Super Gut: The Missing Link to Better Health Transcript

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Introduction to gut health and the podcast

Crispottis may be one of the most impressive things a woman can do for restoration of skin appearance and health. We don't have to do Botox. we just need the right bug.

Yes, once again, all the things that are done in conventional health care are proving to be unnecessary and destructive. So if we were to swab a young woman's skin, let's say a 25 year old, she's got Crispotis.

As a women ages to age 65 or 70, they all lose Crispatis for a variety of reasons, including exposure to antibiotics. products and topical products, et cetera.

Well, if we believe the early evidence, a woman restores chryspotis to the skin, there's an explosion in dermal collagen, that is, the level of skin health that prevents wrinkles and gives you a youthful appearance.

Your health is shaped by more than symptoms. Through real stories and expert insights, we explore how your genetics, environment, and daily choices affect your wellbeing.

We uncover root causes and share practical tools to help you find the healing you need. Welcome to the Forum Health Integrative Medicine Podcast. Well, welcome everyone to our podcast today.

I am super excited to have Dr. Davis, William Davis as our guest today, he has written many, many books and the book that we're going to talk about today is Supergut.

Now, it was published, I want to say four years ago. Fantastic. If you haven't read it, you should, but after this podcast, we'll at least give you the Cliffs Notes of some of the important highlights.

And then you'll be inclined to go read it. So welcome. Welcome, Dr. Davis. Well, thank you, Doctor Peterson. Glad to be here. I want to start by, I don't know, sort of talking about this from the perspective of a doctor.

Most of us are taught in medical school that the gut is, you know primarily to digest food. Maybe we eliminate some waste. But you argue that, the guts actually central to immunity, metabolism, mood, chronic disease.

Mood I think is the one that catches most people off guard. What led you to that conclusion? Well, you know, I was conducting my program for many thousands of people that starts with elimination of wheat and grains, this thing that has been changed dramatically by agribusiness and it's no longer this things that grows traditionally, as well as addressing some common nutrient deficiencies that all address this epidemic of insulin resistance and inflammation, which essentially involves the entire population, certainly two-thirds of the population.

That is insulin resistance that leads to dementia, cancer, heart disease, and virtually all the common diseases of modern people. Vitamin D, magnesium, iodine, omega-3 fatty acids, it sounds random, but they're all nutrients that are deficient in modern life because of habits we engage in.

Well, we do that, and you see dramatic improvements.

Why the gut drives immunity and chronic disease

People lose, say, 50 pounds of weight off their abdomen, their blood pressure drops, the inflammatory measures drop, risk for coronary disease, all those measures improve.

experienced dramatic improvements in health, but not all the way. And that's what was frustrating. I said, well, why? So let's say somebody is a type 2 diabetic and their hemoglobin A1c is 11.7%, which is terrible, and they're

on their way to amputations, kidney failure, dialysis, et cetera.

They do the basics in these programs, wheat and grain elimination, those nutrients, and their hemoglobin AAC drops, say, to 6.7%. Much improved, still awful.

Still in the range of type 2 diabetes. They said, well, why? Why am I stuck? why am i at this plateau? So it was clear that there was something missing.

And so I asked, what could be missing? And became clear, that it wasn't the microbiome. And as my work unfold, it became clear, and the science has become very clear that the microbiome in modern Americans has been completely disrupted due to a number of factors, overexposure to antibiotics.

You may know that, the CDC tells us that 650,000 prescriptions are written every day for antibiotics, every Most of us by age 40 have taken 30 courses of antibiotics.

In other words, we're widely exposed, overexposed to antibiotics, sometimes necessary, often not. Most probably not, and it's crazy because as a physician, there's this experience that if you don't prescribe antibiotics the patients are unhappy because they anticipate that that's what they need.

And since they know what the need, if don' t give it to them, you must not care about them. Right. Exactly. The way that the insurance system works right now is you got to see these people and get to the next one, so you can't have a lengthy discussion about how this is doing them harm.

The system supports this misuse of antibiotics, and there's all these other things. Our exposure to glyphosate, that's in virtually everything now, air, water, food.

pesticides, herbicides, chlorinated drinking water, all the things we're all exposed to as modern people. I'm just going to interject this real quick, Dr.

Davis. My favorite thing, the thing that I learned, because I've read books like this for quite some time, and I had not understood emulsifiers and the damage that they cause.

So thank you for that. That part of your book was really insightful to me because people can be gluten-free, they can grain- free, and yet they're still eating a peanut butter with an emulsifier because they are trying to eat more fat and protein, right?

So that was a nugget for me. Yeah, the science has progressed to tell us that such seemingly benign things as emulcifying agents or preservatives They're meant to inhibit mold growth in food, but also inhibit microbial growth and your GI tract.

