Introduction and Summit Welcome

Well, hello, everybody, and welcome to the Peptide Summit. I am, more than delighted to be here with doctor Tom O'Brien. When it comes to getting healthy, doctor Tom O'Brien's goal for you is making it easy to do the right thing.

He's an internationally recognized, admired, and compassionate speaker, focusing on food sensitivities, environmental toxins, and the development of autoimmune disease.

Doctor Tom's audience, will discover, that through a clear understanding of how, you got to where you are, you can figure out, what it's going to take to get you.

Well. I, we have a lot of mutual friends, Mark Hyman and, Jennifer Lovelace and, and and I actually was, at a applying functional medicine and clinical practice with IFM, which is, I think, one of the better teaching organizations in the world for functional medicine.

And, Tom's the faculty member and was one of my teachers, ten years ago when I took that course. And so, I looked and I was, I was, just so delighted to see him again and, reconnect and, circle back with one of the influential people in my life who, helped kind of, help me crystallize how I think about complex illness and, and, and particularly as it relates to the gut.

And so today we are going to learn, about the gut, how to get healthy. And, we're going to learn a little better about peptides. And maybe there are some peptides that are not so good for you.

And so then we're going to, dive into that and, and, let's see what we learned. Thank you so much for taking the time to talk to us today. Oh, thank you, Matt, it's a real pleasure to be with you.

So I'm, you know, normally, sometimes, like, the other day, I was, interviewing somebody, in Minneapolis, and it was, it was when it was one degrees there, and they were feeling real jealous that, I was in sunny California.

I'm a little jealous today because, tell everybody where you are. Yeah, well, we're in the, blue zone of Costa Rica. Yeah. Isn't that amazing? How is it down there?

Weather wise? Perfect. You couldn't ask for more? We're very grateful. That's that's wonderful. Well, how did you initially get interested in and gut health and tell me.

Tell me a little bit of how you got here. What were, what were the influences in your career that, that that brought you to this moment in terms of your understanding and gut health?

42 years ago, I didn't know you were going to ask this for 42 years ago, my ex and I could not get pregnant, and I was an intern at the time in Chicago, and I called the seven most famous holistic doctors I'd ever heard of, and I was able to talk to each of them.

And I asked them, what do you do for infertility? And they'd all tell me what they do, and they say, do you know what a category one is? Null learn. Okay, category one.

And I just wrote down everything they said, and I put a program together and we were pregnant in six weeks.

How Gut Health Shaped Tom O'Brien's Career

My neighbors and married housing. We lived on campus. They had gone through artificial insemination and nothing had worked. And they'd ask if I worked with them.

And I said, well, I'm not going to harm you. Sure. They were pregnant in three months, so now we're like five months pregnant. Just grateful and happy.

Telling all of our friends and our friends would tell their sister in Wisconsin who was having problems with fertility, and she'd drive down to Chicago, and I was treating people out of my dorm room.

And I actually got called into the president's office and said, you know, and he said, you can't do that. I said, yes, I understand. Thank you, sir. And then I just kept doing it.

I had too much passion. But, so I came into practice helping people successfully achieve pregnancy or maintaining a pregnancy, lots of recurrent miscarriages that we've helped.

And there's not much in medicine, that's all. Or every. But this was every every couple that had a problem with fertility of one type or another, whether it's premature ejaculation or recurrent miscarriages or can't get pregnant every couple as a component of what was causing their problem, they were eating foods they did not know their immune system were fighting, thus creating inflammation in their body.

They didn't know because they didn't get stomach pain when they ate whatever it was. So they just didn't know. And we learned over time that the most common food that seemed to have this impact on inflammation production in the body is wheat.

And so my career began with looking at wheat and reading the science on wheat and very early on, one of the first studies I read was this very famous neurologist in England named Marios.

How did you. Vassiliou? He runs a tertiary center. Meaning you go to your doctor with a nerve problem of brain problem. They can't help you. They send you to a neurologist.

He does something that can't help you. They try something else. It doesn't work. They send you to a tertiary research center. So this is how Joselu at Sheffield, England, the tertiary research center.

And he published a paper where they took ten people with unrelenting migraines who had been out of work at least eight years. Every single one of them, they can't work.

They're suffering so much. And, you know, I and I thought about those families. I don't know why, but I did that in these ten people. Shh. Dad's got a headache.

What's it like to be a child growing up in that house where dad can't function? That I'm imagining they've gone through their life savings after eight years just trying to stay above water.

What's it like growing up in that house? And how did you. Vassiliou, put them all on a gluten free diet? Seven out of ten got complete relief, two out of ten got better and one refused to do the diet.

So nine out of ten improved or got completely better after eight years of being unable to work. And that just caught me because I was thinking about the kids in that family.

So I read that study, and then I ordered the references in the back of the paper and read those studies and read those studies, and I so for 40 years I've been reading about the possible impact of a wheat related disorder with or without celiac disease.

Yeah. Disease doesn't matter. It can be just as devastating if you test negative for celiac, but you have a problem with wheat and it just as devastating causes Hashimoto's thyroid disease, lupus. Ms..

The list goes on and on that once you cross a line of tolerance with wheat, it is the gasoline on the fire causing the inflammation in your body that can manifest wherever your genetic vulnerability is.

So my my entire career has been based on the birth of our daughter, who now is, just over 40 and has two kids. I have two grandchildren and, just has a wonderful, happy life.

And I'm just so grateful that we looked into all of this back in 1979 when we couldn't get pregnant. And I call those seven most famous holistic doctors I'd ever heard of.

You know, it's interesting. You get, you have, like, certain cognitive dissonance, as happened in your career. And, you know, I was, you know, when you're a young anesthesiologist, you know, you you've you're school with a lot of science and information, and you kind of think that, you know, everything.

And so then I and I met this, very influential person, for me, my yoga teacher, whose name is Marcotti. And the basically the first thing that he told me, was he was like, oh, yeah, if people have, a problem getting pregnant, he goes, that's like the easiest thing in the world to fix.

And I was like, what do you mean? Like, I had been doing like I was I actually had a job where I would do sedation for people when they would do the, the artificial insemination type techniques.

And I was like, well, how do you do that? He goes, oh, I just put them on a gluten free diet. And then I optimized their diet and their lifestyle and, and so then that, you know, and then basically I would started meeting all of these people who got pregnant that that he had helps.

