Understand the Severity of Your Long Haul By Understanding Your Microbiome Transcript

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Introduction to the microbiome and Dr. Hazan's background

– Welcome welcome. I'm really excited today. We have a very special guest we're gonna talk about something that hasn't been really talked about a lot which is the microbiome and covid and the gut to those of you who are not as familiar with the microbiome but and my guest is Dr.

Sabine Hazan. She is a gastroenterologist and is a special gastroenterologist because many of them you know they examine your gut daily but she actually has been doing a lot, a lot of work on what is in the microbiome and how it affects your health and on all levels.

And so let's get started. First of all dot tell me tell us a little bit about how you got into studying really what's inside the gut since most gastroenterologists just kind of like focus on the tube.

– Right? So I've always been kind of on the outside of the box. You know if there's guidelines. I'm always is this really true? I always go to two meetings and I listened to the speakers and I go I don't know if that's real.

In fact even when I would take my boards, I would always like is this this could be a possibility to write because you know you when you're an artist and really that's what I like to think of myself as as a physician. There's no right or wrong answer.

Right. Especially in science there's no right or wrong answer. There's no you know we don't really know so much, you know, especially in the microbiome space.

There's so much, we don't know. And so to me to just be so categorical while this is the only way to fix this disease when we haven't really cured anything. Let's be real.

You know this is where my brain just it doesn't work very well and it kind of says wait this is not the right path. Why am I following this path? Right. So it was interesting because doing G. I.

I went into G. I. To understand life to understand disease, to understand where do we go after we die? And then and in medicine anyways and then from from there I was challenged to see you know to go into G.

I. Because they didn't take women back when I applied. So you know to me it was like one challenge after another. And then when I went into G. I felt like there's a lot of diseases that we're not fixing, right? And then of course when h pylori came out that ulcers were all of a sudden the bacteria. I said aha microbes are behind ulcers, right? Our microbes behind crones disease are microbes.

Behind all sort of colitis are microbes. Even behind pancreatitis, right? Is it a microbiologist bio sis so I started thinking with that train that mindset and when c diff I became known in the world of clinical trials. So I went from the G. I.

Path like every other G. I doctor doing 1000 2000 colonoscopies a year and it just was not fulfilling. You know it was like one colonoscopy after another. Yes, you're saving one colon at a time from colon cancer but it just wasn't fulfilling. So then I entered clinical trial to see, well what else is there for Crohn's disease? What else is there for all sort of colitis?

You know, what are the new frontiers the new horizons for these patients that I can offer them something that's new and innovative in the clinical trial route.

So I became known in clinical trials as the queen of C. Diff. Which is a little bug that for almost two decades I tried to kill since my fellowship at University of Florida.

So more than two decades and when I couldn't kill it and it happened to a physician friend of mine who had see death and he was dying. I said you know there's this new procedure called fecal transplant.

The process of taking stools from a healthy donor to an unhealthy. I said look you're dying, You don't have anything to lose. Why don't we just do it right. And I was following in the path of Dr. Brody, Tom Brody I was following in the path of Neil Stollman and Dr. Stollman you know I remember calling him, I'm like how do I do this fecal transplant, what do I do? He's like figure it out.

So I figured it out. I did it and I saved the guy's life. And so to me and then I was Chief of medicine at the time at the hospital that I was working at and I said guys I saved this guy's life.

Clinical trials, C. diff, and the origins of fecal transplant

We really need to bring this on board because we had such a problem with c diff. And so the hospital and the gi doctors over there, one particularly you know, who doesn't really like women said no, this is experimental, we're not doing it etcetera.

So I said, okay, well I'm gonna do it in Beverly Hills and so it was easier to put them in clinical trials these patients. And then if the clinical trials didn't work then I would do fecal transplant cause fecal transplant is expensive.

You have to do testing testing of the stools. And so when fecal transplant became a clinical trial, I said to myself, we're in the poop business and we have no idea what the hell we're doing. So now we're gonna be selling poop from Korea poop from china literally and we have no idea what we're doing and why this is happening, which microbes. And so at the same time, if you'll remember there was a company called you bio, right? So I called you bio and I said, hey, you seem to have an essay, can I look at this assay for my patients before and after to see what am I changing when I do fecal transplant.

Right? So before I did my essay, I did my due utilizing your test. I did due diligence. And I called the salesperson and I said, can I ask you a question?

Who are your normals? And he said, oh our normals are the owners of the company and that was already like a red flag. Right? I go you mean to tell me that the owners of the companies are the standard for where the world is being matched to? So what is that an end of 123?

Are they healthy? Did they have a colonoscopy? Do they have irritable bath syndrome? Are they on laxatives, are they taking drugs? Are they? I had all these questions, right. Because if my microbiome of my patients going to be compared to them and make sure that it's anyway.

So I had all these questions and the next thing, you know, you know the way that God likes to work is they're being investigated and I'm seeing that there's a whole potential in this. But I'm not seeing any lab that I can really work with because I started testing my stools with different labs and I realized that there was no validity in this field. And really and I gave a lecture at the microbiome meeting about four years ago on the challenges of the microbiome research through the eyes of a clinical trial physician And Dr. because I've been doing clinical trials for almost 30 years. So when I give the lecture I said you know this is where we're at in the microbiome or at the beginning until you start doing clinical trials on the microbiome you're really not understanding.

