Podcast Introduction and Guest Welcome

muscle, which to me is the largest organ of longevity, only second to the microbiome, which eventually we're going to realize we are 57% bacteria and 43% human.

So the question is, who's really running the show? Have you made it past menopause, or are you going through it now? I'm Dr. Pat McShane, and on the Women's HealthSpan Voices podcast, I'll guide you through the health challenges of the menopausal years and beyond, guiding the way to thriving in this powerful era of your womanhood.

Hi, I'm Dr. Pat McShane, and this is Women's Health Span Voices. I'm delighted today to have with me Dr. Daniel Keeley, who is a doctor of chiropractic among his other trainings.

I'll let him tell us a little bit more about his background. And he's going to tell us today about his experience with the issues that impact menopausal women, primarily with the gut and the gut microbiome.

But I'm so glad to have you, Daniel. And if you would tell us a little bit more about how you got to be doing what you're doing in your practice in Grove, Illinois.

So my story starts out as a child when I was faced with some health challenges, not necessarily when I was younger. I was very, very healthy. My sport of choice was soccer.

I played both for division one and then professionally overseas. And so what happened early on though was I was faced with some very debilitating gut health issues.

And this was when I was maybe around 12, 13, 14, I had wisdom teeth that were supposedly impacted. And the surgeon at the time said he removed everything appropriately, but yet he had left a tooth, a piece of the tooth still in.

I only came to realize that three weeks later after a course of multiple antibiotics, multiple painkillers, only to get a second opinion from just my general dentist who put some gauze and dissolved them, my pain went away.

overnight, but it was, it started kind of this precipice of very debilitating gut issues that fast forward I experienced in college.

Daniel Keeleyu2019s Health Journey and Gut Issues

When I went to go then play overseas, I would have probably six to 12 bowel movements every day, often enough loose. And when I went to the Mayo Clinic diagnosed with lymphocytic colitis, they put me on Imodium or Pepto-Bismol three times a day for 12 weeks and I had to abstain after four due to severe abdominal cramping.

For the next largely several years, I just assumed that to be my normal. Well, I've come to realize until I pursued medicine myself, both the naturopathic and chiropractic medicine, that there certainly is a better way and certainly the zenith of allopathic care perhaps can get it wrong.

I mean, I'm not trying to undermine any physicians. Most of what we do is we're brilliant in our own respects, but that was the birth of what led me into my path for the next decade to study microbial medicine and the interplay of our microbiome in every biological system of the body, most notably hormones.

So I know that's something that's going to be on par with the discussion today. And so how that impacts perimenopausally, how that impacts our menopausal and postmenopausal females equally to huge, huge

concerns.

Great. So when you see a woman in perimenopause or menopause who comes to your practice, what are the kinds of things that occur most often in her health that would bring her into your office?

And so did you say as early as perimenopause or just menopause? Well, let's go to perimenopause. We'll start there and then older women as well. So early on, what I find too, it actually starts as a child.

And what we're doing is we're doing a very comprehensive medical intake because what we don't recognize is now that we do is much of what, you know, mom had and dad had is going to be passed on to kin.

And there's also a transgenerational component here when assessing kind of the microbes or missing microbes. So we do a full medical intake to understand the health appearance, which is then conferred in the health individual.

Obviously, you have the rise of the atopic march and dermatitis with our younger infants and children and skin issues and health issues in terms of mental health and obviously then challenges within constipation and diarrhea and improper bowel movements.

And then that just precipitates as you continue to age and most notably expressed in terms of our perimenopausal situation. Why? Because as females age, We have to overcome now the stress of our environment, both in terms of the toxins.

So literally the, you know, the external stressors and then the internal stressors that's coupled with often dysbiosis. Why is that happening? Well, the external stressors are now kind of inside and aggregating in terms of what we see in terms of the expression of our microbiota or our microbiome or the interplay again within our internal ecosystem.