And so then that was like one of the very things that led me to start to think, oh, okay, there's something on this diet nutrition side. And I ended up being gluten free.

So, I support 100% everything you said. Tell us, I thought that you really, when we were talking the other day, you gave me a beautiful story about how you think of, the analogy of, words and sentences and paragraphs and proteins and peptides.

Maybe. Why don't you take me down a story of of that? And then what actually happens when you read gluten and what how that affects your body? Goodness, yes. Okay.

This is the peptide summit. So what's what's a peptide? Well, a peptide is a part of a protein. And, you know, proteins are sometimes hundreds of amino acids long.

If you think of a pearl necklace that's a group of pearls, that's a group of amino acids. That's a protein. And when you eat a protein, hydrochloric acid in your stomach and does the clasp of that necklace, now you have a string of pearls, but it's still a protein.

And our enzymes have to break that necklace down into each little pearl of the pearl necklace. Right. And that's digestion is breaking down those, proteins into peptides and then into each pearl or each amino acid that gets absorbed into our bloodstream.

And those are the building blocks that we use. So what you're referring to I just made that up on the spot when we were talking the other day. I'd never thought about that before, but it made sense to me at the time, you know, which is that a peptide?

You know, if you think of when when you want to get an idea across to somebody, it might take two or 3 or 4 sentences, like a paragraph. If you're writing, it takes a little bit of, ideas put together like a paragraph to get that that concept across.

Gluten, Peptides, and the Science of Digestion

That's a protein where a peptide is maybe one sentence of that piece of the puzzle. That, that piece of the paragraph, so one sentence leads into is an important component of the big picture of the paragraph that you're wanting to talk about.

But it's one sentence. It's not the whole paragraph. So peptides are really important as a component of that. Right. And so then imagine we have an entire string of pearls peptide might be just for pearls.

And that, that those for pearls may have a certain message. Now then the next six pearls may have a different message. Right. Because they lock onto a receptor and then another eight peptides or two peptides.

So and so. Then a peptide could be 50 amino acids or it could be two. Right. And that's the problem with wheat is that no human can digest wheat completely into each pearl of the pearl necklace.

No human has the capability of doing that. The result is this protein. The proteins of wheat get broken down into peptides, and there's different peptides.

Some of them are harmless, some of them are beneficial, but the majority of them are not good for you at all. And they can stimulate a whole lot of different responses.

That's why if you go to Google and you type in gluten and multiple sclerosis, here come the paper, is that sometimes that's a component. It's gasoline on the fire causing the inflammatory disease multiple sclerosis or gluten and rheumatoid arthritis or gluten and depression or gluten and schizophrenia.

I mean, it doesn't matter what condition you're thinking about, that there are peptides of wheat that are, can be a problem for that individual depending on their gene, as a matter of fact.

Can I show you a couple of slides? Oh, yeah. This topic, I'm going to share my screen here and introduce you, the audience to, Professor Alessio Fasano.

Professor Fasano, if you look at his credentials, he's a professor of pediatrics at Harvard Medical School. Professor of nutrition at Harvard School of Public Health, the chief of pediatric andrology at mass General at heart at Harvard, the director of mucosal immunology, the director of the center for celiac.

This guy five titles. Any one of them is a lifelong goal for someone at the top of their field. We think this guy is going to win the Nobel Prize someday because it's him and his team in 1997 that interest use the mechanism of where leaky gut comes from.

It's a protein called Sanyal. And so they they discovered this protein. And when there's too much of it being released, then you get this leaky gut. And Fasano published a paper last year.

And if you look at the title of the paper, All Disease begins in the Leaky gut. The role of this proteins ideal in in the development of chronic inflammatory diseases.

And he he's so careful about what he says. But this is what they're teaching at Harvard Medical School right now. This concept is a critical baseline concept for all of their gastroenterologists are getting this to understand where disease comes from and what they show.

Fasano talks about this perfect storm. And I love this picture because if you look at this guy, he's leaning against a wall, hands in his pocket, left knees bent forward, back against the wall, just as calm and relaxed as can be in the midst of all this chaos.

Because he's protected. When you understand this concept that I'm about to give you of where the perfect storm comes from, from which you get heart disease, or you get diabetes, or you get anxiety or you get Alzheimer's, it doesn't matter what the disease is.

The chronic inflammatory disease, this is where it comes from. And when you understand this and you put this much of your attention on focusing on reducing these triggers, the result is you're healthy, you're vibrant, and you can be comfortable that you're not worried when you go in for a physical.

What's he going to find? Rather, you go in for a physical and you say, tell me how good I am. Tell me how healthy I am. Right? It's a whole different concept when you understand and live your life out of this principle.

So there's five basic components that Professor Fasano talks about. The first one is your genetics, and you can't do anything about your genes. It's a deck of cards you were dealt.

But if you've got the gene for Alzheimer's or you've got the gene for breast cancer, you're not getting breast cancer. You're extremely vulnerable to getting breast cancer.

But it doesn't mean you're going to get breast cancer. It means if you pull it a chain, the chain always breaks at the weakest link. It's at one end in the middle or the other end.

Wherever the weak link is, that's where the chain is going to break. So if your genetics say that your weak link is diabetes, don't pull on the chain so hard.

And what's the pull on the chain? The pull on the chain is inflammation that all of the diseases we get are inflammatory diseases. So and that pulls down the chain.

And whatever genetic weak link you've got, that's where it's going to show itself down the road. So if you understand that concept I mean it's not good to have the Alzheimer's gene.

But what it means is you're going to check and make sure that gene is not expressing itself maybe every year or every two years. And with that one there's a gene called ApoE e4.

And it's not good if you've got that gene. But all of our patients with April, we force they get a battery of tests, not expensive, but a battery tests every year to make sure they don't have inflammation in their brain right now.

Now, when we first start with them, they've got tons of inflammation in their brain because they're eating French fries. And, you know, they're they're drinking, soda pop every once.

Well, and all the other things that silly things we do that we know we're not supposed to do. Right. But after they've applied the protocol, all those inflammatory markers better be down to zero.

And then you check them once a year, once every two years, just to make sure that you haven't slept too much. Because we all cheat once in a while. We're not supposed to, but we do, right?

So the first one of the five is your genetics can't do anything about that. And doctors say, turn the genes off, turn the genes on genes don't turn on and off.

They operate on a dimmer switch. And what you want to do is dim down the genes of inflammation and ramp up the genes of anti inflammation so that they're dominant.