And if you think that these artificial intelligence machines are gonna just you know constipation match it to one bacteria. It's like oh constipation is this bacteria?

No it's not that simple because constipation is a really constant or is it colon cancer? Is the patient an alcoholic or not? Right. There's so many is the patient from India is the patient from America is the Indian from America.

So many differences you have to play forensic analysis analysis. Right? So when you look at the microbiome testing. So I said to myself, there is an opportunity there but it's not there were at the beginning.

So how do I structure a company that basically is doing the cutting edge research that is basically legit that is publishing properly. And how do I stay legit? How do I not appear like I'm some kind of salesman. Right. So I decided to start 57 clinical trials on the microbiome in disease. Opened up for Jonah Bio.

My hired the scientist that was behind the bracket gene and I said doctor Paparazzi, I need a validated assay And then I had a validated assay. I started looking at families. I started looking at diseases.

I started taking the history. I started becoming a detective. Right as we are as doctors right? Started seeing similarities right and certain, you know certain patterns, right? And then those patterns took life.

And then when Covid hit I said, here I am I have a genetic sequencing lab. I have a clinical research organization where I do clinical trials and I'm a G I doctor on the front line of clinical research with fecal transplant.

I'm sure fecal transplant is the answer to everything because I'm a hammer and to a hammer, everything is a nail. And I said and in fact before the pandemic I stored my original stools because I said if I'm gonna mess up my microbiome, I want my original microbiome first. So I knew so I called all my buddies that were in the fecal transplant route and I said guys I figured out the treatment for Covid, it's gonna be vitamins first. It's gonna be hydroxy.

Z pak, it's gonna be a vermouth and oxy it's gonna be monoclonal. So it's gonna be plasmapheresis and then it's gonna be fecal transplants. So they were all laughing because I kind of like set up like the guidelines already before Covid even hit. And so I started doing these protocols on hydroxy which of course we saw became political. Then I started doing I've ever met in which of course the media went crazy with a horse base and then now we're like showing the data with the microbiome and for Jenna by OEM is leading the microbiome research and we saw, you know so much and we learned so much from Covid that I'm very happy that I stepped into it. So that's a big synopsis.

– Okay, so for here we are. Now in year I guess what is it to second year of Covid? Almost three years I keep doing that. I've never been good at adding anybody.

20, it's going to be 23. Yeah. Okay so almost three years. And you know in the beginning we saw a lot of G. I symptoms with Covid. There was you know like with the original and lately we're not seen as much of that, that is kind of shifted its more – And I love that because people at the beginning when I was on twitter they would say why is a gastroenterologist dealing with Covid? Why is a G.

I. And I'm like because immunity starts in the gut. But yes now we're having upper respiratory so go ahead. – Yeah. So I think it's but still, what did you see?

I mean because everybody was talking about the G. I. They was worried about how how many bugs were going to be transmitted equally. You know, but the real question is what was the immune system doing in the gut, what was happening there? What did you see?

– So the first thing we saw we found Covid right? We found Covid in the patient's tools. That was the first thing. So our lab was the first one to first alert.

You know that our government and say, hey I think Covid is in the stools. Look at this data from china and I sent it to Scott Jackson at the National Institute of Standards which by the way the National Institute of Standard is the validation of this country. They oversee FDA, they oversee NIH they oversee C. D. C. So if the C. D. C.

Has a problem, they go to the to nest and say is this legit, is this, you know, standardized? Right? So they basically look at the data and they standardized.

They make sure that your standardized, right and that you're you're validated. So I called Scott and I said I think because we were supposed to have a Malibu microbiome meeting with the government officials and the doctors in March of 2020 that I had to cancel because we went on to quarantine.

So I knew from the beginning that it was in the stools and I remember telling my scientists we gotta look in the stool. So I started collecting stools of patients with Covid. And that was not a simple task because imagine these people are like scared of dying and you're telling them I need your stools.

Please don't forget to give me your stools, I need your stools. So we collected like eight samples at the beginning and I told Andrea's run these eight samples and you know it's expensive to do these, these genetic sequencing because you know the re agents are expensive the time of these expensive scientists is expensive.

Building a validated microbiome assay

And I said – Actually just for one second there can you explain the difference between what you're testing does just very briefly. But just because you know and like the standard because a lot of labs now are doing you know genetic testing on on stool.

I mean we're getting back you know they're on their back so what's the difference and what you do just real quick. I don't want to – So we don't. So when we started testing Covid at the beginning it was a pcr it was a segment of the virus. Right?

– Right. – We're looking we found the whole entire virus in the stools. Okay. Not in one or two patients but in all of them that had Covid positive by nasal swabs. And then we also look.

So there's different pipelines that we do right? I like to call them pipelines. So one is like zoning in into the gut and removing the noise and focusing strictly on Covid. Right So that's an expensive genetic test that basically removes all the bacteria the fungus the parasites.

And just zones in on Covid. The second test we do is called a D. N. A pipeline. Which is basically we're looking at the bacteria DNA in the stools. So in other words when you have when we find Covid in the stools what is the microbiome doing what is the back what are the bacteria doing? Right.

And so it's easy to kind of like correlate. So we go super deep into the microbiome to understand what those microbes are doing at that time. Yes there's a lot of tests that are out there trying to do these stool testing.

However none of them have really. What are you comparing it to? Right? You can't compare to the owners of the company. Right. And there's so there's no real validation process right?

