I have four and a half year old son and I give him a Little Wheat.

About once every couple of months I'll give them a cracker or he can one piece of regular pizza. Right? Because we always have gluten-free pizza and the restaurants around us cater to that and all that.

But every once in a while, he's, daddy, can I have a piece of Steve's pizza? And I was, yeah. And he'll have piece Steve pizza, right? Regular wheat-based pizza.

I want to prime his system a little bit. But when you cross the line of tolerance, and your immune system is now fighting wheat, you can't have any, right?

But to encourage tolerance you expose a little of a common exposure item, a comment allergen like wheat. And your body says, oh, that's just wheat it's okay, because you're not getting a lot of it.

You're not getting the buildup of it and all of the inflammation, right? So your immune system doesn't recognize it. Well, your system recognizes it, but it doesn' activate.

It doesn''t activate to protect you. And that's what I want. I wanted to say, oh, that''s an annoyance that guy, But he's fine. Let him go. You know, That'''s what we want, and I don'''t know what's going to happen.

But we keep checking my son every six months to a year to make sure there's no antibodies to wheat that are elevated, with what were doing. So tolerance means your body can handle something without calling out the reserves, without getting all inflamed, with producing extra inflammatory models.

It's like you've got to, especially in middle ages, you have to do some weight lifting. You have some heavy weights that you're doing, heavy for your bodies, to build your strength to go into your senior years.

A component of exercise is to have a little bit of that. You're building tolerance for your senior years. So you want to build tolerance. For your immune system.

But when your system gets activated to fight something, that's a loss of oral tolerance and that is the first domino. The very first Domino in the whole inflammatory cascade is a Loss of Oral Tolerance.

there's no symptoms to that. It's really testing to identify. And what we find now is it's beginning in utero that people's immune systems are becoming compromised in the uterus.

I'll give you two examples. Chicago 2016. You and I are both from Chicago, right? 2016 They looked at 346 women in the eighth month of pregnancy. And they did urine tests to measure how many phthalates are there in their urine.

Phthalate are chemicals used to mold plastic, like plastic water bottles, nail polish, but what hardens your nail Polish is the plastics and the phalates in it.

and the phthalates are in your bloodstream in four to five minutes when you apply nail polish, unless you're using organic nail Polish, right? So they measured the phallate levels in 346 women and they put the results into categories, four categories.

The least amount all the way up to the most. And they followed the offspring of those pregnancies. When the children turned seven years old, they did Wechsler IQ tests on them, the official IQ test, right?

As you know, there's not much in medicine that's all or every. This was every, Every child whose mother was in the highest category of phthalates in urine in pregnancy compared to the children in lowest category, their IQ was 7 points lower.

6.7 to 7.4 points lower. Now that doesn't mean anything to anybody until you understand a one-point difference in IQ is noticeable. A seven- point difference is the difference between a child working really hard getting straight A's in school and a kid working hard really working getting a straight C's at school.

This child doesn't have a chance in hell of ever excelling in school because their brain never developed to its genetic potential. Now just Google phallates and neurogenesis, and here come the studies.

The higher the phthalate level, the more inhibition of the brain cells and the nervous system cells connecting the way they're supposed to and developing to whatever that person's genetic potential is, right?

So it's mom's phalate-level that impacted on baby's brain development. Study number two. at a fertility center in France. And they published this not quite two months ago, probably 18, 20 months.

They looked at men and they measured their glyphosate levels. Glyphasate is the chemical used in almost all conventional fruits and vegetables. If glyphasate were elevated or were present in the blood, of these men at fertility centers, the level of glyphosates was four-fold higher, that's 300 percent higher in the semen than in blood, meaning the glyphasate levels were accumulating in testicles.

and the testicles producing the semen and producing this sperm. So now and when glyphosate levels are elevated, it causes what's called oxidative damage.

Oral Tolerance and Early-Life Toxic Exposures

It damages the sperm So now dad, future dad who's having relations with mom and the sperm fertilizes the egg, if it's one of those oxidatively damaged sperm that fertilize the eggs is called fetal programming.

And that baby does not develop to whatever its potential is because of the damage sperm. And there are more and more studies like that coming out now.

And when you see it, you go, oh my God. So now every parent, future parent every person of childbearing age, I want to do the tests. I want to see how many toxins are accumulating in your body right now.

They're just there. Well, I feel fine. I don't care how you feel. i care about the development of your future children's brains and bodies. That's what we're looking at here.

Are you ready? And I want every person of childbearing age not to try for pregnancy until they've done a couple simple tests with this 97 to 99 percent accuracy and 98 to 100 percent specificity that comes from silicone chip technology.

So toxins can lead to the loss of oral tolerance. Correct. And you can actually test for toxins. I know I did. It was called total tox. Total tox burden is one of the tests that is essential before I'll talk to a patient.

I'll see one patient every couple of weeks by Zoom, because I love keeping my hands in there, and I loved being an investigator to figure out what's, I want five years of their records before I ever talk to them, right?

And so I can see the pattern of what has been going on, but there's four tests I wanna done before ever I talk them. So that when I talked to, them I've got some understanding of where they currently are right now.