So right. So don't think I'm going to turn the genes off for breast cancer. You're never going to turn the genes off for breast cancer if you've got those genes.

But you can dim them down so they're not dominant expressing themselves. And you turn up the genes of anti inflammation and you're safe. Everything we know in the science today says you're safe.

That's the way to think about genes. Now there are some genes like cystic fibrosis. If you've got that gene that's a real problem. You know there's about 2,530% of the diseases, of genetic origin.

We really don't know much about what to do for those. But the vast majority, there's a lot we can do. I'm sorry. You're going to say something. Well, I you know, I'm just echoing, you know, the the research answers, the the basically, if you think chronic mold and inflammation, they're finding the same thing.

They do these these basically genomic tests that look at what genes we're printing and the people that are really sick are printing the inflammation genes.

And exactly whether whether we're dealing with people at the far end of the extreme that are really sick or people that are just trying to get a little bit healthier.

Leaky Gut, Inflammation, and the Perfect Storm

The and that's such a good analogy, the dimmer switch, because I've got I can either be in kind of fight or flight or rest and relax and then I can when when it comes to my genes, I can be printing chill out genes like I'm in Costa Rica and everything is good, or I can be printing you know, Manhattan fight or flight difficult, you know, genes.

And so that I have it we that we have a dimmer switch that can determine which one we are printing a big component of how the dimmer switch is fundamentally what we eat.

Right, exactly. The most. Now that's number two. Number two are the environmental triggers, right. This is what they're teaching at Harvard Medical School, that the hand on the dimmer switch are the environmental triggers that we're exposed to.

That means what you breathe, what you eat. The most common trigger is what's on the end of your fork. You know, that's the most common. But also our thoughts, because we create stress hormones or the environment, we let too much noise.

The hormones get produce, the defensive hormones, but the environmental triggers are the hands and the dimmer switch ramping it up or turning them down.

So that's number two. Number three, when you have too many inflammatory environmental triggers, you alter the good bacteria in your gut to where you've got an altered microbiome.

Everybody knows that 70% of the immune systems in the gut. Why? Because that's where most of the threat comes in, what we eat and what we drink. So you need the majority of your protection your Army, Army, Air Force, Marines, Coast Guard.

I call the immune system the armed forces of our body. It's there to protect you. Right. And the majority of it's in the gut. And but when you have too much of the inflammatory triggers, you alter the balance of good guys and bad guys, and you get this thing called dysbiosis, which means gut out of balance.

That creates a whole lot of inflammation. Which leads us to number four. The inflammation in the gut causes the leaky gut intestinal permeability. There's no pill you're going to take to fix a leaky gut.

If you have this dysbiosis in there, you have to rebuild the microbiome. And we'll talk about that today and rebuilding the microbiome so that it's not an inflammatory microbiome.

But when you get this leaky gut, for those that don't know what this is, Mrs. Patient, your digestive tract is a tube. It starts at the mouth, goes to the other ends about 2020 five feet long, winds around in the center.

The inside the tube is lined with cheesecloth. And when you eat food like we talked about, the pearl necklace proteins are a pearl necklace, and our enzymes have to cut it into peptides.

Smaller and smaller and smaller and smaller until they're so small. Each pearl of the pearl necklace goes right through the cheesecloth into the bloodstream.

And that's how we absorb our nutrients to build new muscle cells, a new bone cells, a new brain cells that the nutrients come through the cheesecloth into the bloodstream.

But when you get tares in the cheesecloth, that's what a leaky gut is, tears in the cheesecloth because of all the inflammation inside the tube where the microbiome is.

All that inflammation in there causes tears in the cheesecloth. Now you get larger clumps of the pearl necklace, peptides that get in to the bloodstream before they're supposed to be able to get into the bloodstream.

It doesn't matter if it's a tomato or a bad bacteria. If it gets in B, when it's a macro molecule, a big molecule, then it gets in the bloodstream and it takes off in your bloodstream is just a highway.

Lots of traffic on the highway, you know, it's all go in the same direction, but it's just a highway. There's no lanes of traffic. So it's like bumper cars and everything's bumping into each other.

But now you've got these big molecules getting into the bloodstream. Now your immune system trying to protect you has to say, what is that? That's not something I can use to make a new brain cell.

I better fight that. And then you get this systemic immune response, and now you're fighting tomatoes, or you're fighting chicken, or you're fighting wheat, or you're fighting whatever the big molecule is.

They got through the tares and the cheesecloth. And this is the perfect storm because it's the systemic immune response, meaning your immune system trying to protect you from whatever the macro molecule goes.

Now, this inflammation is on the highway. Everywhere along the highway there's inflammation trying to protect you, fighting all this, these macromolecules.

Then depending on your genetics where the weak link in this in your chain, that's where you're going to go down eventually. And it doesn't happen overnight now. And what Fasano told us in this paper, this is what they're teaching at Harvard Medical School.

We have to understand that this is not just some good idea. You know, that I've got this is what they're teaching there, that the two most powerful triggers are the exhaust of the bad bacteria in your gut, called LPs.

It's the metabolites of that bad bacteria. It's called LPs and gluten. They are the two most powerful triggers. Nothing else is anywhere near the category of these two.

Now, Maureen Leonard, who's a very famous gastroenterologist also at Harvard, published this article in the Journal of the American Medical Association, where she looked at, I think it was 60 plus studies on this topic, and this was the conclusion she came to.

Many studies have shown that glide that in wheat, the gluten in wheat can cause immediate and transient increase in gut permeability. This process takes place in all individuals who eat gluten.

So if you had a bagel this morning or you had toast, you just cause tears in the cheesecloth. Now it's transient. Meaning? What does that mean? It means it heals.

Mrs. patient, you have an entire new body. Every seven years, every cell in your body regenerate. Some are really quick, like the inside your gut. So every couple three days, some are really slow.

So you have toast for breakfast. You tear the lining of your gut, but it heals. You have a sandwich for lunch. You tear the lining of the gut, but it heals.

You have pasta for dinner. You tear the lining of the gut, croutons on your salad, a cookie terror, terror, terror, terror. Until one day you don't heal anymore.

There's too much inflammation. You don't heal anymore. Now you've got the leaky gut, and now you're off to the systemic races, so to say, with all of that inflammation.

So that's the concept. I wanted to make sure that everybody understands that what they're teaching at Harvard Medical School is all disease begins in the gut, and it's inflammation.