And I always say the only way to get validation in the microbiome space and to see something is if you attain a cure if you cure a patient and you started off with a micro bomb that was this biotic that you thought was this biotic but then you cure the patient and he no longer has a dis bio sis then all of a sudden you could see what changed because it's the change within the individual. But you have to have a perfect essay that correlates at that depth. Right?

So that's what we have. That's what we created. So that's what we do. We basically play detective with your stools and we look at the whole gene pool of your microbes.

Now it could be the D. N. A. Of the bacteria. Or it could be the RNA of the virus is or it could be a messenger RNA pipeline to look whether the D. N. A. Is reproducing and therefore is the microbes.

So if let's say we find clostridium difficile. Well we discovered that clostridium difficile is a commence cell bug in everyone. Nontoxic genic. But when you kill the microbiome around it C. Diff starts flourishing and creating its toxins right? Creating its toxins.

It's like it's basically like you know a field where you had a lot of fruits vegetables growing and then pretty soon you remove the blueberries, you remove the tomatoes, you remove the fruits and you just leave the weeds growing on the grass, right? So it's the same analogy.

So when you look at C. Diff and you find it in the patient and they have a pretty good diversity and a pretty good microbiome. You know this patient doesn't have C. Diff especially if he doesn't have diarrhea right? Toxie genic c diff So then but you question is the C. Diff kind of that you know bug that tells us that something is growing right that something's cooking right?

So then you start looking at other bugs, what are the other bugs doing right? And then you want to know is c. Diff reproducing. So then you do an RNA pipeline a messenger RNA pipeline to see if it's reproducing.

So it's really playing detective, – Right? Just so people understand is that you know find the D. N. A. You know the bugs there. But when you find the messenger RNA. You know that the body the bug is making is alive. – It's alive.

I mean they're still alive but they're kind of dormant they're not doing something but if they're alive and reproducing then those bugs are doing something and then I would question and you know see if I've been treating cedar for like like I said almost 30 years and you know I tried to kill CDA for so many years of clinical trials and antibiotics and only come to find out that it doesn't need to be killed. It just needs to be supplemented with microbes to suffocated. Right?

So it was just a lonely little bug. But you know one thing that I discovered about CDF is that so many patients have c diff toxin and you test their stools and they are tested negative so there's C.

Diff toxin is negative. I had a patient that was suicidal, had diarrhea psoriasis chronic U. T. I. And basically he kept telling me doc I'm sure any smell yeah that smell of C. Diff you know but c diff we couldn't find C.

Diff in his tools over and over. We couldn't find it. Finally I saw his microbiome and I said you know I see a lot of C. Diff in there but I'm not sure if it's reproducing at that time we weren't really ready with an RNA pipeline.

So I said I don't know let's keep testing the toxin. It took me 11 stool test for C. Diff to finally find the toxin. So finally, when I found the toxin, I'm like, you're now a candidate for fecal transplant.

I did fecal transplant on the guy, I gave some stool donor from an English professor who was craving orange juice. He started craving orange juice. He started being happy. No longer suicidal.

His chronic UTI I was gone. His c diff was gone. His psoriasis was gone. It was really an amazing case. And what's beautiful is we saw the changes in the microbiome with our assay.

– So you can I mean that's what's exciting. But you know, obviously at this point, vehicle transplants are for the few and so we can't do much with who have seen this in this country.

– You know, eventually, hopefully the, you know, the college and doctors will see, you know, that there's something there and they want to push it. And doctors, you know, gastroenterologists all around the country will start, you know, saying, you know what, I think we should try this, Right? So that's the beauty of writing the data, right? That's the beauty of being the first is you send out an end of one and then others say, hey, there's an end of one.

Let me try to do a reproduce it with an end of too. – Yeah, no, that that is just so exciting because this has been a world, you know, we the natural empathic world has um, you know, for a long time has insisted that the gut is the beginning of health.

COVID in stool and microbiome testing methods

And so before we get I want to get to the covid piece but before we get there since you just brought up that so in a way and some people um you can restore the microbiome without using the without meeting of – Okay, so that's

the path I want to go into. And I think you guys the natural paths, the holistic doctors have kind of figured it out a little bit because that's the path where basically look if you're missing bifida bacteria, we know we have probiotics out there and there's some good ones and some bad ones. It's knowing which which ones are the good ones and which ones are the life bugs and not just dead bugs.

Right? So I think that's one path. Right? So you know you're missing bifida bacteria, bam go to your probiotic shop and supplement and hopefully you got the good stuff and then you start reef liberalizing the gut, which is what I like to call because I'm not you know as much as I look for data with fecal transplant, let me tell you none of us like to play with poop. Okay, it's disgusting.

You have to be blend poop. The blender, you know breaks. Sometimes you're all over splashed. It's not a fun thing to do. So but we all do it because we're you know this is something this is like you know seeing you know seeing a miracle, right? So when you see a kid and I did my first kid last year with autism and after a month of treating him after a month from the fecal transplant and he says, mom, mama and baba, you know, that's amazing.

This kid never spoke a day in a word in his, in his life. So when he started, he was aggressive, he's no longer aggressive. So I think, you know, to me, that's the reason we do it.

That's why it needs to be advanced. It needs to be talked about, it needs to be, we need to push that glass ceiling to say, Hey, Let's try. You know, when I had a patient with Alzheimer's, who remembered his daughter's date of birth after fecal transplant six months later.