So many things that we just took for granted are disruptors of the gastrointestinal microbiome, So a lot of these factors, emulsifying agents, preservatives, antibiotics, other pharmaceuticals, kill off beneficial microbes.

Beneficial microbes in our GI tract are much more susceptible to these factor than our pathogens. So of course, if a woman has a urinary tract infection, it's usually E.

coli or Klebsiella or Salmonella, or many of the related microbes, And then the antibiotics and all those other factors are effective in killing off the beneficial microbes that were suppressing those potential pathogens.

And so there's been this effect where we release the growth of pathogens in the colon. But what shocked me many years ago was that when you allow these pathogens to proliferate in a colon, they then ascend into the small intestine.

This has been talked about for years by the the alternative health community, but it proved to be true. It took a 2007 study from Belgium, Dr. Patrice Kenney, who finally validated it formally.

That is, microbes in the small intestine enter their breakdown products, specifically lipopolysaccharide endotoxin, enter the bloodstream. But it now tells us how microbes living in GI tract can exert their effect, can export their to the brain, to skin, joints, heart, bladder, uterus, in other words to all parts of the body that the GI tract is not just confined to GI, it is a process that affects the entire body.

You might experience it as dementia. or depression or suicidal thoughts or as psoriasis or seborrhea or atrial fibrillation or coronary plaque rupture, heart attack, sudden cardiac death, or repeated failure to have a full pregnancy or endometriosis.

In other words, we've got to reconsider everything we thought we knew. about human health in light of the contribution of microbes in the GI tract. At Forum Health, we uncover the why behind your symptoms.

With advanced lab testing, hormone optimization, and cutting-edge therapies, We help you heal and perform your best. And now, through shopforumhealth.

Microbiome disruption from antibiotics and additives

com, you can access physician-grade supplements trusted by our providers, supporting everything from adrenal health to focus and longevity. Learn more at forumhealth.com and explore supplements at shopforumhealth.com.

So you said something there that I think is worth sort of teasing through. The lipopolysaccharide or other toxins that are released when these bacteria are in the wrong place and as they die, that's causing a lot of those symptoms.

A lot the inflammation that is exported to these places outside of the GI tract is because of these toxins, right? What part of it do you think is because of the immune changes, the dysfunction that happens?

And I would look at those two separately. One is inflammation from a direct toxin and one is information from change in the response. What have you seen with respect to that?

Sadly, most of that evidence is animals and not in humans. So for instance, there's a series of studies from MIT where they looked at exactly that. What is the effect of distortions of the microbiome on the immune system?

It's become clear that the microbiome, for instance, is responsible for thymic involution, that is for the atrophy of the thimus gland. Thymus glands, of course, in the chest, the front of heart, and the seat of T-cell immunity.

That is the immune process that protects us from bacterial infections, viral infections and cancer. And of course, what's surprising is that this science tells us that our maximum thymic volume and T cell producing capacity was reached at age 15. And then as we age to age 65 or 70, we have about 10%, 10% of our original thymic volume in T-cell capacity, which explains why, for instance, as you know, Someone dies of pneumococcal pneumonia or the flu at age 70, but not at 18. Right.

No, at the age of 18, they may not even go to the doctor. They may even need an antibiotic. It's remarkable. So a lot of that is the process of aging, of course, genetically programmed aging.

But a surprising amount of it is programmed by the microbial composition of your gastrointestinal tract, this thing that we have dismissed as meaningless.

I mean, it's amazing to me that for decades, we thought the gastric intestinal microbiome Was responsible for nothing more than diarrhea after a course of antibiotics and that, Oh, it'll come.

You'll, you'll recover. Well, yeah, but you don't recover all the microbes you've lost. So I have a theory about that. My theory is cause we've often talked about how the appendix.

is unnecessary and I think there are probably other physicians that agree with this and we I don't know that we have evidence to support this but I Don't think the appendix is totally worthless.

That's where you're storing all the microbes. Should you get dysentery? How will you Get them back? Otherwise, I Think it's sort of like the library at Alexandria and if it gets burned down You don't have a repository of all that information.

But if you got dysentery and you had a functioning appendix, then your body could recolonize the colon. So that's my thought on- Great analogy by the way.

Yeah. The appendics, of course, is at the interface between the ileum and the ascending colon and its position, as you point out, perfectly for restoration of a microbiome that has been destroyed.

Of course, this all occurred before the age of antibiotics. It occurred for other reasons too. But the bottom line here is modern people have decimated, have destroyed the microbiome composition of their gastrointestinal tract colon and then secondarily small bowel.