That's the trigger for all of this. Now that doesn't take away when you've got symptoms. You may want to take this or this or this to help you feel better, but you have to stop throwing gasoline on the fire.

Also, if you want to get well, that's such a good one. And that kind of dovetails with, you know, the UN on the peptide front. I would say potentially one of the more successful strategies that people have used is, is using the immune peptides.

And so many people will say, oh my God, I felt I felt so much better taken by in or thigh and or, you know, there's a whole bunch of different ones that, regulate the immune system.

And, it turns out some other things that help people feel really good are stem cells and exosomes. What are the what are those? Do they regulate the immune system?

Now why does that immune system need to be regulated? Well, if you're taking something that goes in and causes inflammation in your gut and then that cheesecloth opens up and then stuff is leaking into your bloodstream, your immune system starts to get triggered and over overreact trying to protect you.

Your immune system is having to withdraw from the reserves of its bank account to fight whatever this is that just got into your system. So when you take these peptides that really help your immune function, all you're doing is putting deposits back into the bank account, right?

You're building up the immune system, you're building up your bank account. But if you keep throwing gasoline on the fire, it's like robbing Peter to pay Paul.

You know who's who's going to win. And eventually inflammation always wins. Eventually, eventually. And the you know, I was we we I was telling you, it's kind of like, well you walk over to a river and you see all of these people floating down the river drowning.

You know, one idea is to go try to pull them out and then the other ideas to go upstream and figure out who's throwing all those people in the river. And this a kind of an upstream kind of mentality because, if you if you don't stop feeding that fire, that sometimes it's hard for that fire to go out because your immune system thinks that it's kind of being continuously attacked.

And you've probably I've seen this myself and I'm sure you've, you know, you're probably one of the great luminaries in the world on this topic is you'll sleep, you'll do food allergy testing, and you see certain people come in and they're allergic to everything.

You got test as I don't know if you want to talk a little bit about that. Sure. But. Yeah, that's that's a that's an easy one really. Oh my God, you know, you so you do a 90 food blood test to see what might you be sensitive to.

And it comes back and you're sensitive to 25 different foods. Oh my God, that's everything I eat. Well, of course it is, because you've got a leaky gut and the macromolecules are going through in your bloodstream and your immune system trying to protect you from these things that aren't supposed to be in the bloodstream are what you're testing for.

Do you have antibodies to different foods? Yes. You do. Why? Because these macromolecules of chicken gut in or these macromolecules of strawberries got it doesn't matter what the food is that if they if it gets in through the tears in the cheesecloth, your body can't use it to make new brain cells and bone cells and muscle cells.

It's not a resource. It's a deficit. It's an inflammatory deficit. And so your immune system's got to fight this thing to get rid of it. It's a threat.

And so you're you're withdrawing from your immune system bank account to fight all of these foods that are in your bloodstream. So for those people, you you test for a leaky gut.

So you've got your markers to be go. Yep. There it is. And then you do your protocols whatever they are, you know, and I we tell patients six months to two years before you retest, it's not going to be done in two weeks.

Give it a break. It's not going to happen. It's not possible because your microbiome has developed over many, many years of too much Mountain Dew and too many Kit Kats, you know, and too, too many marshmallows and too many of the wrong things that we've done. Well, I don't do that very often.

No, but when you were a kid, you did it a whole lot, which built that microbiome. Now you only do it once in a while, which still feeds that microbiome.

Right. And so it's going to take a while to change that microbiome to a healthy, diverse, vibrant microbiome. I feel like that's a good title for a book.

Too many marshmallows, too many marshmallows. Well, our son just had a one year birthday a few days ago, and my wife bought a bag of marshmallows. That's what you know, because we don't do that kind of stuff.

But she loves to bake, and this was a grandmother recipe. And so one of the there were seven layers to this cake. It was unbelievable. And every layer was a different flavor.

And one of them had some marshmallows in it. So that was our son's first exposure to any of that kind of food. So there's marshmallows in the O'Brien house this week.

You know, you know, we, it's so it's so interesting. I grew up there. And speaking of grandmothers, there's there's an maybe nobody, and North America that likes, gluten and and, crescents more than my mother and maybe me.

And so then it was a journey for us to get there. And then for a while, even, she still had symptoms. And then I got, But she would she kept baking with it, and then eventually it took.

It takes a it takes a concerted effort. And I've got her to 100% buy in to, to the, the journey. But it's really a lifestyle and it takes a while to kind of get into it.

Now, I've been gluten free for eight years. Every time I have, every time I go to France, I eat a lot. But other than that, which which only happens every few years.

I I've, I've been gluten free, and it's been one of the greatest things I ever did for my health. Now, I'm told that there are, a couple of bakeries in Paris that do incredible gluten free croissants.

So I'm. I'm ready. I've always said I'm not going to Paris until they've got gluten free croissants. So now they do. So it's on our hit list this year now, but that I'll take you on this one.

So like the there's a, company called Mariposa. This in the Bay area that makes great gluten free. That being said, one thing that I've noticed is, is that some people who react to gluten will also react to a lot of the gluten free foods.

Oh, yeah. Oh, that's a whole discussion that there's a danger in the gluten free diet. And I published a paper on that with a couple of friends. The danger of the gluten free diet, that when you learn about building a microbiome, a healthy microbiome, one of the critical things that have to become a lifestyle habit is that you feed the good bacteria in your gut, and the foods that feed the good bacteria are called the prebiotics, and they feed the probiotics the good bacteria in your gut.

Rebuilding the Microbiome with Food and Supplements

Well, 78 to 81% of the prebiotic in the Standard American diet comes from peptides of wheat called rabbit islands.

78 to 81% of the prebiotic in the Western diet comes from wheat.

Take wheat out of the diet, which is a good thing to do, but then eat gluten free crap. Excuse me, but and there's no prebiotics in the gluten free foods, so you've taken the good, the beneficial parts of wheat.

Not everything in wheat is bad for you, but the bad outweighs the good. But you've taken the beneficial things out in a gluten free diet and you've not replace that.

So what happens? At first you feel great, you lose weight, your energy's up, your brain's a lot brighter, your skin clears up. Whatever your genetic vulnerability is, that starts to clear up.

But six months to a year down the road, you're getting sick again because the good bacteria in your gut have been starving out, and the bad bacteria feed on all the garbage paste, white paste stuff that we eat.