And as many mental status went from 21 to 29, I said there's something there we need to understand because we're all gonna grow old. We're gonna lose our minds.

We're not gonna remember why be that patient. And that's exactly why I stepped in because nobody was funding me, Nobody was giving me a grant. I just used my money and I did it because I didn't be that patient at 70 80.

I mean, look Bruce Willis, you know, however old he is to say, hey, I can't remember my kids date of birth, right? I wanna, I wanna be right now using my funds to prevent what could happen in the future.

So to me that's why I did it. And if anything it was for me, you know, it's an expensive hobby of research. I call it the titanic because you spent a lot of money and it's a sinking ship.

But you know, it saved my life during Covid and I learned a lot and so I'm on the right path. – So when it comes to covid, what what what did you find that was exciting when you looked at covid and the stool?

– So what I discovered was we found covid in the stools, we found that every sequence of the virus was different in every families. So people in the same families had the same sequence and people in other families had different sequences.

So that was interesting because it was almost like individual virus that was, you know, from the close contacts. But then in the next family it's already mutated. So we definitely saw a lot of mutations.

We saw the progression of the virus from, you know, one spike protein to like, I think we're up to 39 spike mutations. Now we saw the progression from, you know, Delta 20 Macron.

So I think that was the fascinating thing about covid, what we found covid in the stools. My biggest question was, what's making people severely sick? Is it the fact that their virus is mutating? And they've got like seven spike protein mutations or is it the fact that the microbiome is totally messed up.

Right? So I started looking at the microbiome and what I realized is that in the people that had severe covid, they had zero bifida bacteria, zero face low bacterium, pregnancy, high backed sororities and low diversity. And so from there I decided to say, well let me see what the people that live with those family members have in their microbiome and what allows them to survive, right? And what I realized was the people that were exposed and

never got Covid had the opposite of what the severe covid patients had. So that was a study that was published in BMJ.

It was basically looked upon by a lot of gi doctors because we all know about the fellow bacteria in G. I. We all know about you know, microbiome and probiotics. And so when I started looking at the that study was really the beginning that says this is a marker, right? This is a marker of susceptibility.

In other words, maybe those people that are surviving out there not having Covid have what I like to call the gold microbiome, right? The resilient microbiome, Right? And that's really the key, right? Because we tend to think, oh this person eats well and therefore the microbiome is golden, right. Wrong.

It's actually the people that don't eat well and that are healthy that have the resilient microbiome because they're surviving healthy, eating junk food? Right?

I mean like because people tell me all the time, oh my God, you know this kid has the worst microbiome, he's eating french fries for Mcdonald's and I'm like okay let's see. And actually it turns out like that kid is actually has a good microbiome. So you never know who has a good microbiome, – Wow, that's so but the but it does seem to have that, you know the the high bifida. So I mean is the converse true.

So the lobe if ido and low presidency and the high back to royalties is a bad thing. But is the opposite also true that the if you have high bifida. – Yeah. I mean like you obviously want to have a high bifida bacteria. I think anyways remember this is research.

I think the other thing is you know there are other bugs that compensate right? In that violence. So that's part of the reason that I started getting interested in the whole life often is because what is I've connected it's streptomycin, it's a fermented product of a bacteria called strep to mrs which is in the same phylum in the same family in the same group as bifida bacteria go if you're in the same group are those two bugs? Like sister bugs?

And therefore if one is killed, does the other one give its fermentation too increase her sister? Right? Because that's what symbiotic bugs do. – So again.

So maybe something like the ivermectin is a messenger molecule. – The is a product right? It's a product of the bacteria that's recognized obviously by the gut.

And potentially could be increasing the buffalo bacteria at the time that your oxygen is dropped for example. And you need a lot of buffalo bacteria to suck that those side of kinds to suck those uh that virus out of your system.

So remember bifida bacteria bacteria is 20 times bigger than a virus. Right? And I think people don't realize that. Right? So here you've got this big bacteria and here you've got this tiny little virus. It just sucks it out and flushes it out.

Now obviously if you have only one and you've got trillions of viruses around you know it's gonna it's gonna all come onto the bifida bacteria and you have no defense mechanism.

Right? So it's all about big bugs. Big bacteria kind of sucking the cytokines the viruses and getting them out of your system.

C. diff case study and fecal transplant outcomes

In the world of you know in a world of fighting with viruses you need strong bacteria you need a strong gut so. – This is a very interesting yeah I don't think I wonder if um E. M. T. S think about it this way as well is that you need to maybe the right flora in the nose will also help prevent.

– Yeah and actually it's all interconnected. Right? So there's gonna be a time where we're gonna start thinking only of bugs. Okay. And I can guarantee you this because in the eyes, right, when you have a person with an optic

nerve, itis for example, inflammation of the optic nerve.

Is that a virus that just set into that optic nerve and creating inflammation there? And is that because that person lost the microbiome balance of the eye?

Right? Same thing in the nose. You've lost the microbiome of the nose, You've lost microbiome of the mouth. Now, all of a sudden the bad, the bad bacteria start accumulating.

They go to the brain, right? And then they circulate and eventually everything goes into the gut and then the gut is the flushing out of all these bugs or the you know, staying in there, right?