I focus on it because it's a small bow that by design is permeable. That's where we're supposed to, of course absorb nutrients, minerals, vitamins, amino acids, fatty acids et cetera.

Well, the presence of fecal microbes that have ascended from the colon into the 24 feet of small intestine increased permeability and thereby the access of this endotoxin, lipopolysaccharide endo-toxin into to the bloodstream.

And this is not my science. There's more than abundant science in the several years since Patrice Kennedy validated this from Belgium. And we now know that this process, this increased presence of fecal microbes in the small intestine, thereby endotoxin in bloodstream, we know with good evidence now, it's the fact that it drives weight gain.

Type 2 diabetes, cognitive impairment that leads to dementia, Parkinson's disease, Lou Gehrig's Disease, psoriasis, eczema, atrial fibrillation, coronary plaque rupture, myocardial infarction, sudden cardiac death, all the things we thought we knew.

You know, giving people Lipitor Reduced Cardi, what? No, no, nonono. Giving people a diuretic for blood pressure? NO! An SSRI for depression? This now looks like we're practicing medicine from 2,000 years ago in light of the wisdom provided by the science unfolding about the contribution of endotoxemia.

One of the things that you said in the book that I really loved because I had seen other literature on this was the connection between CIFO and Parkinson's and brain issues, dementia, because of how the brain is a place where apparently fungal elements will go.

And like you say in a book, must be through the blood. That's the only way it could get there. So it had to go from the gut to the body, to brain, and then we end up with dementia.

That's a big deal, right? So let's talk about that a little bit. I think people have heard about dysbiosis for some time, but SIBO and CFO, I, think in the integrative world, patients have hurt about this and probably largely thanks to you and other physicians like you.

But my colleagues that are still practicing conventional medicine sort of roll their eyes a bit, tell us the difference, if there is one, between dysbiosis, SIBo and SIFO.

It's a very disturbing and largely unsettled question that is the role of fungal proliferation in the human body. Sadly, sadly, people with type 2 diabetes kind of serve as a proving ground for these concepts because they're so much more susceptible to so many disease.

Endotoxin, inflammation, and disease spread beyond the gut

They die younger, they have coronary disease, amputation, peripheral vascular disease sooner than other people, and they all have I shouldn't say all, but nearly all have SIBO and CFO, Small Intestinal Fungal Overgrowth, colonic

and small intestinal fungal overgrowth.

The series of studies that brought this to my attention was a series studies from Spain, from Dr. Ruth Alonso's laboratory, where she did something remarkable.

She took the brains of people who died. of various causes, car accidents, cancer, heart disease, et cetera, and then looked at their brains for the presence of fungal organisms.

And lo and behold, people who die young, let's say, in a car accident at age 27, they have no fungi in their brain. People who are older, say 78, have some fungi.

People who die of dementia have brains filled with fungi. Now that can't prove cause and effect. Is it the cause of dimension? Is a contributor to dementia or is it just a curiosity?

So that's not been established. But think about this for a second. If your listeners think what happens to type 2 diabetics, and you know this, type two diabeics often have fungal infections of their groins, under the breasts, of the necks, their forehead, behind the ears.

They have multifocal fungal infections. And they also have more fungi in their colons. When we do a stool test, of course, it's a rectal test. It's not a small intestinal test but they often have overgrowth of fungi.

The limited evidence tells us they have fungual over growth in the small intestine. So the GI tract, the gastrointestinal system, act as a repository for fungal.

I've always believed that there are things that are operating against you and me to accelerate aging. Once you have children, you no longer serve much of a purpose to society.

That's right. As far as biology is concerned, Right. So vitamin D deficiency, great example. If you're lacking in vitamin B, which is virtually an entire population, unless you address it specifically, you going to have insulin resistance, coronary disease, cancer, type 2 diabetes.

In other words, vitamin deficiency lack of vitamin is maybe nature's way of hastening our demise or getting rid of us. I think fungal infections are the same.

if a tree falls in the forest, How does nature reclaim it? Fungi? No. So is fungal infestation in humans part of the process and nature saying, hey, you played your role in life and now it's time to leave.

I wonder if it is part the processes of aging. That sounds very pessimistic, but it also means if we appreciate that insight, maybe Battling fungal infestation is part of the process of maintaining health and maintaining youthfulness.

And by the way, that's one of things we're seeing now as we do all these crazy things in managing the microbiome, whether it's fungally infested or bacterial overgrowth, all of these things, is the maintenance of youth.

There's a really cool study. I give a lot of credit to the people at MIT. A cancer group who were looking at specifically this one bacterial species, Lactobacillus reuteri, and they were in looking for cancer effects because this was a cancer research group.