And then I will ask them okay, what are your symptoms? But I understand what's going on in their body, and those four tests are the total tox burden. That's a simple urine test that looks at 18 heavy metals, 28 mycotoxins, that's the exhaust of mold in your body.

I think is thirty-eight chemicals, I thinks thirty six or thirty eight different chemicals called organophosphates, insecticides, pesticides and glyphosate.

So we'll look at that and I've got that information before I ever see them. And so usually I know what the primary triggers are, pulling on their chain, creating the inflammation in their body that's manifesting at the weak link.

Whatever their weak-link is, you can identify this stuff in advance. So the first test is a total tox burden, which you've done, apparently you have done yourself.

The Wheat Zoomer, because it's the original test from this laboratory that identifies most accurate identification of an immune system fighting the peptides of wheat.

It looks at 28 different markers, not just one, right? The Neurozoomer Plus. This is so important to consider because, and it looks like 55 markers of inflammation in your brain.

Well, I don't have any brain symptoms. No, Not yet. And the disease that terrifies most of us more than any other is dementia and Alzheimer's. Well, your brain is about 2% of your body weight.

Okay. But it has 16 to 18% percent of the body blood at any one time. Well, wait, what? That means it's kind of sitting and moving slowly through all those little blood vessels in the brain.

And if you've got inflammation in your bloodstream because of everything we're talking about here, What tissue is likely to demonstrate the damage first?

It's your brain, but we don't want to talk about brain because it terrifies us, right? So you do this test of 55 markers of inflammation your in brain and the fourth test is the gut zoomer.

So the gut zoomer, the wheat zoom, or the neural zoom plus, and the total tox burden. You do those four tests. And there are many other problems you could have.

The egg zoom or dairy zoom. There's many others. But you do these four test and you've got a really likely overview of what's fueling the inflammation in this person's body right now that's pulling at their chain, manifesting at the weak link of their thyroid.

or their joints or the myelin in their nerves causing MS. I mean, it doesn't matter what the symptoms are. We're going back to 14 of the 15 top causes of death are chronic inflammatory diseases.

So what is it that your immune system is trying to protect you from? That's the kind of line of thinking I want every practitioner to include in their evaluations for patients because then we can give patients a much bigger understanding of what's in front of them so they can have a vibrant, dynamic, healthy life.

So interestingly, I'm already gluten-free, so I feel like I've done three out of four. I definitely will have to do the

neural zoomer, but I wanted to ask you.

So I have been living a pretty clean lifestyle and I was able to get myself into remission in 2013 with Hashimoto's And then sort of got closer to the perimenopause age during the pandemic.

And all of a sudden, my husband and I wanted to have another baby, but my cycles were off and there was just a lot of odd symptoms going on. ended up kind of going down the rabbit hole.

I was like, well, at first I like looking at all the, is this Hashimoto's? You know, checking all my dots for what I would do with a client with Hashimoto's, but I had to look a little bit deeper and I have some mycotoxin exposure, I've had a variety of different toxins in my system, including glyphosate, and i was eating mostly organic foods.

Yes, not in restaurants. I wasn't eating in restaurants. Oh, you weren't? Oh that's interesting. Yeah, it's in the air. They find it now at the North Pole.

H-O-A. Our neighborhood was spraying the grasses with glyphosate and Roundup and all of that. And it was just, I was spending so much time outdoors. Walking and exercising.

Doing all the things with the baby and playing in So I think it came from there and I went through a process to try to get things out of my system. By the time I did the the tox burden, it was actually really looked really good.

So, I was very proud of that. Congratulations. Yes. Thank you. But it's hard to It's not an easy process and I would love to know, I could share about what I did.

Sauna was a big part of that. I done an acetylcysteine and liver support, gallbladder support and just trying to figure out if there were exposures in my environment, air purifiers.

These are all things, foundational things that I think a lot of people can benefit from anyway. What are some of the ways that you work with people to help move, let's say, glyphosate?

Because I so many people have that in our system, and that can cause gluten sensitivity, it could cause fertility issues, It can can cancer, right? It could a whole host of health challenges.

Yes. I saw an interview with the director of science for Monsanto. An interview was about glyphosate and the product Roundup. And this doctor was saying how safe it was that you could drink it.

And the interviewer said, well, I'm glad you said that, doctor, because I happen to have, and he reached behind his chair and pulls out a gallon of Roundup.

He said may I pour some into a glass so you drink because you've just said you can drink. The guy stood up and said this interview is over and left. Wow.

That's the kind of misleading information that unfortunately we're all vulnerable to. It's just not true. So when we are dealing with glyphosate, we go for the big boys first.

What does that mean? It means of course you want to eat organic. Of course, and if you don't have access to organic all the time or you can't afford to eat the organic that's available all time, then you go to companies like Truly Free and you get their Veggie Wash.

And what do you do with that? Well, when you bring your vegetables, your conventional fruits and vegetables home from the supermarket, you grab that big hunk of broccoli.

You spray it with the truly free veggie wash and you just dip it in the thing of water and wow, look at that. Wow, because it takes the wax off and over 90% of the chemicals that are on the fruit and vegetable.

I mean, it's a pain in butt to do it, right? But then you put the broccoli head in a dish rack so it dries upside down, the water drips out, or the fruits and vegetables when you're spraying them and you rinse them off, you just let them sit for a few hours and then wrap them in paper towel and put them into the refrigerator, right?