And so from a young age. Obviously, we discussed on my podcast infertility being on the rise PCOS on the rise, all these things I found to be largely very, very reversible as long as you're understanding the root of what is going on.

And so in terms of navigating that, how do we typically start? Beyond the full medical intake, I do something as simple as a comprehensive stool analysis.

Why? I can see now the level of healthy commensal species, whether that's our firmiculitis to bacterialitis ratio, which should coincide at a very specific amount.

Same thing with our actinobacteria to our proteobacteria, again, which coincides with a very specific amount. We can see the degradation of the mucosal lining and epithelial barrier.

We can see any degree of colonic inflammation. We can see short-chain fatty acid production. Why does that matter? Because that's the equivalent of a postbiotic from our sacrolytic or proteolytic fermentation of our microbes and how we're rebuilding the wall to our home to make sure that our immune system is strong because that in essence will dictate how well we age.

Your immune system is largely relegated to helping us age healthfully and gracefully as we'll kind of continue this conversation to our post-menopausal years, but certainly early on because how does the immune system fight with inflammation?

Perimenopause, Testing, and Food Sensitivities

And inflammation is the root of all chronic disease. So how do we start again? blood test, comprehensive stool test. And I really like a food test. Why?

Because often enough foods now are triggers because in our modern environment, due to our agricultural practices, everything is heavily sprayed with fungicide, herbicide, pesticide, insecticide.

And this might be interesting to your demographic here. When I went to go visit my spouse's family in Eastern Europe, we would buy produce in the morning, That would spoil 24 hours later, full of mold.

I've never seen mold on garlic so fast, on dried fruit so fast, definitely on any sort of produce, vegetables, fruit. It was remarkable bread. It was remarkable how fast the degradation of natural food decomposes.

devoid of any sort of external pesticides. So here is I largely shop at Whole Foods, which again, that's just convenient for my lifestyle. I think I pay premium for organic, but I saw very early on that organic is not the organic of our ancestors anymore.

And how is that relevant? Because if we're exposed to these environmental toxins, well, these are extremely extremely endocrine disrupting. What does that mean?

Your hormones are severely impacted. So these are the things that we're looking at. And obviously I like testing, not guessing. So we test, we treat, and we get our patients better.

How do you do a food test? What's involved? So there's a couple different lab companies that we'll use. It's a simple trick of the blood. So we're looking at IgG levels.

We're looking at IgE levels. Sometimes even further if that's warranted. Further still if there's allergies. But usually that's a mistake people will conflate is that food allergies are not the same as sensitivities.

Allergies will put you in the hospital. Sensitivity is something where you have this what is now known as leaky gut or intestinal permeability. You have the tight junction, the adhesion proteins that are open.

And now things that should largely be contained in the gastrointestinal tract can kind of escape into the blood. Immune system is triggered. It registers out of the poison.

How does it fight with inflammation? And now you have this hypervigilance, hyperreactivity, and you have symptoms. such as histamine response in the skin, like allergic reaction or rash on the skin in the brain with brain fog or fatigue or mood disturbances.

Sleep being a huge component, definitely afflicting our menopausal and post-menopausal females already as hormones kind of dive off of a cliff. But we look at that to see, okay, where is the root of the problem?

Yes, hormones are a conversation, but what else is perhaps flying under the radar that largely needs to be considered? Tell us a little bit more about how leaky gut might arise, and this certainly is not confined to menopausal women.

It's prevalent in any demographic in our population these days, I believe. Unfortunately, yes. It's almost, I think, at this point, I mean, my patient population is biased, but anyone that has cancer, autoimmunity, any diseases of the brain, which to me, again, Parkinson's, Alzheimer's, MS, that all starts in the gut.

What's happening here is we have this very severe insult on the microbiome, which we've decoded the entire genome of the microbiome. So we largely understand what's at play here.

There's a lot of missing microbes, spore-based probiotics, meaning soil-based organisms, because we're largely living in a very sterile environment. We have this mentality of antibiotics, we got to kill the infection, we got to kill these microbes, we got to kill these parasites.