So the ratio of the good and bad now all of a sudden reverses, and you've got more bad guys in your gut than good guys, because the good guys have been starved out.

That's why you have to know how to rebuild a healthy microbiome. When you go on a gluten free diet, you cannot eat the gluten free products and think that you're doing is healthy for you.

Now, look, I'm half Italian. My grandparents came from Italy through Ellis Island. You know, we made our own pastas, raviolis for Christmas was my favorite treat.

And I'm going to eat gluten free pasta every once in a while because I love gluten free. I love pasta. I love the feeling of pasta. I'll do it maybe once every 3 or 4 weeks.

And I. But I take the gluten digesting enzymes when I do just to help. But you can't do that every day. Oh, I'm going to have a blueberry muffin at the coffee shop.

Oh, it's gluten free. Great. It's healthy for me. No, it's not, it's not just it's just not poison for you. So you have to learn how to do this right?

I, I remember this so clearly when I, when I was an anesthesiologist, you would get, you're stuck in the operating room all day, and then you get a break and you're so excited because you have.

And we would get, like, nine minutes or something like that. And so then you run down to the coffee shop and then I would I remember at that point I would run down to the coffee shop, get a cup of coffee and and get a zucchini muffin, because it reminded me of my childhood, because my mom and my childhood was zucchini muffins in the morning and pasta and raviolis at night because we're half Italian also.

And so I knew I lied to you for some reason, and and it's the same. And, and so then, and I would always get a stomachache. And so then, you know, you're thinking and I'd be like, God, I, I get it.

I have a stomach ache when I eat that muffin, but it reminds me of my childhood. And I felt so good. Yeah. And it it made me so happy. And I did that for about six months until I realized I get a stomachache every day.

When I do this, I gotta stop doing this. Yeah. You know, but it's kind of interesting. That's like that cognitive dissonance. Yeah. And so and you, it's nice that you share that story because people are going to blow it all the time.

We're not perfect. We're we're human. You know. Yeah. Human means you're going to blow it. But you just want to make more good decisions and bad decisions.

And, you know, eventually good decisions are the everyday norm and the bad decisions become less and less frequent. You know what? I was talking to Barb about that last night and I said, you know, it's kind of funny.

I said, you know, ten years ago we were making a lot of bad decisions and some good decisions. And I said, now we make almost all good decisions and some bad decisions waiting, you know, so it's and if you can, if you can get to that and then get that lead, that lifestyle part of it dialed in if I, if.

Yeah, I had the choice of giving you my best peptide protocol that I have or getting this lifestyle piece, and that's why I wanted to interview you because I think you're the best at this.

I would do this. This is more important than anything else because this regulates your immune system. Now, I want I, I'm going to give a wholehearted recommendation of what you're about to say.

And this is the question is how do we rebuild that? So how do we rebuild that microbiome? You hear a lot about the microbiome, which is that balance of all of those little bacteria and organisms and yeast that are inside of our gut.

So what's your perspective on this? I loved what you said because I went through a journey of getting leaky gut, that I could tell you about. But then I discovered I basically did almost exactly your protocol.

So tell us what it is, because there's. So you crystallized it perfectly for me. Thanks. Well, first and an understanding, the size of this microbiome.

And nothing helped me understand this better than my mentor and my friend, Doctor Jeffrey Bland. Jeff is the founder of Functional medicine. This is the godfather of all of us.

What we follow. And I interviewed him last year for something, and he said, you know, Tom and Jeff does not exaggerate at all. And he said, a teaspoon of poop, a teaspoon of poop has more bacteria than all the stars in the known universe.

And I went. What? I mean, how do you wrap your head around how much bacteria is in our gut when one teaspoon is more starves more bacteria than all the stars in the known universe?

Every forkful of what you put in your mouth feeds good bacteria or feeds bad bacteria. There's no neutrals except healthy water. That's the only neutral.

Everything else is going to be a plus or minus. When my son love and he's one now, he loves pomegranates. And you know, they're just the most bitter tasting fruit, right?

And he'll eat a strawberry. He'll eat some blueberries. And then he wants the pomegranate that bitter taste. And I just smile because. And we cut them into quarters for him.

Size because he's only got 6 or 8 teeth. I don't know, but every time he takes one more piece of a pomegranate and chews a little bit and swallows it, I know that he's feeding a few thousand more good bacteria in his gut every forkful of what we take in is going to have that kind of effect.

So now here's the protocol. First and most important, Mrs. Patient, when you go shopping, not most important. They're all important when you go shopping to buy your fruits and vegetables, always buy organic.

Critically important more than ever. You can't think the way you did ten years ago about organic or conventional, because it's much worse now. But buy a couple of every root vegetable in the store.

Get rutabagas and turnips and parsnips and radishes and sweet potatoes. Not too many white potatoes because of the glycemic index. It affects your blood sugar.

Some if you like them, but not not not too much. Carrots, multicolored carrots. And have one root vegetable every meal, one root vegetable maybe is just going to be a little bit of radish.

And you've been to nice restaurants where they shave the radish and it's on a salad raw, you know, and you even

say, oh, what's that container? Oh, that's not bad because you're not biting into a big radish, right.

So you might just dice it up a little bit, but every meal you have a little bit of root vegetables, every meal every day. Next. Oh no. I'll give you a I'll let me tag team on that one.

Sure. We. So then this is like the stuff that we do every single day. And so I do that. And so then we, we have, we go through that same spectrum and then I have radishes 4 or 5 days as an appetizer.

And then we do a root and then I usually eat meat. And then I finish with the root vegetable because I get kind of full with the meat. And then I eat that root vegetable afterwards.

And then it took a while to kind of get into it. But then those rutabagas and then going through that diversity of something different every night. And so sometimes sweet potato, sometimes purple sweet potato, sometimes yams sometimes.

And that, that diversity, it becomes a really fun thing to do it. Like my dad and where we are, we have yuca and cassava, you know, we have the and we make mashed potatoes out of yuca.

That's really good. It's like, whoa, that was really good. So it's fun to explore. Now. People say, well, I don't know how to cook a turnip. Well, neither do I.

So what I do is I slice an onion, I slice up the turnip, dice it up, peel some garlic, little coconut oil or avocado oil sauteed all together. Throw some sauce on it.

Gluten free and I eat it. You don't have to be Julia Child here, right? So what about a rutabaga? I slice it up, diced onion, peel some garlic, a little bit of oil sauteed up, put a sauce on it.