And there's cell culture and animal data to tell us that Lactivacilis reuteri, this is one microbe. that nearly all modern humans have lost, by the way, and all mammals have, including hunter-gatherer humans, unexposed antibiotics, they all have Rotary.

So they were exploring this question of whether Lactobacillus Rotarii is an anti-cancer factor, especially in colon cancer. They're exploring his question and they're giving mice this microbe, Lactivus rotari, seeing some very interesting effects.

Acceleration of healing. Cutting healing time about in half. Growth of hair. A fur. Dramatic increase in growth of fur! They did something unusual. They took groups of mice and fed them a garbage diet meant to mimic fast food.

Hydrogenated fats. Sugar. Polyunsatch, all those things. And then the mice who just got the diet got fat, lost their hair, loss interest in life, lose interest and mating.

They got and died. The mice, who got this same garbage diet, but along with lactobacillus roteri in their water, stayed slender. grew fur, mated, played, stayed young until they died.

They stayed Young until They died." That got this ball rolling for me that is that important for humans? So one of the things I've been doing It's one microbe.

There's many other microbes, of course. But it's a one-microbe we can restore. Now, the issue back a decade ago was that this micro was available commercially, but it was only available as tablets for infants.

And so infant dosing, of course, is much lower than adult dosings. Well, how do you increase? Well you could take hundreds of tablets a day, which is silly, right?

It's expensive at least. And expensive. So I just use just basic reasoning. What if we ferment this microbe? Microbes don't have sex, there's no male and female microbes.

They just double themselves. We're going to ferment it as something that looks and smells like yogurt. It is not yogurt, that is in dairy. So a human-sourced microbe we're going to reproduce in dairy.

And I did this. By the way, the people who knew something about this microbed, including the company who produced it, said, you can't do that. No one's ever done that!

Well, I didn't! But it took 36 hours of fermentation. You know, when you buy yogurt in the store, that's something made with traditionally sourced microbes that are not sourcing humans.

Lactobacillus bulgaricus, streptococcus thermophilus, these are microbes traditionally used to make yogurt. They're not microbes from the human body. So what this led to was using microbes sourced from humans, in this case, lactobacillus roteri, to ferment dairy into something that looks and smells like yogurt, but of course it's not yogurt.

You can't buy it in store. But all the observations made in mice, shockingly, you know, lots of studies where something is shown in a mice often don't prove true in humans.

SIBO, SIFO, and fungal overgrowth in the body

In this case, to my great surprise, nearly all, not all but nearly, all of the observation made mice have been proving true, in human who make this yogurt.

fermented 36 hours, I did flow cytometry on this yogurt, and we get about 300 billion, billion would it be, microbe for half cup or 120 milliliters serving.

So in other words, all this is is a way to take a micro that we've all lost as humans, because of its susceptibility to common antibiotics, Restoring it in high counts and all the things that were seen in mice, I shouldn't say all, but nearly all effects seen mice are proving true.

That is acceleration of healing, amplification of the immune response. We've not done a study, by the way, to look at, for instance, thymic volume. It involved MRI and T cell subset.

So we haven't done that. But we do see people who seem to coast through life. without viral infections, without other infections and have smoother skin and restoration of youthful muscle.

An increase, we did a small experience in 20 men over age 55, and we saw a 50% rise in testosterone. Specific loss of abdominal visceral fat, the most problematic form of fat.

In other words, Nearly all the observations made by mice were seen prove true and human. That's just one microbe, of course. Yeah, that's awesome. I'm going to make a few comments here.

Let me start with this, and this is somewhat heretical. In medicine, we feel really obliged to wait until the evidence is in. it's one of the I think few places that we do that most of with with my doors open in my car is dangerous compared to doors closed right and yet in medicine we're like well we don't have proof for this yet so we are not going to and it's almost like we doing ourselves this disservice because we want to wait until the altar of science has been sacrificed too.

I'm not saying we shouldn't do the science. We absolutely need to. But we need act when the evidence points to something. And then we have to keep doing research to prove.

If we acted early and the proof was different, then, we can shift our direction rather than say, well, I am going to just keep eating poorly and ignoring this because the evidences isn't conclusive yet.

Right. So, that's my first observation. The other one is that this Lactobacillus roteri, essentially because it is from humans and from our GI tract, it sounds like what you designed was a more palatable fecal transplant.

Because instead of it being all the fecals transplant, It's just the microbe that we really lacked and said, hey, why don't we culture it and then we'll eat it from above instead take it below and it'll do the job.

And then the last thing I would say is my patients have this idea, and I think it's entirely misguided and you actually address this in your book, which I appreciated, that they'll take a probiotic for a while and then their GI tract will be restored.