But what we don't realize is there's an ecosystem that has been in balance for several millennia. And in the recent centuries, we have this kind of kill mentality, which has been to our detriment.

Why? It's because it's impacting how we maintain the health of our internal microbial and digestive process. So if you look at digestion, it happens in the mouth.

I look at things all the way from mouth to anus, but it starts actually at the level of the brain. So looking at the hypothalamus, looking at the vagus nerve, which impacts every area of digestion.

And so when I started about 10 years ago, what I found largely is people were coming in for two reasons, both males and females equally. It was either sleep problems or gut problems, and they equal both.

And so what happens is if there's stress, you're not secreting enough hydrochloric acid, which will dictate through the parietal cells and from the pancreas to secrete beta cells to regulate glucose, but also to break down nutrients so that we can digest, absorb, and eliminate what we need to.

So when you look at what happens when you eat, three things that happen. First is toxin elimination. The body's very vigilant, trying to keep you safe.

And largely hydrochloric acid is there to break down protein, some of these larger nutrients, but also to dictate secretion of bile production, to bind to toxins, to secrete digestive enzymes, to break down starch and others, such carbohydrates and obviously proteins and fat.

And so if you don't get that signal, which starts in the brain because there's this kind of perturbation of stress that starts externally from our environment or internally from dysbiosis or infection or heavy metals and toxins, well, you're going to have impact at the level of your hormones.

how we help our patients heal. To me, I look at it first in terms of stepping stone. The first is I want to ensure that someone's circulation and perfusion as well.

So let's look at their nitric oxide production. Let's look at their pulse. Let's look at an O2. Let's evaluate their heart rate. Let's see kind of how well they're ushering their life force or the blood to the periphery to deliver tissue to help heal.

So circulation, perfusion is step one. Second to that, is fuel delivery. So I mentioned, you know, glucose, how well you're partitioning your nutrients, how well that you're taking in fuel to help the body rebuild the resources necessary for healthy immune function and for enzymatic processes to also rebuild hormones, which is largely pH driven, which going back to the level of the gut, each kind of system within the assembly line is very dictated by specific pH.

And if that's off, again, we're gonna have digestive difficulties. The third and fourth to me co-coincide, and that's looking at immune function and gut health.

And to me, it's kind of that one-to-one relationship because if you look at secretory IgA, it's largely estimated that 70% to 90% of your immune function is that epithelial barrier, that one cell layer thick that protects you from your gut and the outside world that resides at the level of the gut.

Leaky Gut, Digestion, and Hormone Connections

And so if that's off, you're going to have this intestinal permeability or what's kind of colloquially now known as leaky gut or these adhesion proteins that are meant to be tightly bound.

that begin to open. What are the two kind of the largest offenders? Gluten and dairy. And what's unique to gluten is that's the only protein the body registers and creates this kind of antibody response and drives these memory B cells that can persist up to 45 months later after one single administration of consuming gluten.

So it has a very precipitous effect long term. But going beyond that, so levels three and four, making sure you have healthy gut function, healthy immune function, layer five is hormones.

I don't touch hormones until I optimize layers one through four. Why? Because hormones come back online typically when you fix the X-pervention. Now, what's unique in terms of your patient population now when we're

looking at menopausal and post-menopausal, well, hormones come dive off of a cliff.

So we have to be mindful of the benefit that hormones can provide. Certainly I discussed this with all of our post-menopausal females to protect bone, brain, breast, eyes, cardiac tissue, and certainly muscle, which to me is the largest organ of longevity, only second to the microbiome, which eventually we're going to realize we are 57% bacteria and 43% human.

So the question is who's really running the show and my goal is You're voting for the microbes, yeah. Naturally, yes. So you mentioned in an earlier discussion that many people are having gut issues, but they're not symptomatic in their gut, but other problems are arising, or they may actually feel pretty good, but they still are having gut issues.