They'll stay fresh for you. But that's the primary source for people. Next is your microbiome. Your microbiomes has the capacity of binding and pulling out some of the glyphosate that you're exposed to.

Not all of it, but some it. Which means you want to do a gut zoomer and see. Do you have the diversity of the microbiome? Do have important keystone species in balance there?

Between those two, you're going to have a dramatic reduction in your exposures. That's not that hard to do once you get the system down. I recommend people go to the local farmer's market when it's in season, meet the farmers there that are doing organic, and say, you know, can I come out and visit with my children?

I'd love to see the farm. And then you build a relationship, And you've got access to those fruits and vegetables year-round when available. at the market or you might form a community that buys a grass-fed organic cow and you split it within a couple of families and when the cow is harvested you have a freezer where you put all the grass fed meats in or the chickens.

So you start thinking a little differently of how to store and hold higher quality food for you and your family. You had mentioned like a shocking statistic from a study that was done in women eating fruits and vegetables and comparing them to women who didn't eat as many fruit and vegetable and how that impacted their fertility.

This was, this is a game changing paradigm shifting study. In the journal, the American medical association, arguably the number one journal in the English language or one of the top couple.

They published a study in 2019 from Harvard, and the editors of the journal made a comment. They said, this is an elegant study using sophisticated biomarkers to demonstrate their point.

And as you know, the editors of the journal, The American Medical Association, don't say that very often. It's a very political thing, getting published in some of these major journals, right?

And they don' t give stamps of approval like that. Very often, but in this they did. And I said, OK, can't argue with this one. OK. And they looked at women going to fertility centers.

And as you know, perhaps some of your friends are spending tens of thousands of dollars doing whatever they can to help start a family. I mean, it's a beautiful goal that they've got.

They divided, they ruled out all of the essential well-known risk factors, alcohol consumption, cigarettes, food selections, sugars, socioeconomic class, race, all that, exercise, and they went down to one topic.

How many servings of fruits and vegetables is the woman eating a day during the implantation period? Okay. and the results were shocking. They put them in four categories from the least to the most, servings per day.

And the result, wait, what?

Reducing Glyphosate and Environmental Toxins

What? Those women in the highest category of fruit and vegetable consumption compared to those women, in lowest category, of fruits and vegetables consumption, those in highest categories had an 18% less likelihood of successful implantation of pregnancy.

And if they did have successful implantation, it was a 26% less likelihood of a live birth. They had more miscarriages and more stillbirths. Wait, what?

What? The more fruits and vegetables they ate, the worse the outcome. Yes. Seems backwards, right? It does seem backwards. That goes against everything we've ever known.

However, there was a group of women in that study who were eating organic and in the category the results were the exact opposite. The more fruits and vegetables, the more successful the implantation, and the most successful healthy live birth.

Okay? And the best news of all was that women were put in a category of organic consumption. if they were eating three meals a week, organic. Not three meal a day, but three a meals week.

That's all it took to completely change the direction of successful implantation, successful pregnancy, and healthy delivery. Now, the researchers didn't address that.

Why only three meals a week out of 21 meals? Why, you know, three a day? why only 3 a weak? But I think it was because if you're eating organic whenever you can, You've got organic shampoo in your shower, you've organic dish washing detergent pellets, organic detergents for your clothes.

You're trying. So this is really good news for people. If you just try, if you do a little bit, three meals a week out of 21 meals organic, You completely reverse the outcomes of what you want.

That's really good news in this study. Yeah, that's amazing that we can find that information. I know Dr. Sheila Kilbane, who's an amazing pediatrician, helps so many families reverse things like eczema.

She talks about a bucket. And you essentially are born with a pocket of a certain size. and the more different toxins you put into that bucket, the overflow you're going to have.

Because some people might be like, oh, organic doesn't matter or nail polish doesn t matter, or XYZ doesn s matter. But it's like going back, it s the total tox burden that you have, right?

That s exactly right. And you re referring to oral tolerance, The Bucket, Now we have young people in their 20s and 30s whose moms were very toxic during their pregnancy and didn't know it.

Baby was born okay, but the oral tolerance of this generation is much lower than the oil tolerance two decades ago. So they can handle less of these inflammatory compounds than their parents could or their grandparents.

What are some of the toxins that you see come up on tests for people that make a big impact on their health? Extremely common is, of course, gluten, the wheat zoomer.

But in terms of total tox burden, extremely common are organophosphates. the insecticides and pesticides on conventional fruits and vegetables, and the mycotoxins.

Heavy metals come up once in a while. Great to find them, each one requires a little different way of getting them out of there, but great to identify.

But the most common ones are the organophosphates and mycotoxin. Can you tell us more about what they might do to a person's health or some of the patterns that you've identified?

Oh my goodness, they pull on the chain. So it goes back to that same concept of when your immune system says you cross tolerance with exposure to phthalates.

So when you've crossed tolerance with exposure to the chemicals used to mold plastics, your immune system says, I've got to fight these plastics. And then that's pulling on the chain that is going to manifest with the weak link in the chains.