All those bugs will grow there. And I've always contended with them that no, most of those microbes are actually tourists. It's sort of like New York City.

at any given day in New York City, probably 10% of the people there are tourists. But they have an important function for New york city. If all the tourists were to stop coming, it would totally change the nature of city, right?

And so we need the tourist and it's not going to be the same people every day, but it is the kind of people. It's people from outside of Newyork and they just have to keep coming.

And I think probiotics are that way. Historically, We ate bacteria so frequently that it's unclear to me, I'm not sure that we'll ever have evidence one way or the other because now we're talking about history, but it is unclear for me were some of these bacteria living inside of us or were they constantly visiting because of the food that they ate?

Does that concept make sense? What are your thoughts on that? No, I think the best confirmation of that idea, which is very insightful, by the way, it comes from the Sonnenbergs from Stanford, Erica.

Yeah, and I can't remember his wife's name. In fact, they had a great part in their book about fungi and how they help communication. So anyway, read their book.

If you haven't read that one, audience, go ahead. I'm sorry to interrupt. They published a very important study, maybe about four years ago now, where they showed that people who ingested lots of fermented foods, kimchi, kefir, yogurts, fermented veggies.

And these are species, interestingly, as you would point out, have microbes in them, but microbes that don't colonize the human GI tract. These are spaces like leukonostoc mesenteroides and pediacoccus sitylactoside, pediococci pentasaceous, and others.

There are microbes you ingest, let's say as fermented red onions, or kefir, and they pass through your GI tract and you poop them out. So what good are they if they're just, as you say, just visitors to the GI track?

Well, something happens. It's not quite clear. exactly how, they somehow open the door for the restoration, repopulation of the GI tract with microbes that are beneficial, acromansia, fecalibacterium, lachnospiration, rhamidic acacia, lactobacillus, bifidobacteria.

In other words, you know, You've heard this before. Your listeners have heard of it. If you have a pile of rags in your garage, it doesn't form rats, as used to be thought.

So how in the world can these transient microbes from fermented foods cause the proliferation, restoration of beneficial… It's not quite clear. Are they quiescent in a mucus barrier, for instance?

It is a question of mucous barrier. Does it make us more amenable, more accepting of microbes from doorknobs and other people and things. It's not entirely clear, but it is clear that the consumption of the microbes that do not colonize the GH somehow foster the restoration of beneficial microbes.

And in a way, that really shouldn't be all that surprising. There are things that we make ourselves, for example, vitamin D. We make that, right? So we know we need it.

But we do not make vitamin C or B. And we also know, we needed. So some things we have to get from outside of ourselves and they are necessary in an ongoing everyday basis and other things, We do produce and there are necessarily.

And so the idea that there are microbes that we don't make, but they are necessary for our life and existence and health shouldn't really seem all that surprising.

It's not the only instance of that in biology.

Restoring Lactobacillus reuteri and the fermented yogurt approach

You know also another thing you point out that this need for B vitamins like folate, folic acid people say, in pregnant women so they don't have spina bifida and other midline diseases in their child.

All these, or how about high homocysteine from lack of B6, B12 folates. Or from the right bacteria that make them. Yes! So we know. Exactly right. We know that bacteria, when properly restored, we have the full array of microbes that you need, produce naturally B1, B2, B3, and B5, or B6, or B7, Or B9, and B12.

In other words, they produce these things for us. So all the things we thought, oh, you need folate for proper pregnancy. You need B6 and B12 for reducing homocysteine, not have depression, suicide, and heart disease and cancer.

No, these were all inadvertent attempts to correct what the microbiome, our damaged microbiomes, was not doing for us. But of course, the real response, of courses, to restore the micro biome to the situation that we had a century ago.

This is great. Well, my favorite chapter in your book was chapter five about mucus. I think it's, in my opinion, arguably the most important because I it is the intersection of these microbes and our immune system and the penetrability of this layer that is supposed to absorb things.

We need it to observe things or we'll die because we won't get fuel, but we only need to it absorb the things that are good for us and keep out the thing that's bad for you.

Why did you make that its own chapter? Why do you think it deserved enough attention to say, there's got to be a chapter on mucus? You know, because as you point out, we dismissed its importance for a long, long time.

For instance, somebody eats some ice cream. some strawberry cheesecake ice cream or whatever, and it's got polysorbate 80, it has got carboxymethyl cellulose, carrageenan, dianmonoglycerides, all these factors, not because the food manufacturers are evil, sometimes they are, but in this case they did it because you let that ice-cream thaw and then refreeze it and turns into a block of ice and solids and is inedible.

And so they add these huge quantities of emulsifying agents to inhibit that separation of water and solids. Well, that's separation also operates in the human gastrointestinal tract, whether it's ice cream or salad dressings or many other foods, where they had emulsion agents.

that make the food more palatable but disrupt the integrity of the mucus barrier. And the mucous, of course, is that little millimeter thick lining in your GI tract that protects you from microbes.