I eat it right that you just you you don't have to be a chef to learn to work with these basic vegetables. And you just want to get them down there. You don't have to taste them and chew them and enjoy the flavor of them.

You just want to get them down there because they feed the good bacteria and every root vegetable has different components of fiber that feed different families of the good bacteria.

They never feed the bad bacteria. That's why you don't eat carrots every day. You know, just carrots. Well, just root vegetable. I mean, my carrots. Well, that's good, but you need sweet potatoes and yams and turnips and parsnips and radishes.

So you alternate that next go to Google, type in list of prebiotic foods, print it out and put it on your refrigerator every day. You have two from the list, and you're going to learn that a banana is a prebiotic.

So it's not just the root vegetables. An onion is a pre by oh, I got that with my turnips. So I've good I've got that. So you get two from the list and one root vegetable every day.

Then Mrs. Patient for a couple of months because we're taking wheat out. And so that's been the fiber that your bacteria have been living and the good bacteria have been living on wheat.

And that's one of the benefits of wheat. The the detriments outweigh the benefits. But that's one of the benefits. And we don't want a deficit to develop.

And you're learning about root vegetables and other prebiotics. But for a few months I'd like you to take a prebiotic supplement. You don't have to take it forever, but for a few months.

And there are many good ones out there. Every doctor has his different favorite. We use one called Mega Mucosa, but you know, they're there. Many. It doesn't.

I don't know that it matters which one because you weren't depending just on that supplement. You're also training your lifestyle with the root vegetables and the list of other prebiotic foods.

But for a few months, take a prebiotic supplement just to make sure we you have more than enough food for your good bacteria to thrive and that they don't suffer while you're transitioning.

Okay, next, when you go shopping, buy five different types of fermented vegetables. Get sauerkraut, kimchi, miso, fermented beets, curry flavored whatever you like.

And every day you have somewhere between a teaspoon and a tablespoon moon of fermented vegetables in your meal. And I don't like sauerkraut. You don't have to like it.

Hide it in the mashed potatoes. You don't have to chew it up and enjoy the flavor. You don't have to. And there are so many. We got one recently called Pink Lady, and it's it's shredded.

Oh, there's carrots and bok choy and some other vegetables in there, but the flavors I like. Okay, so Marcy makes these wonderful gluten free, buns out of almond flour and some other flour.

I don't know, but they're really wonderful. And our breakfast this morning, she she makes great scrambled eggs. And so it took one of the buns, sliced it in half, and I put the pink lady sauerkraut on there, and I put, the scrambled eggs on top of it and then slice of avocado.

And that was my sandwich for breakfast. And so I got my fermented vegetables without having to chew and taste and say, I'm all right. This is healthy for me. I'm going to do it.

But I like the flavor myself. But that it was hidden in all those other flavors, right? So every day now, that one that went to me, if you're out there and you've been eating French fries and, and, and toast your whole life.

Yeah, your life is about to get a thousand times better. But part of it is psychology of kind of wrap your head around like it took a while for us. But now, my favorite thing, the way that I started every dinner is we I make, like, basically the, a taster plate that has a little bit.

And, sometimes I use kimchi and sometimes there's a missile and sometimes there's some sauerkraut. We've got 4 or 5 different types. Yeah. And then. And then there's a part of this that is like a conditioning of yourself to tell yourself that, oh, I love this.

And then next thing you know, if you told me that I had to go to the standard American diet, I would feel like I was on a concentration camp compared to what we have now.

Yeah, exactly. Right. And it's a transition. It it it takes time. It takes time. But you know what? I'm doing this on stage and I'm showing all the slides.

I showed the studies that say a teaspoon to a tablespoon a day. You increase the ferment. You increase the bacterial, inoculation 10,000 fold from your food, 10,000 fold, not ten fold, not 100 fold, 10,000 fold just by a teaspoon to a tablespoon every day.

So you're inoculating your gut with the good guys. More of. And that's why you vary the don't just eat sauerkraut I mean it's okay if you did. But when you do different fermented vegetables, every vegetable when it ferments produces different families of the good bacteria because there are hundreds and hundreds of families of the good bacteria.

So you want a little of this and a little that, little this. And oh, I really like this one. So I'm going to have this again, you know, whatever it is.

But you, you want the diversity and Mrs. Patient for a couple of months. I want you to take a probiotic supplement

for a few months while we're transitioning you into this lifestyle.

Now, we like the spores, so we recommend a product called Mega Spore. But there are many, many good probiotics out there. Whatever your doctor or you feel, you're attracted to, to help inoculate with the good guys.

And that one can be that one has some pretty good science. The mega spore we I like that one also a lot. And have you used that myself? And there's some pretty good science on that.

It can help grow certain like it'll help grow back romance, I think in it. All right. Exactly, exactly. They're, they're they're called the keystone species.

The ones are really important. Really important. And using these spores help the keystones to grow. So you get are they really fun species. What do they do?

They're they're they're like, how do I say this? They're the big kahuna is they're the ones that create the environment for all the other smaller concentrations of good bacteria to thrive in.

So usually the keystones, they're the they're more dominant. There's more of them, but they make room for the other good guys. And they help to protect against the bad guys getting a foothold in their.

Right. So then, oh. Go go go go friend okay. Next, arguably Mrs. Patient, the most powerful enzyme in your gut is called intestinal alkaline phosphatase. IAP.

IAP does so many beneficial things for you. It lowers your cholesterol. If it's too high, it lowers your triglycerides. If they're too high. So that's nonalcoholic fatty liver syn syndrome that just starts to come down.

It stabilizes blood sugar. So insulin sensitivity goes up, insulin resistance goes down. So you need less insulin, your blood sugar stable, more of the time.

Probably its most critical benefit is that it grabs LPs and it locks it up in the gut, and it escorts it out in the poop. Remember, Fasano said that the two most powerful triggers causing leaky gut are LPs and gluten.

So intestinal alkaline phosphatase grabs LPs and just won't let go.

Lifestyle Change, Brain Health, and Loving Kindness

It locks it in and it just moves out with the poop. Intestinal alkaline phosphatase is increased by pectin. So it's the primary food for IAP is pectin.

So Mrs. Patient, when you go shopping and you're buying your fruits and vegetables, always buy organic buy 10 to 1520 apples. When you go home. Rinse them off. Wash them.