So maybe tell us a little bit more about that. So what happens often, I don't know if, I mean, you found this to be accurate once upon a time as well, but patients often come up to us where they're suffering.

They have some symptoms that are either unexplained or they eventually have pain. And so I created this foundational five and you got to eat right, sleep right.

move right, talk right, poop right, and you're going to feel right. Well, what happens is kind of estrogen is implicated in decreases. We often find women becoming very constipated, right?

Same thing with oxytocin. Women become very constipated in their menopausal, post-menopausal years. That to me begins the gateway of recycling toxic food.

So we recognize that if you're not pooping right, eventually you're not going to feel right. And that becomes a concern because that largely can be prevented long before.

Why do I love looking at the microbiome is because I can see kind of what are some of the keystone strains that are missing that help with outputting certain hormones.

Like we spoke on my podcast, you know, 95% of serotonin made in the gut stays in the gut, 50% of dopamine made in the gut stays in the gut. So we see these neurotransmitters that are largely treating at the end stage in the brain is actually coming from our gut.

And the same thing when you want to understand the secretion of hormone production, looking at estradiol and E2. So what's interesting is that The mucosal layer lowers with age, unfortunately.

So I mentioned something like simple as the secretion of HDL or hydrochloric acid. So butane HDL, we replete that with our aging population so that you can begin to digest, absorb and eliminate your nutrients property.

but the lining of the gut has many receptors for every sex steroid hormone and estrogen and estriol is all over that gut lining. In fact, we see biomes on every organ function of the body and we recognize, I know we spoke in my podcast, estrogen impact on the vaginal microbiome and specific pH and hormones that impact the gut such as estradiol and estriol.

It signals the gut wall and reduces abnormal growth such as palps or cancer, so it's very protective, estradiol, and progesterone upregulate these adhesive proteins that we spoke about in terms of protecting against leaky gut.

We know that testosterone also upregulates secretory IgA, which is the gut immunity that we, and again, going back to that idea of 70-90% of our immune function resides at that gut lining.

And estradiol helps maintain this healthy gut bacteria in the gut microbiome. Estrogen allows oxytocin to help gut protection from inflammation, heal from injury.

So there's a huge relevance in terms of hormones and what we do very effectively in terms of bio-genical hormone

replacement to protect what's happening as the hormones kind of fall off a cliff, as I suggested, you can test that.

There's no reason to guess anymore. We have very advanced diagnostic tools, whether it's blood, saliva or urine, we'll do a combination depending on where cell unit is in that cycle, depending on what we're looking for and how things are being converted and downstream metabolites and utilized.

But what we see is that When there's less E2, there's less testosterone as we age, this weakens kind of that entire hormonal picture, most notably at the vaginal gut axis that we spoke about.

And that affects someone's quality of life, right? We were designed to mate, to have fun, to engage in pleasure, to protect bone. Certainly those become very high risk factors looking at bone in general movement as medicine.

I know we'll get into that and perhaps some of these other diseases associated with lack of movement. But osteopenia. afflicts women, we're still osteoporosis as women begin to get into the post-menopausal years.

And this largely can be mitigated with the right approach early on, but making sure you're engaging in that healthy lifestyle medicine approach, that's kind of what we consider with all of our patients.

Going back to the leaky gut situation, if on your testing you determine that there is a disbalance or dysbiosis in the microbiome, how do you approach that?

And do you advocate pre-probiotics or particular diets, or is that highly individual depending on the woman in whom you're seeing? Yeah, I love that you referenced the highly individuality because while you and I are maybe 99.9% identical within our genetic makeup, our microbiome is maybe somewhere between 20 to 40%. And when they did that study on identical twins, they found that to be accurate, right?

So how can that be the case? It's our epigenetics or the environment that dictates our microbiome, what you're eating, when you're going to sleep. what toxins you're exposed to, the quality of your relationship, what the microbiome of your parents look like, even transgenerationally.