Some microbes are beneficial, but many microbes aren't, and you don't want those microbes like E. coli, Klebsiella, Citrobacter, many others. to contact your intestinal lining because when they do, they're very destructive and they of course release their toxic byproducts into the bloodstream.

So loss of the mucus barrier or destruction of mucous barrier such as occurs when you have a cup of ice cream or some salad dressing. I mean, things we thought were okay.

increases the entry of bacterial byproducts against the intestinal wall and then into the bloodstream. And then we have all the consequences that result, abdominal fat, weight gain, increased blood glucose, increase risk for heart disease, dementia, Parkinson's disease skin diseases, sleep apnea, on and on, all of the things that are familiar to us.

Every disease. Yes, shall we? Unless it's a broken bone, every disease comes from this inflammation. Unless it's dengue fever or fractured femur. Well, and I almost hesitate with that because with dengui, I would argue that if our microbiome is healthy and our thymus is doing its job, we can resist some of these infections that we.

Can't without that. And so yes, infectious disease killed us more than inflammatory disease 200 years ago. No question. And so the argument that we should go back 200 years is misguided because I don't want to die of tooth decay at age 40. And there were problems with the way we were living without being able to understand our ecosystem and, hey, these bugs are eating us.

The discovery of microbiology was a huge leap forward. But then we hurt our microbiome and that was a huge leap halfway back. But it seems like even infectious disease would be less of a problem with a healthy microbiomes because we would have, we will be well colonized with things that protect us and there would not be real estate, if you will, for the inflammatory microbes to move in and cause a problems.

You know what I mean? Yeah, you know, humans have always been subject to injury as you point out, as well as infection. All we have to do is, of course, look at the Yanomami in the Bolivian or the Brazilian rainforest or at people in Malawi in Eastern Africa or The Messiah or Hadza or people on the highlands of New Guinea.

They, of course do have some infections different than the infections we get. But as your point, their immune systems are different. for a variety of reasons, but part of which is the maintenance of their microbiome.

The interesting thing about those populations, of course, is these are populations that are separated by thousands of miles of ocean who don't talk to each other.

They don' text each, they don''t contact each othe, yet they have gastrointestinal microbiomes, and by the way, microbiomas in other locations of the body too.

So we talk a lot about the microbiota, the gastrontestal tract, or the sinuses or Yes, yes. All the parts, the brain, airways, vagina, prostate, skin, all have unique microbiomes.

Well, those populations separated by thousands of miles of ocean have microbiome, mostly Gastrointestinal has

been studied, that are nearly identical to each other, which begs the question, why would that be?

Is that essentially the Stone Age of Paleolithic? microbiome that we should have had. So the question becomes, obviously, should we work to restore that kind of microbiomes?

How much is their microbiomic adaptation, their style of living, how much it is necessary for human life? It's an unsettled question, but it opens the door to asking questions like, Should we have more Prevotella?

Should have Spirochetes that they have in abundance that don't have any of except for syphilis? You know, and we do our best to kill off H. pylori as much as we can instead of say, oh, wait, maybe this has a purpose.

I don't know what it is. Right, yeah. So as you point out, there's a lot we know. There's lot that we don't know like H. pylori, like the role of lactobacillus chrysospatus in the vaginal microbiome and prostate health, by the way.

Yeah. The role. Well, I love that you say the microbiomes of the brain or the micro biome of prostate. I think most people would be very remiss to say that because you're fighting against the dogma of we are aseptic everywhere outside of gut and the skin, which is simply not the case.

Uh, it's, absurd to think that bacteria haven't figured out how to wiggle the way through and then float around in the blood. Of course they have. Right.

It's just not as good a place to live. I, I like the example with my patients. So I'm like, look, microbes like to, live where the food's at and the, food is in your gut and, the foot is on your skin and food, is, in, your mouth and around your teeth.

There's not a lot of food for them to eat in other places.

Fermented foods, transient microbes, and microbiome restoration

And it, just like people, if you look at people. They live, where, foods at, which means they live within 30 miles of the ocean. and or at least 30 miles of a waterway.

There's not that many people in central Nevada. Why? Well, because there's a lot of food there, right? And so you can sort of see where microbes live based on where they can obtain nutrients.

But that doesn't mean there are no microbes in these other places. So we're not aseptic. And every time I visit with an infectious disease doctor and like, no, there is no bugs there.

You're like really? No bugs? That's like telling me there're no people that live in Wyoming. I know there aren't many, but it's zero. You are in the zero one percent of physicians who appreciate that fact, which is very rare.

