Podcast Session #94

The Power of Poop

With Dr. Andrea McBeth

For more about Dr. McBeth, visit: www.floramedicine.com

Dr. Christine Schaffner: Hi everyone. I'm Dr. Christine Schaffner and welcome to the Spectrum of Health Podcast. Today, my guest is Dr. Andrea McBeth and we're going to be talking about the power of poop. Andrea McBeth is a naturopathic doctor with a passion for shifting perspectives toward microbiome-centered health. Her scientific background includes a degree in biochemistry from the University of San Diego and research pursuits in various areas of molecular and cellular biology. After years in cancer research, she was called to the path of naturopathic medicine. She graduated from the National University of Natural Medicine in 2017. As a licensed ND in Oregon and Washington, she focused her clinical care on functional, gastrointestinal, and autoimmune issues. In conjunction with her functional medicine practice, she founded a stool bank that provides Fecal Microbiota Transplants for the treatment of resistant Clostridium difficile infection. That experience inspired her to co-found Thaena, a biotech company based off her fecal transplant work that is balancing microbial ecosystems through sterile stool-derived post-biotics. I had a really fascinating conversation today with Dr. McBeth and I hope you enjoy this, a deep dive into our microbial ecosystem.

0:01:20.2 DS: I'm honored today to be joining a fellow naturopath, Dr. Andrea McBeth, and we're going to be talking about the power of poop, which naturopaths love to talk about. Welcome, Dr. McBeth, I'm really honored to interview you today.

0:01:36.2 Dr. Andrea McBeth: Thank you, it's my pleasure. I have to say, being interviewed by naturopaths is my favorite because I really believe in our profession and it's a pleasure to see people providing educational platforms, because I think what we do is so important, so I'm really excited to be here.

0:01:53.9 DS: The feeling is mutual. I think we have such important and powerful medicine to meet so many of the modern day illnesses that we see, and I know we're both passionate about getting the word out about what we do. So with that being said, how did your journey lead you to become a naturopath?

0:02:11.7 DM: My background was always kind of in a science space. I studied biochemistry in undergrad and did research even in high school, and I always had sort of envisioned myself as a molecular chemist, honestly, I liked to think about how things are put together, and I read lots of fantasy novels, and somewhere along the lines, I became obsessed with atoms and how everything works together on a microscopic level. I was pursuing a PhD in Biomedical Engineering with sort of a molecular focus. I had worked for a couple of years as a research assistant before going back for a PhD in how cancer cells talk to each other, and then thinking about how the ecosystems of the body adapt and change and what leads to cancer, and then my sister was diagnosed with the cancer that I had been studying, and so like all things in life, there was a big pivot there and I learned a lot. She's been in remission for 10 years, and I decided to become a naturopath quite frankly because it was a terrible experience, and I'm really appreciative that the medicine existed, but I saw every day where they were missing holes in the system, and I was mad about that and I wanted to do something to one, never have to do that again.

0:03:37.9 DM: And two, to answer this question I kept asking, of "why don't you care what she's eating, what do you mean she could only eat processed foods that are in packages? How is that going to help her with side effects

and suffering?" And the answer was always, "Well, we don't care if she suffers, we care if she lives." And I was like, I feel like there's a better answer, and so I was really honored to be in the transplant board of the hospital with another naturopath whose spouse was going through the same thing and he was like, "You should do this." So I went straight into school after that two years of inpatient caregiving and never looked back. I mean, it is a beautiful medicine, it was a big paradigm shift for me, and finding the microbiome was really the bridge between my two worlds. I wanted to know why everything naturopaths do works so well, because I kept seeing it, I was like, this makes sense. Intuitively, what we eat matters, what we're thinking matters, how our environment interfaces with us matters, and it's intuitive and not concrete and we don't know everything.

0:04:53.6 DM: The microbiota kind of represented that explanation for me in a way that was really exciting. When I had the opportunity to work with fecal transplant, I took it and could have never looked back because the ultimate microbiota ecosystem is poop, and using poop as a medicine is both old as time and the cutting edge of understanding physiology on a molecular level. I'm very long-winded. You can learn to cut me off...

0:05:27.6 DS: Actually, no.

0:05:29.3 DM: That is sort of the naturopathic version of my journey and why I think what we do is so powerful.