But everything you put you put a topical, you know, topic alive does the same effect. I know they made fun of the horse paste, but topical ivermectin does the same effect as the pills. So, you know why?

Because you're applying it into your skin, it absorbs into your blood vessel goes to the gut no matter what – It's I always love, you know what I love about medicine is that you know, you think you're going one way and if you listen close enough you come full circle and the story just gross. You know, I mean – What I love about medicine is it's a story that evolves because we've learned more and we have new technology and that's what's exciting and that's what's challenging about medicine. Otherwise, you know, following one path is really boring and we listen and I'll say it again and again.

What have we cured? Have we cured diabetes? Have we cured Parkinson's, have we cured Alzheimer's, have we cured autism? You know, we have a lot of work to do, a lot of work to do humanity is worse than it ever was.

Is that because we're demolishing the microbiome and it starts with the microbiome of the planet, right? Of the earth. We've damaged the microbiome of the earth. Then you're feeding those fruits and those vegetables to the people, which is already, you know, has less microbes than what it used to have. So, and it's funny because you look at people, you look at the bible for example and you read the bible and you hear these stories of like, oh well Abraham lived X amount of years and noah lived X amount of years and you're like, there's no way but now I'm starting to rethink the whole thing because maybe there is a way maybe the way is that, you know, they started off with a diverse, amazing microbiome and slowly, slowly we've lost these microbes and therefore our longevity is probably dropping instead of increasing – Well yeah, the effect on the planet on the individuals is amazing.

We watched the Last 40 years. I mean, – Yeah, and wars wars and guns and radiation all that affects the planet. All that. So, and then that affects us as human beings? I mean, there's a we don't live in a bubble, right? So when when one person thinks that, you know, they're going to be in charge and they're gonna be ruling the planet, etc. They can't they just you cannot it were all part of the same planet and we all do our own thing and we all add our own microbes.

So when you have, when you, you know, annihilate a race or two or three to control a population, you essentially are killing humanity. And then eventually you've lost humanity because it's like the microbiome, the microbiome only a person is only healthy because of their diversity.

Once you start killing the clostridium the room in a caucus, you're not absorbing anything, right? And therefore you start having disease. So disease occurs because of loss, loss of diversity because of, you know what we've done to our bodies. Same thing on a bigger picture, the planet only survives because of the diversity of people and we need to come together on that. And I think, you know, if anything, Covid should have done that instead of dividing the world.

But, you know, we live in a world where money, you know, is is more important than lives until the person who makes the money becomes the patient and then realizes I should have Yeah, don't do now. – Yeah. Well, especially with, you know, with people with Long Covid, have you, what have you seen in the microbiome with them?

– So it's at this bio sis I can't really discuss it much until it's published, but it's definitely a good this bio sis what I

believe with long Covid is two things I think the patients were either pre Covid already had this bios is and therefore Covid made it worse and therefore they're having a hard time getting back those microbes that they've lost because they already, you know, lost had them lost to begin with.

So it just made it worse. The second thing that we see with with that I believe, you know, probably happens with this God, this bios is's imagine you have one straw left in your microbiome and you just killed it and now your microbiome is in disarray in imbalance.

You know, Covid did that right. So basically entered and basically pushed that last straw and you're like, oops, I'm out of balance. Right? So that's long Covid.

And then the third thing is, you know, which we're still looking at, is there remnants of spike protein that is continuing the damages to the microbiome.

So in other words, well, Covid is probably gone. But then as the virus was getting decomposed that it leaves behind a couple of spike proteins in weird places that is creating an inflammatory process and that's that's really what I'm looking at directly right now in Long Covid is it a spike protein injury that's persisting in these folks.

And then the last thing is you know obviously people have done medications have done a lot of stuff during while they had covid. They were extremely anxious with by the way the anxiety itself is from a microbiologist bio sis that covid creates and then the question then becomes you know the medications kill the microbiome right?

Because you're killing covid and you're also killing the microbiome to kill covid.

Restoring the microbiome with nutrition and probiotics

Right? So it's like having an ear infection. You take that antibiotic and then you're killing the the bug for the ear infection but then you're also killing your microbiome at the same time.

So so it becomes it becomes really you know what we do in the microbiome space and what we do in research for these patients is we analyze the microbiome to see what what did they lose?

Right? And then – I was gonna say are you you're able to measure spike protein in the – Were able to see something we have a marker to kind of see there's something else, there's something still going on there without really telling you know what we're doing. But essentially what we're doing is um you know we're looking at the microbiome and we're seeing is this something that is simple to fix?

Okay in other words patient just lost a couple groups of microbes and therefore here's A. B. C. D. And you've certainly done it in your world of natural path without really knowing what that you were doing something right?

But we just published a paper showing for example vitamin C. Vitamin C increases the bifida bacteria. And we tested patients before vitamin C. And then 24 hours after they took vitamin C.

And we noticed that vitamin C increases the benefit of bacteria. So if a patient is missing bifida bacteria then you know what vitamin C. Increases benefit of bacteria. Maybe they should do vitamin C.

Infusions. Maybe they should do vitamin C. Pills. Maybe they should do you know probiotics the right probiotics. So those are the protocols we we work on if the patient is loosing weigh more than before lost way more than before bacteria.

In other words they lost their back to priorities. They lost their farm. Well that's a little bit tougher right? Because that's not necessarily something you're gonna find in probiotics.