So for some people, it's going manifest as cognitive problems, memory problems or difficulty in focusing, for some

people it's going to manifest as skin lesions.

For some, people is going manifest autoimmune thyroid antibodies. It doesn't matter what the symptoms are, it is the mechanism that we have to look at.

So when people say, well, I don't have problems with my joints and my brain is working fine, then you think you're okay. But you're going to be surprised, you know, because maybe your genetic weak link is in your gallbladder.

Well, yeah, I got a little bloating once in a while or a bit of gas, but it's no big deal at all, until one day you get diagnosed with stones or you got diagnosed by gall bladder cancer or something.

The symptoms don't matter as much as identifying what's pulling on the chain. And I don''t mean that in a way to minimize the symptoms, but we are so accustomed to identifying if we have a problem in our bodies by the systems we had and we think we're fine.

I would bet a thousand dollars if who are going to be at this symposium here in Austin this weekend that you and I are attending, if we just pick 10, okay, one, two, three, four, five, 10 of them and ran those four tests on them, they will be shocked at the results.

They'll be blown away. I had no idea this was going on in my body. So one of the things I say in every talk I give around the world is that, you don't know anyone's health better than your own.

and your spouse. Do these tests on yourselves first. Get startled and scared and then you allocate one hour a week to learn what to do about all this because doctors, you know, we've got our routines and we don't have time to change our routine very much.

We've our thing, the way we do stuff. But you allocate one hour a week to learn more about that specific mycotoxin, where it comes from, how am I going to test for it?

How do I get out of my body? And then next week, one-hour to look at the heavy metal arsenic. Well, oh, it's in rice? Well I eat a lot of rice, but it is organic rice.

It still has arsenate in it, if it it organic, right? So you learn what to do about each of these things, 1 hour-a-week. It actually is the subtitle of my most recent book, You Can Fix Your Brain.

That's the title of the book. And you'll appreciate I argued with Rodale for two weeks on the titled. They didn't like that title. I thought that's. The title, because that the message you can fix your brain.

But the subtitles is just one hour a week to the best memory, productivity and sleep you've ever had. because a patient's gonna be overwhelmed when they listen to this discussion you and I are having.

They don't know where to start, right? But when you allocate one hour a week, and one week you learn about nail polish, the phthalates are in my bloodstream, so you spend an hour to look at three organic cosmetic companies, And you order something and you pay with your credit card.

It took an our. To you're done for the week and next week when you've learned that storing your food in plastic containers in the refrigerator The next day that food has phthalates in it from the plastic container You order glass containers and but and I give you three urls in The book, you know miles kimball and amazon and whoever the third one was.

I don't remember but You know, I like those and you order three round ones and two square ones And one for The pie you pay with your credit card. It took an hour But never again will you poison your family with minute amounts of these toxins when you're serving leftovers, right?

Give the Tupperware to your husband to store nails in the garage. You know, that's what it's good for. And then

next week, you learn about which houseplants clean the air.

and then next week you learn about the nutrition to pull the mold out that you found in your total tox burden. So every week, you allocate one hour and I tell the doctors this on stage because they have to learn how to interpret these tests and what to do about these things that they don't know much about.

If you guys allocate 1 hour a week in 6 months, You've got this. You got them for the rest of your career. Your focusing, your including an essential concept that most of you peers will never think about.

I love how you break it down into simple lifestyle changes because sometimes healing can feel so overwhelming, especially if you're fatigued and overwhelmed.

And I also love you talked about it's not actually going to be like a specific symptom tied to a particular toxin per se. There might be some patterns there, but I know I got my Hashimoto's into remission and then my husband was diagnosed with ulcerative colitis and I was very intimidated, but yet a lot of the same methods for healing Hashimoto's applied to healing his inflammatory bowel disease.

And you checked one at a time. You addressed one thing at time, it's an accumulative process. We are so used and we've been trained on all of the platforms to take this pill and you're better now.

And all the pictures, you know, the people on the beach, or the babes on a beach and the buff guys and well, but then the narrator saying, warning, this medication may cause liver damage and heart disease.

But we don't pay attention to what we're listening to because we see the happy people and, we know the good looking, happy, people, and we want that. So then we are trained to think instantaneous results by taking this pill.

It's a process and when I see patients I say you know patients come when when i had my practice and I'd see them in person. On a first visit, I'd recommend some tests and they do all the tests.

I say, okay, so to begin with, until the test results come back, let's just try for a couple of weeks a gluten-free, dairy-free diet. Let's try it and see what happens for you.

And come on back and we'll have the results in a few weeks. And then they'd come back and they're always nervous about test results. I'm nervous when I am looking at my own test result.

Do I have cancer? We're so trained to go to the worst possible outcome in our minds for test-results. So they come in and their nervous. Constantly. It's always this way.

And I look at the test and I'll say, good news! You're a mess. You, you're mess." And they look at me and I said, this is great because now we know what's going on.

And this one will take a couple of months to clean up. This one would take year and a half. It's gonna take awhile.

Fertility, Organic Food, and Toxic Burden

Now we know, you know in God we trust, all others require data. And once you have the data and you can target because of the many years that you've been in practice and I've in been practice, this will take about three, four months.

But we won't retest for six months, save the money. You know don't re-test early, it's a waste of time, but this one will this long and this is long. Then you could lay out a vision for people.