So while our genetics, I gave it to be, you know, 5% of the driver. To me, the microbiome is really what pulls the trigger in terms of expression of hormones and some of these kind of epigenetic factors that are now contributing to disease or kind of patients that don't feel as well as they can be.

So How does it start again is we'll do a simple comprehensive stool analysis and we'll look, okay, what are some of the keystone strains that are missing?

Whether it's faecalibacterium prosinaceae, whether it's rosburia, whether it's acrimansia, which has come to light as of late. Some of these keystone strains that reside in the mucosal membrane, if there's degradation there, well, we certainly have to replete that.

How do we do that? Administration of polyphenols, which is great. You can consider a postbiotic like butyrate, which the bodies should be making. which going into this kind of now vitamin G, I call these GLP-1s that so many people are on.

Microbiome Repair, Diet, and Peptides

There's pros and cons to that. I don't know which time we get into this show about that, but we'll do as comprehensive stool analysis. We'll see what's going on under the hood.

We can definitely add in probiotics to help overcome what's missing, but you need a healthy source of prebiotics. So it's the same thing. It's like if you're trying to raise a garden bed, right?

Let's make that analogy. Well, you need soil, you need sun, you need nutrients, and that's the same thing with our microbiome. You need the right ecosystem.

But what happens is something like pesticide, herbicide, fungicide, insecticide, things that are killing off the bees, right? Or certainly some of these healthy insects or animals that replete the soil with these healthy nutrients.

Well, we spray weed killer, what do we kill? Everything, flowers, the fruits, the weeds. So job done, right? We get, you know, take care of the weeds at the expense of everything else.

But what grows back the fastest? The weeds. And so that's one course of antibiotic use. One course of antibiotic use often enough kills some of these healthy keystone strains up to 50%. Two courses in a lifetime can kill off some of these healthy microbes that cease to exist and never return.

It's difficult to replete with probiotics alone. You really need to make sure that lifestyle medicine is integrated. So again, that foundation five that I developed and then eating the right foods that help with seeding kind of these new microbes.

And that certainly takes time. What's often lost is fermented food. Once upon a time, we lived in feast famine cycles, we would have to preserve our food into the winter.

What is that? A lot of healthy microbes living on the food. We don't do that anymore. We go to the grocery store, we eat berries and avocados that are at our disposal.

They don't grow all year round. So it needs to be addressed that my goal is can we eat the seasons? Can we eat local? Can we eat fresh? Because our nutrition is instruction.

It's going to heal us. It's going to hurt us. So to me is I don't just like giving a plethora of supplements. Sometimes, you know, it's prudent because my goal is to supplement what's missing in the lifestyle, what's missing in these healthy microbial environments.

But a lot of that instruction comes from food alone. And I always say, eat what your ancestors ate. That's what you're going to do best in. But we are now just scratching the surface in terms of postbiotics and what some of these healthy microbes produce, whether it's gram negative or gram positive microbes, that kind of suffice these healthy ratios, because what matters most is the ratios.

And what works for me doesn't always work for you. And so when you said, you know, how do you rebuild that? Well, Those are all considerations and I'll give you a bonus tip because what used to take me maybe a year in my Crohn's and colitis patients or maybe six months in my mental health patients or my hormone depleted patients now takes me as quick as kind of three months with the use of peptides.

Something like BPC or TB 500 BPC helps really rebuild that mucosal membrane. It's naturally secreted in our gastric enzymes. Another thymic peptide or fragment really helps with the reduction of the inflammatory burden that happens at the level of the gut.

So it's this kind of combination. There's KPV, there's butyrate that I mentioned. So some of these things is medicine continues to evolve. Our goal is to stay on the cutting edge.

So we begin to help our patients heal faster and safer. So, the peptide scene is happening in lots of holistic medicine practices with chiropractors, naturopaths, and some MDs who have moved in that direction.

Are those correct statements? Here's the thing, there is no evidence in the United States, right? I was just invited a couple of years ago to the advanced gastrology module for Institute of Functional Medicine when I was here in Chicago.