Don't peel them. Cut the seeds out of them. So cut the core out. Chop them up. Put them in a pot. And if it's this much apples in the pot, add water to about one third the height of the apples.

About a third. Put some cinnamon in there. Turn it on high in 10 to 12 minutes. You made applesauce. That's all it takes to make applesauce. Now my wife likes to then put it in the blender and just blend it up so it's really creamy consistency.

I don't do that. So if I'm making the applesauce, it's chunky, right? But it doesn't matter. And do it with your kids. So they're part of all this and learning about it.

And when you have have a tablespoon a day of freshly made applesauce, the commercial stuff doesn't work. So freshly made it the last 4 or 5 days in the refrigerator.

And it's a no brainer to do. It takes less than 15 minutes, to make it and have a tablespoon. What can I have? Of course you can have more if you want more, have more, but a tablespoon a day, because I'm thinking over the long term if you get in this habit.

So maybe every morning and the plate with whatever breakfast is going to be, there's a scoop of applesauce, a little scoop of applesauce, and you and your kids are going to get used to seeing the applesauce on the plate every morning.

Whatever your family habits going to be, just get it in on a daily basis and you're increasing the intestinal alkaline phosphatase, which also, by the way, gets rid of the bad bacteria and feeds the good bacteria in your gut.

It helps the good bacteria to lock onto the walls of the intestines to colonize, so it helps them dock in to colonize. IAP have so many benefits for us, and just having a tablespoon a day of applesauce will increase your IAP levels.

Next, bone broth organic bone broth critically important bone broth has what's called gelatin aid in it. And when you read the science on gelatin, ten eight gelatin ten eight acts like a seal over the tears and the cheesecloth of your gut.

So it's a seal, which then allows, under the surface, you know, that damaged area to heal much quicker because all of the material moving through is not scraping against it so much.

The gelatin 10/8 like a Band-Aid over it so the tissue can heal quicker. So one cup of bone broth a day. Now my friend Doctor Terri Walls, when she began dealing with these, our veterans coming home from Afghanistan and, the Gulf War with PTSD.

And they were completely dysfunctional, completely dysfunctional. She had them drinking a quart a day of bone broth. Well, I can't afford to buy broth.

And she looked and say, you have a rifle? Yes, ma'am. Go hunting. And they're all happy. Then go out and kill something. Right. And they go out hunting, and then they harvest the animal for meat, for the family.

But then they save all the bones that they never thought of before, and they make bone broth with it. And if you roast like I my, my kids gave me a Cuisinart countertop roaster.

You know, you open the door and this thing's there, and you put a chicken on it like this, and there's a drip and it collects all the fat. So I would chop up some root vegetables and put them in the drip pan and put the chicken on there.

Actually, I put the chicken in a Ziploc bag with a little olive oil at first and a whole bunch of Italian herbs and shake it up in there. And then I put the chicken on that thing and it stands up, close the door, and it goes around in a circle roasting and an hour and 15 minutes.

I've got a really great chicken with all these root vegetables that have been soaking in the chicken fat. It's just delicious. I mean, it's a no brainer.

And, my wife was really impressed. She thought I could cook when I started dating her. When I do that right, I mean, I scored like, oh, that was great, but making your own bone broth from chickens and from fish and from beef.

And if you can't make your own, just get organic because there's a problem with, many bones out there. They're not organic. They they can be high and lead, and you don't want that, but have a cup of bone broth a day to put a seal over the tears in the cheesecloth.

So because it heals every 2 to 3 days, you have a new lining to your gut. But, when when it's damaged, it doesn't heal as easily. So the gelatin tannic.

And you might do that until your test, your follow up tests come back negative for leaky gut. So you might be on a cup of bone broth a day for six months, maybe a year.

And after that, you might just like it. Want to continue because it builds your bones, your collagen, your tendons, your ligaments get stronger, your skin gets nicer from it.

So all of those other benefits also occur. I do I do a couple cups every day. It's marvelous. Everything you're talking about, I do, I, I, I did the applesauce and my journey and then I stopped and then you reminded me, and I'm like, I'm going to get back on that one, too.

Yeah, yeah. It's they're good habits. And when you have a leaky gut, they are must do things and inexpensive to do. And you're not dependent on a whole bunch of supplements to do this that you you're changing.

You're adapting your lifestyle to a healthy lifestyle. And that's what takes a little bit of time. But in the meantime, you're you're doing everything you can to create that environment inside the tube that is, listen to this.

And this is from Professor Yehuda Schonfeld, the godfather of autoimmunity. This guy, when I interviewed him 26 of the PhD students who received their PhD in immunology from him, there are many more, but 26 of them chaired departments of immunology and med schools and hospitals around the world.

They're his students. And he tells us 36% of all the small molecules in healthy blood are the metabolites of the microbiome. So they're the exhaust of what the microbiome, the bacteria in your gut are producing 36% of everything in your that or not in your bloodstream is from the exhaust of the microbiome. Why?

Because they're the messengers that are telling your the g term is modulates. So which and what it means is has its hands on the steering wheel of where you're going down the road of life.

Right. So for every one message from the brain going down telling the gut what to do. And this is from Michael Gershon at Princeton, when he wrote his book The Second Brain back in 1999, he showed us for every one message from the brain telling the gut what to do.

There are nine messages from the gut going up, telling the brain what to do, that all of our brain hormones called neurotransmitters, the ratio of all of those come from directions, from the gut, the metabolites of the gut.

So if you've got a dis biotic gut, meaning an inflamed gut, you've got an inflamed brain, and that's depression or anxiety or schizophrenia. So any brain condition you always have to include is part of the protocol.

Rebuild a healthy microbiome. Because the microbiome has its hands on the steering wheel of how your brain's functioning. The reason one of the reasons is I wanted to interview you was for this topic, and it's almost one thing that I've kind of gotten into now is when I, I'm talking to people now, I there's something that I can say, oh, I go listen to my interview with Tom O'Brien, and then there's going, that's almost like a college course that you can take, you know, that out of, I thank you and puts tears in my eyes because I want every health care practitioner to understand what professor Fasano is now teaching at Harvard.

All disease begins in the gut. All disease. So whatever you're dealing with. And so then it's interesting because, you know, when you talk about depression, anxiety, PTSD, that we do a lot of that take care of a lot of people who came back from war and, yeah, all over the world.

And interestingly, you know, we'll we do still a ganglion block to turn off fight or flight. We'll use ketamine, as a way to kind of modulate the, the central nervous system.