And that's how it was when, apparently with your husband, when you identified colitis is that, oh my God, that is overwhelming, what do you do? But you already had the experience, well let's try this, and let us include this and do that.

And so it is a step by step process. When people understand that and that you're calming down the immune system, you are calming the itis of ulcerative colitis, then you start seeing the changes that your looking for.

Yeah, he's been written remission for over seven years now. It took us a few months to get there, but it is incredible because this stuff works. And I know a lot of times I hear people say, I've done all the tests and all of my tests are normal.

Yes. I'm like, really? Have you done the all tests? Right. Have done you the right tests, right? Exactly. Because the test can make a difference. One of the trends that I'm seeing right now with clients or even just my social media followers is parasite cleanse.

Let's do a parasite cleans and I am trying to explain to people that it can be very tricky because there is like a particular cleanse that might work for parasite A and parasite B but not for Parasite C.

And so, I think that can be very tricky where I feel like, for me, getting the test and figuring out exactly what you have is going to be so much more helpful than just doing a random cleanse.

I opened my practice on Valentine's Day in 1980 in Chicago. And at that time, parasites were a big topic. And many holistic healthcare practitioners were doing parasite cleanses on everybody, everybody.

And the technology wasn't so good. back then to be specific. So I call it shotgun medicine. You know, they were shotgunning it in. But in today's world, you don't have to do that ever, that the testing is now so accurate.

In God we trust. All others require data, right? You get the right data. Then you know exactly what to And so you're absolutely right that it's a different world now, that we can identify specifically where to focus our attention.

And sometimes when I talk to people, they might be like, oh, I already did a parasite cleanse, or I did an elimination diet, already a food sensitivity test, and I'm still stuck.

Sometimes my advice might well, let's actually not check that off of the list. I think doing a generalized liver support program is great for people supporting their adrenals through life cell change.

These are great things they can do supporting your gut health. But a lot of times just because you had some bone broth and maybe you did a parasite cleanse for some people that can work wonders.

Absolutely. Other people like that might still be something that they need to dig deeper into. You ever backed out of a driveway and said, what's wrong with this car?

You know, it's going backwards, but not very well. I said what is wrong? The emergency brake. And then you let go of the emergency break and you back up just fine.

That person that you've just referred to, well, I've done this and I have done that. Great. But where's the Emergency Brake? Why is it not producing the results that you hoped it would?

You just have to identify where the emergency breaks are. That's the concept, is where are the emergencies breaks? Yeah. Yeah, absolutely. I thought you were going to ask me if I ever backed out of my driveway and hit something.

And for that, I say no comment. No comment, right? I understand that one. That I think we all have probably. You can ask my husband about that. He'll be more truthful.

Oh, yes. Yes. purchase a specific motorcycle that was a very rare motorcycle, that had just been announced. This was back in 2000 and I got the bike. I've been riding since I was 12 years old, right?

I I took it home, parked it in the garage, and my wife pulled into the garage and hit it right away and I dent in the

fender right way and i thought okay okay uh that sometimes when we're not quite paying attention we aren't looking with wide eyes because she saw it there but well what's that and then but are you backing out and you see the garbage can but then you're looking at something and they you forgot it's there you know that our attention is diverted somewhere else.

And in healthcare, that's why you always identify the emergency breaks. Always. Because that is where you begin, is when the emergencies breaks are causing the hesitancy for the effort you are putting out.

I mean, you're trying, but you aren't getting the results you want. Okay? What's the emergence breaks that are not allowing it to work in your case? So going back to hitting the car, do you think I should get a neural zoomer?

Absolutely, I think everyone should get a neural zoom because it'll scare the hell out of you. For everyone, it does. And they're very, very accurate tests.

I asked my friends in functional medicine, who are very famous practitioners, how often do you see a normal neural Zoomer? They go, you don't. Now, on a second or third test, it better be normal if you've done the right work.

But everyone, because we're breathing chemtrails, we are living in indoor pollution that's usually worse than outdoor pollution. You know, the only nerves in the body that go into the brain And as a neurologist, they say, oh yeah, I remember hearing about that in school, but they never think about it.

The only nerves in the body that go into the brain with no filter, no screen, No division at all are the nerves of smell, the olfactory nerves. And they go right back past the memory center.

It's the first place they got past to the Memory Center. Why? Because it was a life saving mechanism for our ancestors. You better be able to smell saber-toothed tiger really quick.

And if you can't, they got you. You're dead. you didn't reproduce. Or before agriculture, our ancestors were nomads. They followed the herds for food.

Their primary concern is where's their food? And so every day they find something. they pick it up. First they sniff it. Then they nibble at it, then they eat it Right?

But the sense of smell was a life-saving mechanism. And you had to be able to smell saber-tooth tiger and respond that quick. If not, you die. Right. There's no filter for the olfactory nerves.

So what are you smelling every day? You think these chemtrails are neutral. Of course not. Or the indoor air pollution with all of the toxins, the asbestos or the plastics.

You know, when people have come back and their tests show they're very high in phthalates causing the inflammation in their body that may be manifesting with six or seven different elevated antibodies to their brain.

pulling on the chain, weak link is the brain, and there's six or seven of those phallates, you go, oh my gosh, okay, let's talk about the phalates in your house.