And it was interesting, I'm not going to name any names, but one of the practitioners beside me, it was a room full of MDs and NPs. And one of the last questions for this module in particular, advanced gastroenterology was, what is the thought on peptides?

And the head MD who was narrating the entire conference, he said, we largely don't have opinion because there's no evidence and we practice evidence-based medicine.

What I have found is the evidence is 10 years behind what we see in clinical practice. And this has held true for so long now. The evidence is unequivocal with the studies of Dr.

Kavanaugh in Russia and Eastern Europe and Asia and Israel. They have decades of literature. They've been doping their Olympians with peptides for years and that's why they've always been kind of at the cutting edge in advance.

Now we realize that now we're catching up. These are performance enhancing molecules that often enough are naturally secreted that are endogenously produced.

So again, the safety is there. One of my colleagues who actually wrote the book on blood chemistry just, they presented this at the compendium, similar to kind of the FDA, 1 million patients with not a single adverse incidence of these peptide molecules, not one.

So again, my focus in terms of practicing natural medicine, I try to limit any use of pharmacology and I always give patients the opportunity to decide pros and cons to both.

But that's why typically patients reach out to our clinic is they're looking for the natural holistic route. And so we, we educate, we give them options, but in terms of peptides, we help our patients truly heal faster and safer using the administration, both oral and otherwise.

Sometimes people come in with physical pain. This is kind of interesting. I had a stroke patient who were, um, We're doing, you know, bioidentical hormone replacement with very safely.

She feels great. She came in with a pain level of 178 out of 10 in her knee. And I go, oh my God, we got to get you to the hospital. And she goes, no, Daniel, this is my life.

And I go, okay. Well, here's, uh, you know, we can kind of inject locally. And typically patients see somewhere between 10 to 25% better levels of pain reduction after the first administration.

After two, two injections, she said, this is her, her words, not mine, her pain level went down from 178 out of 10 to less than 10. Can you imagine the quality of life?

And it holds true with the binaural hormone placements too. You help your patient population feel better when you get them on the right treatment plan.

Yup. Yep. And a lot of us have settled for not feeling particularly well and have just kind of been, you know, told, it's, you'll get over it or get over it.

You're, this is just the way it is now. And I'm hearing you say that that isn't what you wish for your patients in your practice. So, so that's a good thing.

Let's go back a little bit to the link between our gut microbiome and our brains and our moods and so on. You touched on this a little bit, but more and more focus on dementia causes in women and Well, women have the majority of the cases of dementia.

And what is the connection that you have understood between the gut and the brain?

Gut-Brain Axis and Dementia Risk

This is interesting because with our mental health patients, again, depending on what someone is going through, and again, I always say, my goal is not to serve as someone's therapist, although they find a lot of reward when

discussion happens, because our goal is to educate.

And we see very, very specific signatures within our mental health patients who have, you know, this heightened state of anxiety or depression or stress and reductions in GABA.

N of one as an example, maybe not one of one in terms of your post-menopausal patients, but look at my kids for as an example, just very quick anecdote.

So three girls that I have, eight, five, and three. I didn't know what terrible twos were until I met my daughter, my second one. First pregnancy, wife was on it.

She was eating everything correctly, the supplements, the exercise, going to bed on time. We were on top of everything. Our relationship was beautiful.

First child, happy go lucky, not a cure in the world, still to this day. We did a stool test. What did I find? The largest number of richness and diversity in her microbiome.

Second child. We're at ends. I'm building the practice. Her mom is passing away. She's not eating right. She's not sleeping right. She's not taking the supplements.

Second child, terrible two, terrible three, terrible four. I do a stool test and she has the least number of microbial diversity and richness in species.

How interesting. So what I was referencing is the problem starts early. And the problem starts in utero. Okay. So we see with her as an example, she doesn't produce GABA.

Why? Because she's missing the microbes that do that. What are they? Bactobacillus plantarum, Bifidobacteria longum. So what do I do? We give her GABA.