0:05:35.5 DS: I appreciate you sharing that personal story. We're always on our path, so even through this probably was a heart-wrenching time in your life with your sister, look at where it led you, and I'm so happy to hear that

she's doing well and that's she's recovered from her cancer. Andrea, this is really interesting, the microbiome is still this great frontier of medicine, and as we know, we have a microbiome in our digestive tract that we're going to talk a lot about, but we also have microbiomes throughout our body, our skin, our lungs, our nasal passages, even the microbiome in the brain. We're really more microbes than human cells. I know we'll definitely get to the poop, and the microbiome in the poop, and it's such an important part of recovering from a chronic illness and really healing someone's digestive ailments as well as their immune system, but can you just share some of your insights into what we have learned over the last few years about this huge relationship between the microbes in our body and all of these systems and how that creates immune resilience in our system?

0:06:49.7 DM: Microbiota are overarching, they live everywhere in and on us, so if you think of the human body as a donut, and mouth to anus is just the sprinkle part of the donut where there's the most microbes, but all of our skin surfaces, our lungs, our nasal passages, our vagina, if you have one, a bladder, whatever, any organ that has an epithelial layer has a microbial ecosystem. I think of them collectively as an organ system. They are an organ, just like the blood that flows through our whole body is an organ, and our lymphatic system is an organ system, and they're interfacing like all the other organ systems with every other part of our body. I have moved away from thinking of them as separate and now think of them more as an entity of cells that have slightly different behavior than cardiac or vascular cells, but still represent an organ system in this greater whole.

0:07:51.4 DM: The cool thing about them is that they evolve a lot faster than the rest of our cells, and they're the first interface of us with the outside world,

and so they're the organ, not our skin, that's the first point of contact with everything we're interfacing with, and they provide a really important immune modulatory role of interfacing with the environment, giving off signals related to that environment, whether it's what we're eating or what we're experiencing in the air or in the water or on our skin. Then our immune cells interpret that molecular signaling and then occurs a cascade of things that create cytokines and responses, and naturopaths have been talking about leaky gut way before it was a thing, and now shockingly, it's a thing, we're not made fun of anymore.

0:08:47.4 DM: It's real. And I think that is a really good place to start. When we think about an ecosystem, this is going to be sending us communicating molecules that are going to turn up or down a fire alarm. If we think about the fire alarm as inflammation, when we need the fire alarm up, because we're acutely fighting something, that's going to create leaky gut, because we need that fire alarm on, but what happens is when that fire alarm is constantly on, we have this chronic inflammation, because the interface with the outside world is slightly toxic, we have to start to look at the ecosystem balance as the thing that turns the fire alarm back off. So the microbes actually are responsible for molecules that the turn the 'shhh, calm down' deregulatory cells on. There's what I call neuro-immunomodulatory because it turns out it's not just the immune system, it's the brain and the metabolism, but without getting too much into the weeds, it's an organ that's our first point of contact with the world, and it's the canary that's telling us whether to turn the fire alarm on or off.

0:10:03.3 DS: What a fantastic description. I haven't quite heard it that way, everything that you just described is so elegant, and I love the donut and the

sprinkles and all of it. My brain shifted as you were talking about, instead of seeing them as separate, it's that they're like this organ, this relationship, this a layer of, yes, it's a community in an ecosystem, but they're working to help support and defend us or filter information that we're getting from our outside environment. That was a really beautiful description, and then kind of going to, okay, here we are modern day, our environment is really toxic, people are really struggling, there's a rise in chronic illnesses, neurological illnesses and also autoimmune illnesses and cancer.

0:10:55.0 DS: I live in the world of seeing a lot of patients who have been affected by Lyme and mold and heavy metals and glyphosate and EMFs and all of it. There are too many fire alarms going off in the body, and so through your work with the naturopathic perspective and then again, your passion for the microbiome and your understanding of the role, really the microbiome within the gut, via looking at the stool, how do you make sense of what we're seeing clinically? And then we can go into, of course, your approach and solutions, but I love your perspective.

0:11:29.8 DM: I'm biased because I see the world through a microbiota lens and I understand it's not the only factor, but I do think mechanistically, it's where that interface is happening, our food system is broken, our environmental policy system is broken, our mental health system and trauma infrastructure of human health is broken, right? Okay, so now that we're bummed out, what are the pros? Well, we are highly adaptive, and that's the beauty of the microbiota, is that we co-evolved since the beginning of time with this organ that works a lot faster. I have now forgotten your original question, but I'm going to go down the rabbit hole of evolution.