Let's about air filtration systems, but do you have plastic blinds in you house? Well, yeah. So one of the targets will be to get them out of there and put wood blind in or cloth, right, reduce the plastic wherever you can.

But you don't know what to recommend until you know where the emergency brakes are. So that's the concept. That's why testing is so important now that we have tests that are so accurate.

Yeah, then we know where to focus on and what detective work we might need to do. I know I see some people that might be living a very, very clean lifestyle, but for example, they might mold exposed and all their hair care is organic and their skin care and so on.

But they may have mold growing in their home. And they might have focused, you know, kind of on the wrong things. And that can be quite devastating when you're a healthy person trying to live a health lifestyle.

When I was living in California, San Diego, I would do consults on a patient every once in a while, and we got a call one day from the secretary of a president of one of the larger banks in Chicago.

They wanted to send their jet to San Diego to come get me to treat this person. I said, no, I'm not going to Chicago. No, was it winter? I don't know.

And I remember the time of year. It's never winter in San Diego. Right. So. But I. Said no. Not going do that. They can come here. Uh, so he decided he and his wife decided to fly out to San Francisco, rent a little RV and drive the coast, do highway one down to san diego.

So they made a holiday out of it, which was really great. Turns out that he had to take a leave of absence because his brain wasn't working right anymore.

He wasn' making the right decisions. And he had been to three or four world famous centers. They'd done every test they could find and nothing, nothing was working.

Absolutely nothing. and they had heard about me and his wife's friend had been a patient of mine and nice results, which motivated them to come talk to me.

Parasites, Mold, and Hidden Emergency Brakes

So I don't have an office where I was living, so I said, I'll meet him at a coffee shop. And they're like, what? I'm gonna meet at coffee shops. They sent me all the records ahead of time and I've reviewed five years of records, Which I always do, before I talk a person.

He sits down. I knew within five minutes what the problem was, I knew right away. So we order coffee and we sit down, we're beginning our conversation, and I'm looking very official.

I like writing his name down and asking a few simple questions. And I said, so when did your basement flood? What? How did you know my basement flooded?

When did it flood, three years ago? And when all of this began? About two years. And could that have something to do with it? Their basement flooded, you know, Chicago, their basement, flooded and they like dried up all the carpet down there and the dehumidifiers and all that.

But the drywall got wet. And on the other side of the drywall, when they checked, there was black mold all the way up and down the wall. But it was a beautiful home in one of nice suburbs of Chicago on North Shore.

There was no smell that they could identify. It was all black on a wall and he was breathing that and his genetic vulnerability was his brain. So they went home and checked, and sure enough, there it was.

And with a couple months later, you get a nice letter, say thanks so very much. But you have to identify the emergency breaks. You have identify what is it.

It's not obvious all the time. So it's just an investigative exercise. Now, so you had reviewed the five years of records. Were there red flags for you?

No, no. They were very healthy because the wife was very much into holistic health care and they were eating organic whenever they could and had glass of wine couple times a week, not smokers, you know, healthy lifestyle.

Nothing was evident there, nothing. And the MRIs were negative, a couple of little white matter lesions on the brain, and we talked about that and what was going on there and how to slow down that process.

But there were no other red flags, no sensitivities to gluten. They were both gluten-free already. So they were working it. But they thought they cleaned their basement adequately and they hadn't.

And was it a test that helped you recognize that? No, I just saw it right away. I'm a bit of an intuitive, but sometimes you can see things like that.

Yeah, I can see a lot of like nutrient deficiencies in people and just yes, when you see enough people with presenting the same issues, you can start to develop some patterns.

Yes. White matter lesions. I have been you know, there's a lots of fun diagnostics out there where you could go and get a full body scan. And this is something that comes up occasionally for people.

What do you recommend for that? First is the wheat tumor. very common that if the weak link in your chain is your brain which becomes evident when you do a neural zoom or plus and you see that the most common thing I have found that reduces you know we had a patient in London and diagnosed with MS in her late 20s early 30s by the time I met her she had to use a walker and she was following the traditional neurology recommendations and taking the medications and it was progressing but perhaps not as quickly as others do but still progressing.

Then her 16 year old son got diagnosed with MS. That changed her. She decided she understood the course of what was happening to her and she accepted it and was trying to live her life.

But with her son, she said, that's it. I'm going to do this alternative stuff. Whatever they say, I'll do it, and if it works for me, then perhaps it'll work for my son.

Mama Bear. Exactly right. And then you see the MRIs and she had eight lesions on her brain. She's got a walker. And, then, you'll see her when I interviewed her two and a half years later and, she's doing Pilates and walking in the mountains three times a week and there were two lesion on our brain and the primary trigger was gluten, gluten sensitivity that manifested with no other symptoms that she identified but she had some other things we had to work on also but the primarily was Gluten.

But white matter lesions are just An indicator of the weak link in your chain is, one of weak links in the chain, is your brain. So the question is what's pulling on the chains?

It's not always one thing. White matter lesions can be caused by mold sensitivities. You know, it's just what is pulling the on chain? What's causing the inflammation that's manifesting in you genetically sensitive body as white matter legions in So would you say inflammation is not a root cause?