Now she doesn't have these mood swings. She doesn't self-deprecate. She's not quick to blame herself. And then we also now give her some of these missing microbes.

And over the years, it's like two different children. But if you go to see a psychiatrist or something, well, you're instantly put on these medications because you have this instability.

You have these mood swings. Well, what's the actual problem? It's the missing microbes, which started way back before. And we have to look at mom's health to discern that.

How interesting. So that's been my passion and area of focus for the last 10 years. Now you mentioned Alzheimer's in particular as an example. So each disease that I found, and you can find this kind of, we have guidebooks on this, each disease kind of adheres to very specific microbial signature.

When I look at Alzheimer's, there's a reduction to acrimancy. One of those keystone strains that I said resides in the mucosal membrane. The Clostridium species are reduced.

The Formicides, some of these healthy gram-positive bacteria are reduced. Lactospy are reduced. There is an increase in some of these greater gram-negative bacteria now that are associated with Alzheimer's disease.

So how interesting we see a shift in more of this prevalence of unhealthy microbes that confer more of this lipopolysaccharide secreted when they lyse, which is this endotoxin that when it gets into the blood, because as we addressed before, stress and toxins and lifestyle, the gut lining opens and now things get into the gut.

Lycopolysaccharides are very notorious for crossing the blood-brain barrier. What happens with our Alzheimer's patients? The buildup of amyloid plaque, the misnomer in modern medicine is we're treating end stage.

We're trying to get rid of the beta amyloid plaque. What are these proteins? They're largely antimicrobial. It's trying to sequester some of these damaging microbes or this heightened sense of LPS that is now aggregating in the brain.

So the body is smart. It's trying to sequester that. But instead, what we're doing is we're trying to clear out how the body's trying to solve the problem.

Similar to cholesterol. Cholesterol, to me, is not a problem. It's a solution. It's a building blocks. It's a precursor to all your sextarian hormones.

So going back to the brain and Alzheimer's, we see very, very specific microbial signatures. We also see the translocation of our oral microbes. going into the brain like Tenerella or Fusobacterium nucleatum or Porphyromonas gingivalis.

So some of these microbes that largely should be in the mouth that are now congregating in the brain that are now driving more of this beta amyloid plaque because that is a protein that's very antimicrobial.

It's trying to sequester this inflammatory cascade that happens when these microbes that aren't maintained in a specific area now are able to intervene and invade into another organ, hence the brain, hence the lungs, hence the heart, hence the prostate, hence the vagina.

We see each organ has its own specific biome that we are now coming to understand will confer the protection of that specific organ. But unfortunately with the brain, it's so vulnerable that blood brain barrier is literally one cell layer thick.

So it's extremely vulnerable, just like the gut microbiome. And so as things begin to cross into it, that largely shouldn't, that's where you begin to see degradation over time.

What does that look like in symptoms? brain fog, fatigue, obviously the acute memory issues, sleep issues, lethargy. And then the cookie eventually crumbles as we're exposed to more and more toxins as we age.

Our detoxification pathways are in keeping up. Our hormones, which are very, very protective, incredibly brain protective as well, begin to deplete. And so then now you set the stage for Alzheimer's, for Parkinson's, for MS, largely all issues of the brain.

But it's not a problem in the brain. The problem is your oral microbiome. The problem is your gut microbiome. The problem is your lifestyle. So back to food and nutrition and some testing, it sounds like is what you would advocate.

Well, you have given us an enormous amount of information about the gut microbiome. And as I'm hearing you speak, I'm thinking that obesity can be traced back to the gut microbiome, that there's connections between the oral microbiome and Alzheimer's, dental hygiene and so on.

matters to your risk of dementia. I recently saw something about the oral microbiome and pancreatic cancer. So we're learning basically more and more about all these connections.

And what is missing from all of this is, you know, how do we… How do we avoid antibiotics? I mean, and there's antibiotics in our food, presumably in our soil.