So there's actually I'm in suburban Chicago and about 20 miles from my house, there is a group at Loyola. in Chicago that have done extraordinary work, very elegant work to show, for instance, that the bladder, the urinary bladder.

As you point out, we thought it was sterile. We thought no microbes should live in the bladders because it causes urinating tract infections, which is all kinds of problems for ladies mostly.

The bladder has a unique microbiome. And how could that possibly be sterile? We're talking about a one-inch urethra. How would microbes not be able to climb their way up there?

Of course they can. It's ridiculous. You know, so the microbe that this group showed is very dominant in the vagina and the urine and bladder is Lactobacillus crispatus.

What is even more shocking, a woman who loses this micro, like Rhetorite, it's very susceptible to common

antibiotics. So a women loses Lactivacilus crispatus.

And she's thereby much more prone to candida vaginitis, bacterial vaginias, urinary tract infections, and shockingly, incontinence. A woman sneezes or coughs and wets herself.

Very embarrassing. And you know that the conventional solutions for incontinence are awful. They're terrible. If you want to fall down and fracture your wrist, take one of those medicines.

Yeah, right. They're just awful and they often don't work. And so now it's become clear that not all, but many cases of incontinence are due to a disruption of the urinary microbiome.

This thing we thought was sterile for years. By the way, the very preliminary science is suggesting that Lactobacillus traspatus that plays a very big role in female reproductive organs, genital urinal organs may also play a big roll in male health also.

So, if you and I were to biopsy, say, the prostate glands of men with prostatitis, benign prostatic hypertrophy, BPH, or prostate cancer, none of them have this micro-lactobacillus crispatus.

If we biopsied the prostate glands, of guys with healthy prostate gland, they all have crispitis. Now, that doesn't prove cause and effect. But it's kind of looking that way.

That is, the loss of chryspotis may be one of the factors that leads to prostate disease. And by the way, ladies, I deal a lot with females. Most of my audience is female, oddly.

They're the only ones that listen. You know that. This is true. Chrysotitis may one the most impressive things a woman can do for restoration of skin appearance in health.

So if we were to… No more boat stops, don't spot us. I said, we don't have to do Botox. We just need the right bug. Well, yes. Once again, all the things that are done in conventional healthcare are proving to be unnecessary and destructive.

So if we were to swab a young woman's skin, let's say a 25-year-old, she's got chryspitis. As a woman ages to age 65 or 70, they all lose chyspitis for a variety of reasons, including exposure to antibiotics and topical products, et cetera.

Well, if you restore chryspotis, we believe the early evidence, If a woman restores chyspotis to the skin, there's an explosion in dermal collagen. That is the level of skin health that prevents wrinkles and gives you youthful appearance.

So that's preliminary data. What I don't know is if a woman takes crispitis orally, which will, by the way, populate the GI tract, of course, but also the vagina and urinary bladder, as you point out, there's no connection.

There's contiguous nearness. the perineum, the groin, but there's no direct connection. The vagina is not connected to the bladder. It's not connecting to that gastrointestinal tract.

But there is nearness. Well, does that also apply to skin? I don't know. No one knows. Nobody has done those studies. If a woman applies CRISPR to her skin, if we believe the evidence, there's an explosion in dermal collagen.

So one of the things I did was I wanted to help ladies restore chryspotis to the skin, but you can't just apply a microbe as a powder, say, a freeze dried powder.

Mucus barrier damage and the role of Lactobacillus crispatus

I tried to develop a delivery vehicle, an oil or some other thing, I'm an emollient, or cream, whatever, everything kills

chyspotis. That's a great, jojoba oil, almond oil omega-3, everything you try.

Everything kills crispottis. So I've been telling ladies, make crispattis as a, it's not yogurt, but looks and smells like yogurt. By the way, It's delicious.

It's the tastiest yogurt that you can make. Orderai is very sour, very tart. Crispatus tastes like whipped cream. It was very delicious. Yeah. And a woman can apply it.

A guy could too, of course, but guys typically don't care. But a women can applying it and obtain the skin effects of Crispatis. Maybe obtaining it orally will do the same, I just don' know that for a fact.

Did you mention a way for them to repopulate the bladder with chryspotis? Because it seems like that could be a vaginal suppository as well. And I know that would seem strange, but there are women that use yogurt vaginally to try and recolonize that, and this would actually be the right thing to do it with.

You know, I'm very grateful that the Loyola people showed that a woman can take chyrspottis and other microbes orally to re-populate that gastrointestinal tract, Yes, populate both vagina and bladder.

Awesome. How? I mean, we presume it's via, as we said, contiguity, nearness in the perineum and the groin area. Some of the methods don't know. Yeah, I'll give you an example.