It's a route mechanism. It is no root causes to disease. In my mind, there is one root mechanism, but there are many causes of what might produce that mechanism of inflammation in your body.

When I wrote my first book, it was The Root Cause of Hashimoto's. And initially on that journey, I was looking for the one thing, right? Because I as a trained pharmacist and it like one pill for every ill.

Yes. Then I went through that process. There were a handful of times where you can say, for this person, celiac disease and gluten was the underlying root cause of hashimoto.

For this other person. let's say it was an H. pylori infection or this one nutrient deficiency, but for most people, it is a pattern, right? There's a lot of different things that are out of balance where they need to be adjusted and fixed in order to get a person fully into remission.

And I kind of learned that over the the last 12 years plus of writing my first book and starting my investigative work into functional medicine and studying that where it would be nice if there was just one cause.

Well, that's what we're trying to think of from the pharmaceutical marketing is one cost. Just take this pill and you're fine. And so we've all been trained that way.

I mean, what's the name of that box in the bathroom with the mirror on it? Cabinet? What kind of cabinet? Bathroom cabinet? Medicine cabinet. Medicine Cabinet.

It's called a medicine cabinet, why isn't it called the health cabinet Why is it called a medicine cap? They want us to think there's one thing for each symptom.

And it's not that way. It's just not. That way and so your experience and the way you're summarizing it now is exactly what I'm hoping to trigger all clinicians to.

From that perspective, there are multiple causes for common symptoms. Absolutely. And you have to put on a bit of a detective hat. Yes. Especially if you've have somebody that's been struggling for a while, maybe they've already tried a few things, right?

Yes, exactly right. What are your thoughts on endotoxin? My primary topic on stage this year has been on an endo-toxin. Endo means inside, so inside toxins.

And what this term applies to is called lipopolysaccharides, big word, LPS. Lps is the vest on bad bacteria called gram-negative bacteria. And LPS is the vest that the bacteria has developed over thousands and thousands of years.

So when the bacterial goes into a mammal, whether human, monkey, dog, cat, it goes in to a mammals to live and reproduce, how does the bacterium that was successful in not being killed off by the mammal's immune system developed this vest called LPS, lipopolysaccharide.

And when Lps gets inside your body, it's called endotoxin. Now, okay, so, endo toxin is the primary cause of the number one diagnosis of mortality in elders in hospitals called sepsis.

It's endotoxin accumulation. My mother died of sepsis, and I didn't know any of this at the time. Now I do, right? So the goal is to reduce the amount of LPS in your body.

And that's one of the tests I check everyone for their Lps levels. That's on the wheat zoomer. It's the most comprehensive test for leaky gut of any test I know out there are included in the Wheat Zoomer, which includes LPs.

Endotoxin, Leaky Gut, and Gut Repair

And we all have LPS in our bodies. In one study that came out of Italy, they looked at 79 healthy centenarians, meaning no diseases whatsoever. Fully functional people.

Still walking with the sheep in the mountains, still grandma in charge of the kids, getting ready for school or whatever. But 79, healthy, centenerians.

They compared them to 148, I think it was, not sure of the number, people under the age of 40 who had had a heart attack and survived, and 178 people over 40 that were healthy.

So they looked at these three groups, 79 centenarians, over 100, fully healthy, 178 people that had a heart attack before the age of 40, and 179 healthy people under the 40. The things that were common that centenarians had that the others did not was low endotoxin levels and low leaky gut markers.

To understand the value of that, I want to tell you about Alessio Fasano. Dr. Fasano, professor of medicine, Harvard Medical School, Professor of Nutrition Harvard School of Public Health, the chief of pediatric gastroenterology at Mass General at Harvard, The director of the Celiac Research Center at the Harvard.

The Director of mucosal immunology as the lining of your gut, lining your brain, and lining up your lungs at harvard. Five titles. Any one title is a lifelong dream for someone at the top of their game.

He's got five. We think he'll win the Nobel Prize. we hope he does because he and his team are the group that identified the mechanism that causes this thing called leaky gut.

And they did that in 1997 and they've been talking about it for 25 years. Fasano, there's over 350 medical articles in major journals by Fasano. And you'll see a journal article, there will be eight authors on the journal and the last one, Alessio Fasanio, the boss with the stamp of approval.

Okay, this is ready to go, right? He's always so careful about what he says, always. So he's not misquoted. This article he wrote himself. We've got an article, very rare, from one of the greats in the field of thinkers in healthcare, in comprehensive healthcare.

And he wrote this article himself. The title of article? All disease begins in, the quote, leaky gut. Roll the protein zonulin in development of chronic inflammatory diseases.

14 of 15 top causes of death are chronic, inflammatory, diseases Now we have Fasano telling us all disease begins in the leaky gut, right? This is what they're teaching at Harvard Medical School, that it's the Leaky Gut, which is the primary source of LPS, the vest on bad bacteria.

It's, The leakey gut allows the Lps to get into the bloodstream. and you've lost tolerance. And once it's in the bloodstream, it gets stored in your liver, gets store in in brain, get stored your kidneys, and get store your muscles and no one is talking about that.