Some of it's even in our water, I think, because of the prevalence of all of this in agriculture. It sounds like we need to step back and look differently at our entire way we run our agriculture and our lifestyles.

Anything else that you would wish our menopausal listeners to know that you have found is kind of missing in the mix with most of your patients in that age range?

Yeah, again, not to underscore what was already said. Because you asked something, you know, about the

neurotransmitters and healthy mood. Really, it's the microbes that dictate that, you know, lactobacillus and production of serotonin or acetylcholine in the brain, bifidobacteria.

And again, going back to GABA and the ability to, to relax and escherichia and to produce dopamine and norepinephrine, serotonin, saccharomyces to produce also norepinephrine and terracoccus to produce serotonin.

Practical Takeaways and Clinic Information

So our ability to kind of have this peace and calm as we continue to age. Really it's our microbes dictate the secretion of our hormones largely to some capacity, our neurotransmitters.

So what I encourage everyone is, I don't like testing, excuse me, I don't like guessing rather, I like testing and I like treating. So we have so much at our disposal now.

That's why the name of our clinic is Total Body Diagnostics. There's an intent behind how I name this is because the diagnostics really drive healthy outcomes because you can see very, very effectively now where you're at on the process of healing.

Are you shifting toward this more inflammatory state? Or are you shifting toward more estate that is conducive of healing like you can see certain cytokine markers like NF kappa beta or IL-6, IL-8, IL-1 beta, TNF alpha, all these things that are being secreted.

when we're missing the microbes that confer the benefit of health at our immune system, which drive inflammation, which will eventually protect us from, you know, chronic disease states, but certainly that impact the level of the hormones that were produced.

But beyond that, in terms of the post-menopausal picture, Again, for me is I don't see any reason and I almost say it with a grain of salt, right? I don't like to speak in terms of hyperbole, but literally the benefits to me, and we see that now clinically in terms of bioidentical hormone placement at any age, obviously for our post-menopausal females that confer so much benefit in terms of protecting bone, breast, brain, heart, muscle is key.

to living a life pain-free on your own terms, how you want to age gracefully. So the administration of these very potent bioidentical molecules that the body has produced.

for the entirety of one's existence, we can do that now very safely to allow someone to live life again on their terms and live a very healthy, fulfilled, long existence.

That's a great message to give people. And they can reach you through TBD Fitness if they wish to be in contact with you more. Is that the best way? Yeah.

So I know you were on our podcast as well, which was incredible. The podcast is TBD Fit, which is also the same thing as the website. So it's Total Body Diagnostics, TBD.

fit.com, so tbdfit.com. If anyone wants to get in touch with me directly, you can send an email directly, info at tbdfit.com. So we take those inquiries very seriously because our goal is to help as many individuals at any point of their life as we can.

Our goal, we have a specific number, we want to impact lives of hundreds of thousands of individuals. We have an incredible staff. to be able to help support that.

But if they wanted to work with myself personally or some of the other health practitioners to be able to take a look under the hood, stop guessing, start testing, start treating, we try to keep things as lean as possible in terms of cost because some of these are not covered by insurance.

Why? Because it's considered to be above the standard level of care. And so we always guide the patient wherever

they're in that journey. It's usually two options.

To me, insurance care is sick care, or if you want proactive or preventative medicine, well, let's take a look on where you're at, you know, in terms of your health journey and how we can intervene and make sure that we course correct to provide the precision-based approach that they're looking for.

That's great information. Thank you so much. This has been a tremendous amount of information and I really appreciate your experience and your expertise.

And for our listeners, if this is the kind of thing that you appreciate hearing, please like and subscribe to this channel and hope to see you again soon.

Thanks so much. Take care. Thank you, Pat. Thanks. Thanks for listening to the Women's Health Span Voices Podcast. If today's episode spoke to you, follow the show and share it with a friend ready to take charge of her health.

And please leave a review. It helps more women find us.