So you can work with nutrition up to a certain point to replenish the firm. Acuity is knowing what increases firma cuties right? Knowing what increases back to priorities. Right?

So you can work with those nutraceutical products that I'm sure you've seen. Hey I gave my patient this Elderberry for example and wow my patient you know improved you know elderberry is for long haulers right? Or I've given my patient Kiefer and it's like oh my God Kiefer is improving him. But what is Kieffer doing to the microbiome?

What is elderberry doing to the microbiome? What is human doing to the microbiome? What is tumeric doing to the microbiome? Right? Because all these foods increase microbes and if you're missing those microbes, it's important to replenish. So the the strategy and what I want to bring people to understand with my research on long haulers is to really start understand the microbiome and to really understand that it's about the lost microbes, it's about the it's about the imbalance, in other words, which bug is domineering and is the bad bug and which bugs are missing that are the good bugs.

Right? So what good bugs am I missing? That is getting me off balance, Right? And then also explaining to the patient that this is a, you know, you just killed your microbiome, it's like you've just had a hurricane in Louise in new Orleans and all the buildings are, are demolished.

Well, you're not gonna rebuild the building overnight, it's gonna take a couple of years. Unfortunately. Same thing on the microbiome. You just demolished your garden, It's not gonna grow overnight.

So don't expect some pill to make it better right away. You've got to work at it, right? And I think, you know, as a culture, we are not used to working at things, right? We are not, you know, certain things are, you know, pretty straightforward, right? You wanna lose weight, eat less move more. I mean, no matter what fancy diet you're gonna be doing at the end of the day eat less move more.

You're gonna lose weight, right? So same thing with long haulers, figure out what is the microbes that you know, the trends gonna be figuring out what microbes are lost, what microbes are overgrown and then structuring a treatment for that.

At that point, I have to say that, you know, if you were treated properly and if you were treated, you know, unfortunately in this country we had censorship of treatment, right? But if you were treated properly, you know, I have very very few of my patients have our long haulers.

They were treated adequately before, you know, during covid, I monitor their symptoms. I made sure their symptoms were gone. And and that really makes a huge difference. But the problem is, you know, to get treatment approved, there's so many negative forces suppressing treatment that it's really difficult. I mean, think about mama p revere came out packs love it came out, nobody is really talking about those drugs.

You know, the monoclonal antibody in the in the beginning from the general was great. And then it just came and went, why, you know, it could have been so beneficial.

– Yeah. But when we, you know, one of the issues we run into is when people, you know, bef long before Covid when we were treating people with long whoever ill for for years with, you know chronic fatigue or we would find, yeah especially the Lyme disease people that you know the microbiome you know you they could they could take probiotics for years and you keep and yet it wouldn't really change because because it's not the bacteria because it's not one bug.

No but they would be taking they would be doing a lot but they would it just seems like there's almost like you get a bad neighborhood in there and the good guys can't get a foothold again, – Correct, correct. And that's where the role of fecal transplant or potentially re floral ization. In other words taking microbes that you're missing and implanting them at that point. That's probably the future.

That's the future that I see. And by the way they're starting right. I mean you see pharmaceutical companies restructuring their becoming laboratory product design right? So they're giving you a consortium of microbes and they say, hey we'll give you this consortium of microbes, you go with it and try to sell it right and try to do your clinical trials on it.

That's gonna be the future. The future is going to be consortium of microbes. But in order to get to that future we really need to do the diagnostics and we really need to have a proper diagnostic tool that is validated, verified reproducible. And so that's my job – Yeah to figure that out.

COVID, long COVID, and microbiome disruption

And so with your long covid patients your first step is just trying to support the gut using some of the herbs and some of the nutrients that we know will get respect because especially – There's a lot of there's so for the last four years of having studied the microbiome with a validated test there's a lot that I know. For example I know what cumin does to the microbiome right? I know what tumeric does to the microbiome.

I know what vitamin C. So vitamin C. Is the first thing that I published. Next I'm publishing what does to the microbiome. You know I know what predniSONE does to the microbiome. I know what doxycycline does to the microbiome.

Right? So when you know when you have a good essay and you can test the before and after you start knowing your products right? And then your products become this this this recipe right?

Where you're saying oh well you know I need to make crepes. So I need flour, I need eggs, I need milk. You know I need to re establish a patient's firma cuties. So I need this product this product and this product I know what's worked in the past. That increases the farm security for example – Right? And so like where we could you know because sometimes it is just overcrowding we have to like get rid of some of them and it would be – Nice to get rid of the of the bad. But I have I've what I've discovered is if you suppressed. So obviously sometimes it's just the bad is just overcrowding. But then sometimes it's the baddest overcrowded because there's there's a lot of space there and there's lack of microbes that are missing good microbes. – It's filling up. Yes.

– You know the last microbes – Basically again goes back to making a vibrant neighborhood. – Yes goes back to stop killing the microbes and if you're gonna kill them make sure you replenish with other good microbes so you can have a balance.

And by the way we are probably about 10 years away in G in in cancer maybe earlier. But I'm gonna be you know, I'm gonna be kind of conservative and say 10 years um until people start realizing that tumors are probably microbes. Right?

So you think of like HPV cervical cancer? Right? So here's a virus causing cervical cancer. E. B. V. Lymphoma. Here's you know, J. C. V. Creutzfeld Jacob you know, so viruses cause you know could be the culprit of a lot of these diseases whether neurological cancer. So it's just a matter of time until what we did with covid of treating the virus and then we floral.