And then at the end stages of life, the accumulation of all of this LPS over a lifetime set you up for the inflammatory cascade called a cytokine storm.

And here comes mortality. 48% of people admitted to the hospital with sepsis, they don't get out. That's how common it is. And it comes from LPS, which comes, from the primary place, is leaky gut.

It's really fascinating. When I was doing my deep dive into some of the root causes of Hashimoto's, I came across LPs, and I found that it's caused primarily by the Gram-negative bacteria.

Right, it the best. And one of the strategies to shift that is to give yourself more beneficial bacteria. So really change your microbiome can be helpful.

And then alkaline phosphatase in the gut helps to detoxify it. Some people might benefit from zinc supplementation. That's why zinc can work really well for the guy.

There was also a supplement on the market called Anatabean that had some really impressive results on LPS. It's no longer available. But you actually mentioned cholesterol.

can be the key to clearing out some of that LPS. Can you speak more to the things that you've seen can helpful? One of the protective mechanisms of our body is when Lps gets through the leaky gut into the bloodstream, the first thing that happens is that the liver makes extra HDL cholesterol to bind it, to grab onto that lps.

And when that molecule or that compound of LPS is bound onto by HDL cholesterol, it will not stimulate the immune system to create inflammation. The body doesn't see it as a threat and it gets escorted out through the bile into the poop.

Right? So that's a first responder. Cholesterol can be a First Responder. And when people have sepsis, one of the prognostic indicators that they're not likely to make it is if they have low HDL levels.

That they've realized that the immune system has tried everything it can and just can't produce anymore. So it's biomarker. High cholesterol is not a bad thing.

all the time. Sometimes it's a life saving mechanism for you. That's fascinating. So what we would wanna do is

support our HDL levels to try to really support body.

Well, we wanna support out gut so that we clean up the leaky gut, so we stop having the infiltration of LPS into the bloodstream. One of the things you mentioned was intestinal alkaline phosphatase.

And it grabs, it reduces the LPs level by 74%. That's its job. So there's a few mechanisms that our body has to protect us from this bad bacteria. The first one is secretory IgA in the saliva will grab onto LPS and it escorts it all the way through the digestive system and out with the poop.

The second one is intestinal alkaline phosphatase that will reduce 74% of the LPS that's there in the stool before it gets into the bloodstream. So, and how do you increase intestinal alkaline phosphatase?

Well, you can supplement, but pectin is a excellent source to increase IAP, intestine alkalin phosphotase. That's why I have every patient download the handout on how to make applesauce.

because apple pectin is a very good source to increase IAP. And Mrs. Patient, take 15 apples, organic of course, because apples are high in the dirty dozen, meaning they have lots of chemicals on them if they're not organic.

Take 15 Apples, wash them, cut the core out and the seeds, but don't peel them. Dice them up, put them in a pot, about one-third the height of the apples with water.

Add a little cinnamon if you like, a couple of raisins if like. Turn it on high. In 15 minutes, you've got applesauce. That's all it takes, right? Now, my wife loves to put it in the blender to make it smoothie.

I like it chunky, so whatever you'd like! But every day you have at least a few tablespoons of applesausce, and have your kids help you make it so it's a family thing, but just have a little bit every day.

And it just feeds the good guys in the gut, the microbiome, to increase intestinal alkaline phosphatase, which grabs that LPS and won't let it get into your system.

What a beautiful, simple and delicious way to support your gut health. Yes.

Resources, Testing, and the Inflammation Equation

I love that. Where can people find out how to connect with you if perhaps they want to learn from you? Can you tell us where to go? Oh, of course. Thank you so much.

Our website is thedr.com, thedoctor. com. Just don't spell the word doctor out. And we have my books are there. Videos are. There's a lot of information.

You know, for example, here's one that people will like. If you go to the dr. Com forward slash plant, Here's the handout from NASA on which house plants absorb toxins in the air.

And so when you learn this, you have house plants in every room of your house to absorb the toxins, the phthalates from the plastic blinds. And there are a number of handouts like that that are there.

Thank you so much for creating that. You've also created a nine part series where people can learn more about inflammation, the inflammation equation, I'll add a link to that to the show notes.

Can you tell us more what that is and what people might learn from that? Yes, thank you. I traveled to seven countries and interviewed over 60 world leaders of immune function.

The godfathers. Yehuda Schoenfeld in Israel and many others. And I asked them the simple questions. in such a way to help the viewer understand why is my immune system so active?

First, they understand that disease is an overactive immune systems creating inflammation. And when they understands that, that it's always inflammation, as far as I know, without exception, it is always an inflammation and when I understand, then the question is what is the immune's system trying to protect me from?

And so we interviewed world leaders on that about mold and about glyphosate and bout toxic chemicals and heavy metals. And, so you hear from the experts, the real experts and you go, wow, that might be part of what's going on for my son and why he's been diagnosed attention deficit.

Okay. I need to explore this a little more. We have some handouts for you and all that kind of stuff there. Uh, we're very proud of the inflammation equation.

It's, it's changed a lot of lives. Dr. Tom, it's been such a pleasure having you here. I think you're such an inspiration to me and so many people around the world.

Thank you for all of the work that you do to help people heal. And everybody here listening, I hope this conversation has been healing on your journey.