I suspect you've seen something like this. And I know they have GI yeast because they all the symptoms. They also have, like you say, yeast redness, itching under their armpits, under the breasts and their groin.

When you give them Nystatin, Nystatin only goes where you put it. It's not absorbed. The Nystadtin will kill their GI Yeast. and yet their armpit will clear up, their breast will, clear their groin will.

Clear up now not as quickly maybe as some of the bloating will Clear Up, but it'll clear Up. And it's my argument that yes, it is not because the nystatin is being absorbed and killing it in their arm pits.

It's because now the population is going down where the Population is greatest in the gut and since the populations going Down there now their immune system can probably take care of some Of the other but I think there must be something going on that's got something to do with nearness more so than absorption.

So you raise a very troublesome question. And that is if somebody has those issues with fungal infestation and multiple body sites, and if we believe Ruth Alonso's numerous observations that people with dementia have fungel infested of their brains, should we give those people, let's say who have.

Fungal infections, candid infections say of your armpits and groin or whatever. should we treat them with a systemically-absorbed antifungal agent? Sure, like anti-fluconazole or duflon-deflute.

Yes, to prevent dementia. Right. Tough question, right? Because there's no way short of brain biopsy to prove that somebody has fungal infestation of the brain.

It would require something like this. Somebody who, let's say, we think has a fungel infested of multiple body sites and thereby presumptively on the other brain, and then give them, say some anti fungulate fluconozole that penetrates the blood-brain barrier.

And then we do, let's say cognitive testing over the next five years, and we'd show that the elimination of fungi improves cognition. No, no one's done that.

It'd be a really interesting study to do it by the way. And I would love to see the results of that study on Parkinson's as well because of the connection between Parkinson.

That would be fantastic. So yes, yes. As you're pointing out, which is so incredible, that it's causing us to reconsider

all we thought we knew. That Parkinson's disease, we treat it with L-Dopa and other things that increase dopamine.

Exactly. We treat everything. Here's the one thing we know, let's give it. Right? We insist on all the proof before we do anything. If we did that in the rest of our lives, our life would be a disaster.

Well, we got to wrap up. This has been so much fun to talk to you. Let me finish with this question. You spent a great deal of time discussing fermented foods, specific probiotic organisms in your book.

which microbes would you just say and maybe give three that you would say, hey, pay attention to these. If you can figure out how to use these, these would be the things that the typical person who has fatigue or brain fog or achy joints or the classic symptoms of SIBO, what would tell them to do?

You know, Dr. Peterson, so having played with multiple microbial species over the years, I've come to appreciate that Most probiotics, commercial probiotic are haphazardly concocted.

Key probiotic strains and practical takeaways

They're just random collections of microbes with no thought to collaborative effects among the different microbes. Ironically, the microbe I chose to play with at first, Lactobacillus rhoderi, is probably among the most important microbes that's harbored by all mammals, hunter-gatherer humans, and lost in modern humans.

That's a microbed, by the way, that colonized the small intestine as well as colon and is known to produce bacterias and natural antibiotics, such as this thing called reuterine.

It's very potent antibiotic. Microbial-produced antibiotics are smarter than human- produced antibiotics because they're specific for unhealthy microbes.

Modern antibiotics aren't so smart. They kill lots of things, good beneficial microbes and bad microbes, so the bacteria of beneficial are effective in killing the pathogens, the unhealthy species.

Another one is probably lactobacillus gasseri, which by the way plays a big role in female health also, and body composition, where fat is located, so lacto bacillis gasseri also important.

And another one would be bifidobacterium longum, also very important, And what happens is you restore these microbes and all kinds of fantastic things happen.

It'll bowel syndrome symptoms regress. Inflammatory diseases regressed. Sleep is deeper. Dreams are different, by the way. You have childlike dreams. and showing up in English class in your underpants.

All that stuff that we had as kids comes back. Skin appearance changes. In other words, this is not about regular bowel movements. Yeah, that's part of it.

But there's so much more here. I think it's a complete reordering of what healthcare means. What I love about this is it puts the control of health, appearance, physiology, et cetera, into the hands of everyday people.

It does not require a hospital to do this. Yeah, I love that. I think that's a fantastic way for us to finish that we really do have the control of our health in our own hands because it's the foods we're putting into our mouth.

It's, the bacteria that co-exist with, it is the way we treat other people and how grateful we are because how that affects the autonomic nervous system.

And if we need a hospital, that is usually because we ignored those things for too long rather than paid attention to. the thing that has kept humans healthy for eons.

Well said, Dr. Peterson. I appreciate you spending an hour with me. It's been a tremendous pleasure. Thank you so

much. And to our listeners, we'll see you next week.

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