Izing the gods. So changing increasing the good bugs while killing the virus might be the way to go with a lot of these diseases especially in cancer because imagine if you what we did with H. Pylori right?

H pylori was the precursor to gastric cancer. Right? So imagine if we you know what we did is we eradicated the bugs which prevented the cancer. And even like when you treat the bugs in in in cancer you can improve the patient. So I think you know, it's just a matter of time until we figure out this is the right formula to treat Crohn's, this is the right formula to treat you know cancer.

This is the right and maybe we shouldn't just blast the gut with chemotherapy that just kills your immunity. And then these people end up dying of infections. They don't die from their cancer necessarily.

They die from the infection because they have blasted the gut and they didn't think to replenish the microbiome. So in other words, yes, blast the tumor. But don't forget about the microbiome because you're blasting the microbiome too. And that's not a good thing.

And that's what I saw with the long haulers to so many people took so many drugs. You know, I had a pathologist

during the pandemic who basically took 40,000 of vitamins.

She had like no symptoms, okay, barely any symptoms. Okay. She took 40,000 of vitamin D. 36 twice a day of making way too much and no symptoms took hydroxy course of vitamin C. Vitamin, you know everything basically.

And then she was fine for about five days but she had no symptoms and then all of a sudden on the sixth day she crashes with an oxygen of 63%. Why? Because she did the what I like to call trying to kill a mosquito with a machete.

So you're shooting the machete all over but you missed the mosquito. So she destroyed her house, forgot her microbiome and she missed Covid. So at the time that the gut was destroyed, she killed everything.

Her bifida bacteria, fasil, a bacterium or government duties at the time, Covid started flourishing because she missed it. Then it started taking over her gut. And so now those were very tough cases to fix because at that point, you know their oxygen is down.

You've already given them all your secret tools right? So now you've got to focus on rebuilding the gut fast. And that's a secret I'm not telling because there's too many secrets that were told on this pandemic. But that's exactly the secret of why so many people had oxygen's that were dropped. And you have to take the history.

You have to understand the path what's going on in the patient. If the patient is asymptomatic, don't start shooting them with a lot of drugs because the drugs themselves can kill your microbiome.

– And so and your from your researcher, your and just from what you know of of of how viruses and bacteria interact. So you just to say that again, the difficulty factor actually act as a sink on some level to trap – Yes that's what I think, I think it starts with the benefit of bacteria you know or the face of the bacterium. I think it's it's really you know I think that bacteria in your gut as a baseline is crucial. So that's the importance of like doing a proper validated asset that tells you that you know which were still under research but eventually we'll be out with a commercial essay mainly because you know there's so many assays out there that are just like showing you what you're eating. You know I'm not interested in what you're eating. I'm interested in what's living in your gut permanently. Right.

I'm not interested in the bifida bacteria that you had in your yogurt that I'm seeing in my microbiome test. – Okay so and that's why you use that other you also check with the with the messenger RNA.

A. To make sure that – So we check yeah we validate we verify we make sure this is what we're seeing. You know we go through yeah and we're going through we go through extensive test to you know when we give our results and when we publish you know we we do it over and over again to make sure yeah this was the right amount.

– Okay so for people with right now just to sum up and so is that people with long Covid at this point. What would be your your suggest? You're taking – The first thing I would suggest, which is what I suggested.

People with Covid to begin with, is to read my book, which I called this for a reason. There's a chapter in there called Money in the Bank and Money in the Bank is really the foods you should start incorporating in your diet if you haven't to kind of educate yourself on the microbiome on what's good nutrition, because what you believe is good nutrition may not be good nutrition.

So, that's the first thing we even talk about. So, this book was published and was written in 2019, we published it right during Covid and I called it this because of the fact that I said, well, you know, I'm going into the front line of Covid and people are gonna say I'm full of it.

So I might as well say let's talk, you know, S H dot T and actually it's been great because I'm constantly harassed on twitter. And now the newest is a website that's trying to discredit the that's you know, fighting the anybody that's talking against the narrative, right? And so, you know, I just say let's talk this. So it's been great because it keeps me light, it keeps me, you know, kind of in a happy mood and and I just, you know, I don't take things seriously. I

just, I'm here to do good research, that's what matters.

and I'm doing it for me and my family and my friends and then the rest of the world wants to hear or listen. Great if they don't be all, all my best, you know. So I think the book is the first thing.

And then if people want to get tested, we have a protocol. We are sponsored by the microbiome Research Foundation dot org. So I, you know, ask people to donate to that and then they can join our protocol or they can join our protocol. Right – Okay.

Well thank you. Thank you.

Future applications, cancer, and donor safety concerns

Because this is an aspect of of, you know, recovering from long covid and also as we say, any of the what I call the chronic inflammatory diseases, you know, we include, you know, the chronic fatigue and basically as I think all, you know, all chronic diseases are chronic inflammation and they all they all if they don't stem from the gut are being reinforced by the imbalance in the gut.

– Absolutely. – We're seeing this so clearly how all the neurologic diseases you can go back and they as they're tracing them back. – Yeah, neurological disease. I mean, yeah, Parkinsons is the best example. You know, they took polyps 20 years prior and they found the marker that was determinant for Parkinsons.