Interestingly, and it's amazing for me to kind of go through the experience of when you have a problem like, let's say, PTSD, there are people like, but you mentioned there are people who just work on the gut, and then all of a sudden PTSD goes away, right?

There are people that work on for for almost every problem known to man, there's people who work on the gut, and then they can get that, that problem to go away, whatever that problem is.

Which means that the gut is a component contributing to whatever the problem is. Right? Right. And sometimes you've got to deal with the stellate ganglion, or you've got to deal with other things with it, of course, so people feel better and function better quickly because it takes a while to rebuild a healthy microbiome.

Yeah, it takes a while, you know, and so you want to have these other tools which are great tools. They're just great. But you can't keep throwing gasoline on the fire, creating tears in the cheesecloth and expect to have a healthy, vibrant body.

It cannot happen. Yeah, yeah. No doubt. The, and you know, the the you know, we are human beings. I like what use this the where we were at the beginning, a little bit of that.

Like making good decisions and making bad decisions and, you know, it's, it's sort of maybe one of the most important things to figure out as a way to get to a point where you're overall making better decisions.

And this is this is the way, and this that I'm glad you brought this up. It's really an important concept in my most recent book, it's it's titled You Can't Fix Your Brain.

And, I could have done. You can fix your heart. You can fix your gallbladder. It wouldn't matter. The concepts are the same, but we're all scared about brain function, you know?

I mean, everybody knows someone. They had a heart attack and survived and, changed their diet, started exercising to look better than they've looked in years.

Most of us know someone diagnosed with cancer that went through the protocols. It's in remission and they feel great. No one knows anyone diagnosed with brain deterioration disease that's doing great.

It terrifies us. It just terrifies us. And that's why I picked the brain to talk about these concepts. You can fix your brain. The subtitle of the book is as important as the title.

I went around with Rodale Press for two weeks. The title they wanted all these different. No, no, no, you can fix your brain. Right. So. And but the subtitle just one hour a week to the best memory, productivity and sleep you've ever had.

And it's not a cutesy subtitle. It is the only way to be successful when you're changing lifestyle. Mrs. patient every Tuesday night after dinner, every Sunday after services, whenever it is.

But you tell your family and you put it in your calendar every Tuesday night at 7:00, I'm going to devote an hour to learn more and apply the principles of.

For one aspect of being healthier every week. And when you go back, because you've read in my book that you can't store food in plastic storage containers because the phthalates, the plastics in the container leach into the food.

And when you eat the chicken the next day or the spaghetti, it's got plasticizers in it that accumulate in your body. And so you go back to my book, find the three URLs for glass storage containers.

And so you go to Miles kimball.com and Amazon. And the third one, whatever it was all those are nice. Oh I like those. And you order three round ones and two square ones and one for the Pi.

And you pay with your credit card and you hit send. It took an hour. It took an hour, but never again are you going to poison your family with plastic storage containers.

With these minor amounts of poisons that accumulate in your body over the years? But then you're done for the week because you've got a busy life. Next week you go back and you say, oh my God.

He talked about nail polish and the phthalates and nail polish in your bloodstream in 4 to 5 minutes. And now you're going to go to the URLs that we give you for organic cosmetics.

And you get phthalate free nail polish. And you order some and you try, you don't like it. Then you go back and or more. It's going to take a while. But one hour a week and about air filtration.

And when you go and you and you learn that indoor air pollution is much worse than outdoor air pollution in most, most environments, and you learn from NASA that two six inch house plants in a ten by ten room absorb over 70% of the toxins in the air.

You go out, you get the house plants, and then you say, oh, you know, but I don't have a green thumb. They're going to die. Then you buy more, you know.

But but it you every week you just do one little thing and six months down the road you see a friend that you haven't seen in a while. Oh my God, you look so different.

Wow. What happened? You. You look so wonderful. Oh, well, you know, I've changed out my food storage containers. I got organic cosmetics. You know, I've healed my leaky gut.

Bum bum bum bum bum bum bum bum bum. But it's overwhelming at first when you try to do it all at once. And in our culture today, we want it now. It doesn't work like that.

Rebuilding a microbiome is going to take you six months to two years, depending on how advanced out of balance you are, right? So one hour a week. And there is a term that I talk about in the book that changed my life, when I went through a divorce, 20 years ago now, when I went through a divorce, I was having a rough time in this book.

I was in a store, and it just called to me. And the book, by a woman named Pema Shogren, and. Oh, I like her. And there was a word that she talked about in this and I don't know how to pronounce.

It's a Tibetan word. I'm going to say it's maitri or mitri m a I t r I. And it means loving kindness and an unconditional friendship with one's self. You are your own best friend and lighten up on yourself.

Don't expect to be perfect. You just stay in the ball game. You know you just keep put your foot forward. So one hour a week to apply these principles that are cumulatively, over time, completely change the direction of your health.

But don't try to do it all at once. Just be kind to yourself, be gentle and take the time, whatever it takes to get this done. You know what? I feel like this interview is the sort of the last 20 years of my life because I let you know, our case basically said, you know, we were like, we met our Katie and our Katie was like, oh, yeah, you can't have, anything in plastic.

So you got to get glass containers. And so then we threw all of those plastic containers away. And so then it was, it was literally a slow journey of kind of going through adopting all of these new ideas.

But then what happens is, is then you see people get healthier and healthier and healthier. And so then I want to echo this idea that I just love that idea of stay in the game, stay in the game.

Be kind to yourself. And you know, how much children is this good as they come in terms of this loving kindness, adopting that attitude for yourself and everybody else.

And then slowly, this this, I love everything you said. I'm so grateful that I got a chance to talk to you at your, one of the nicest people in the business, and, anything you anything you want to add.

Well, you're the poster boy for this. If you've been doing this for 20 years, here's the result. When you look great, right? And you've got great attitude in life, you know, you sparkle and you radiate your serving humanity, you know, and your passion.

And this is what happens to every one of us. But when we take care of ourselves with loving kindness, that it's an accumulative growth process into more of yourself, with less of the chaos that surrounds us.

And so everybody that listens to this try to go out and buy Tom's new book, and you can change your brain, you can fix your brain, you can fix your brain.

Okay. Well, I'm so grateful. Thank you for being with us. And I look forward to talking to you again soon. Thank you. Matt, it's a real pleasure to be with you, brother. Thank you.

Thank you.