So, you know, these people that had polyps 20 years prior already had markers of Parkinsons in their gut. So the future that I, that's gonna happen, which is what I'm leading right now, is there will be a time where you are going to do a test and it's gonna tell you, hey, you're at risk for having Parkinson's, hey, you're at risk for having Alzheimer's, hey, you're at risk for your kid having autism, right?

That's the future. So there's no escaping it. We can tell right now from a stool test. People that have colon cancer, right? So, you know, it's not unbelievable that we're gonna be able to tell who's gonna have Parkinson's in the future and who's gonna have Alzheimer's and who's potentially having cancer?

And I think that's the technology that we, you know, that's why I'm speeding up the research as fast as possible. Because I think the problem is that we are seeing the pharmaceutical industry leading towards a world of microbes, right? Where we are getting feces from another human being or from a pool of feces, right? Which was deemed adequate by the pharmaceutical company because they did these placebo controlled trials and found that they improved, you know, CDF by 13%. And then it gets to market, Right? So the problem with that is that, you know, are you swapping c diff for something else? Right.

Are you swapping c diff for lymphoma down the road? Are you swapping seeded for alopecia, are you swapping cd for, you know? So it's important when you start thinking of like I'm gonna take concoction of microbes or feces am I changing what my path was gonna be of genetics in my family, Right? – I think that is what we have to keep in mind that when you really change your bio mom, completely, you could be changing your life completely. – Yes.

– It's the communication molecules that are coming from your gut are turning on and turning off your jeans – Right? And the most important thing also, I think is as we realize that the same way that I fixed the guy that was suicidal with fecal transplant. There could be a microbe in that pool of fecal material that's in a capsule that basically is causing suicidal, right? Because think about the donors, right?

And this is the big problem that I have with that whole industry right now. You know, it's not supervised by a physician supervised by a person that cares about the dollar sign. Right?

So imagine the patient is donating and nobody really took a proper history to say or the patient just wants to make $75 a week or day or bowel movement?

And we'll say, you know, on the questionnaire, have you used marijuana while he's gonna check No. Right? Or

have you used um have you traveled across the country?

He's gonna say no because to him that's like tuition money that he's getting everyday. Forgiving about movement, right? So human nature, unfortunately is not always that honest to tell us.

So we count as as physicians doing this kind of test, we count on our patients telling us the truth, right? But in a pharmaceutical company that's really starting a microbiome technology, all those people telling the truth to a bunch of bureaucrats or you know, you know, coordinators that are picking up because really when you think about, you know, stool donors, it really needs that physician to have that rapport of the patients to get the history. You know, I've been doing clinical trust for 30 years and I can tell you there's a lot of stuff I've picked up patients, you know, we have patients coming in pretending they were psoriasis that they had psoriasis to enter a trial to get paid $1500 right?

And they would come in and they're like, well can't you see my psoriasis? I'm like, no, I don't see it. And where's the dermatology? You know, records etcetera. So, you know, we would do our due diligence ourselves as sites. You know, my my staff was very good at like going on facebook and following these people to try to find out like what's their story. You know, are they really, you know, saying what they're saying or you know, we had a postpartum depression study where the woman tried to pretend that her baby was just a newborn and actually the baby was like two years old. That's not postpartum anymore.

I mean it was like the post partum study the inclusion was like too much like right away within eight weeks of postpartum. And she told us that we would take the we would take the certificate, the birth certificate, she forged it.

And so we saw something shady with the birth certificate. So we would go on, we went on facebook and we noticed you know she had a two year old kid, I was postpartum, you know or they would jump from one side to another.

So they would take the product at your side and then go to another site. So whenever we have a patient from SAn Diego for example coming to ventura and we'd say well why didn't you do the trial and outside in San Diego?

And they're like oh we didn't know come to find out you make the phone call in San Diego, they're already enrolled in the study. So I think you know part of doing clinical trials, part of doing putting products into market, there has to be this quality surveillance, there has to be this vigilance really and I think vigilance is the key word that needs to happen because we're all affected when a trial is flawed, – Right? Yeah. So I think that that's really important for people to understand is you know the current work, the the soon to be open world of fecal maybe not transplants but fecal support in capsules.

We have to be careful what's going to be offered – To have a discussion with your G. I. Doctor. You know, make sure your G. I. Doctor is you know, offers you everything.

There's still other banks, you know, open biomass, another bank that's kind of more physician. We've been using it. That's really a non profit and then also, you know, doctors contest other patients family members and use those products, you know, because I think for me anyways the majority of my patients want their family members. So it's not even a question, they don't want a family products. So you know I I treat the Malibu physician.

I would treat the Malibu celebrities and you know that clientele is you know, has the means to do all these tests and they want their own, you know, they want to know who their their donors are.

So so I have a I have a single right now. I'm trying to find a donor with a singer because we don't know if singing affects the microbiome and she's like I don't want to have any stools if the girl doesn't know how to sing. And then I lose my voice.

And I said well that's probably a good point. – Oh God. Life is as always a little more complicated and complex than we thought. But – It's challenging to say the least.

This is why I called this book this – Yes because it is a lot of it. – It is a lot of it. So Eric, I'm gonna go because I have four patients to go to – Yes. Okay. – It was a pleasure.

– And I wish you the best of luck and hopefully we'll be working with you and trying to bring a little more information about how to, you know, keep our health. Okay. Thank you so much.

– My pleasure bye bye.