0:12:16.8 DM: Darwinian evolution is natural selection, and we think of ourselves as not evolving, it's over a species, generational evolution, survival of the fittest. So Darwinian evolution is happening, but it's happening on the microscopic level, which allows us to actually be more Lamarckian, meaning Lamarck was the other person who was debating Darwin about evolutionary theory, and his theory was that if giraffes stretched enough in their lifetime, their necks would grow and their kiddos would have longer necks. And it turns out through the microbiota, what we do in our lifetime actually is transmitted via the vaginal canal when babies are born, matrilineally, to give our offspring an evolutionary adaptation to what we lived through in our lifetime, and the microbes are how we do that. So we are constantly being bombarded by perturbations, and just like the rainforest has diversity that protects it from climate change, our microbes have diversity, and if you have a healthy ecosystem and a high diversity, the more perturbations you can bounce back from.

0:13:40.1 DM: Where you get into trouble with patients with chronic disease...For me, for example, and my sister, my family, I was born via C-section, not that that's the end of the world, but my mom comes from an immigrant family, she has a lot of trauma. My grandma is Lithuanian and my grandpa's Polish, he came here through concentration camps, you can look at the trauma and environmental factors that in three generations or two generations, my dad's side also has its own set of trauma with great grandma from a Shasta Indian tribe that went through genocide. Every person has their own story, and that trauma gets put into the microbes, the environmental factors, whether it's potato famine, or again, coming through an immigration process, or just living in a world where we microwave plastic, that is something I inherited. And so as a Western person, we have a fraction of the diversity of

microbial ecosystems. It's like my brain forest was born clear cut. I already started with a really low diversity and low resilience to perturbation, so by the time I was six I was in the hospital with rheumatoid arthritis and then Guillain-Barre, and all these fun things I had as a kiddo that were my immune system reacting, that was because my ecosystem signaling was on since the day I was born, and my fire alarm was set really high, and then I came into the world and every time I had a perturbation, I couldn't recover because the ecosystem was already extinct, essentially.

0:15:28.2 DM: The equation I outline when I teach microbiome and nutrition is that in the same way we can think about climate change causing Anthropocene mass extinction, so 90% of the flying insects are expected to go extinct, we have that same extinction happening in the ecosystem of our microbial organ, and that is setting us up for this chronic disease epidemic where our immune system is unable to deal with perturbation, and then we get dysregulation and the teeter-totter's off. I'm fighting things that aren't real in attacking self and having an autoimmune disease when my ecosystem should be able to balance that out and turn on the T-regulatory 'shhh, calm down' things, and that's what our medicines do, they help the teeter-totter get balanced, so reducing inflammation through food quality, and I've done all kinds of crazy things for therapy for myself, and a lot of them have helped.

0:16:35.2 DM: So that's where I approach people. I'm not doing anything different to treat them, I'm still addressing food and their environment, whether it's mold or a chronic infection or something, but I'm looking at it like how can I reset the ecosystem and turn down the fire alarm, so that their body's evolution can re-equilibrate. Even though I inherited this lineage of really messed up stuff, I also have the ability to stretch my neck and repair that ecosystem

in my lifetime in a way that allows us to heal, and so it comes full circle to the naturopathic vitalism, the understanding of patient heal thyself, and if we give the environment the right fertilizer, and compost, and precursors, it will come back just like the ecosystems on the planet can come back.

0:17:31.6 DS: Brilliant, Andrea, really brilliant how you explain all of the complexity and how it affects our ecosystem and the resilience of our ecosystem. I deal a lot also acknowledging trauma in people's lineage, in present life and how that affects all the things in their body, but I hadn't really thought of it in a way of how trauma gets passed down through the microbes. That just clicked a new network in my brain, thinking of it in that way, so that was really exciting to see it from that lens. You've laid out really a personal story too, and if you don't mind, because many of the people who listen are patients or people who are wanting hope of recovery and wanting to see what worked for other people, you had some significant things that you started life with, you mentioned an autoimmune illness, Guillain-Barre, which is a ascending paralyzing disease, you have had a lot in life--how did you restore your ecosystem and restore your health such to where it is today?

0:18:40.0 DM: I think that's the cool part about this. I was a pretty sick human when my sister got sick, I have ankylosing spondylitis. My adult diagnosis was ankylosing spondylitis which is arthritis of my spine, but I've had it my whole life, and chronic pain and weird stuff, and watching my sister, and then also my mom who was really significantly ill since I was in high school, chronically ill with fibromyalgia and psoriatic arthritis, I was told it was a one-way street. I've had doctors say, "You're going to be paralyzed by the time you're X years old." I had to relearn how to walk after Guillain-Barre.

0:19:29.8 DM: I didn't understand that wasn't the only choice, but intuitively, my mom brought me to acupuncture, I went to chiropractic, I had really healthy diet, I grew up in Portland, I had all these other things that were of value, and when I went to school to become an naturopath, it was like, "Oh my gosh, this makes so much sense." It's a kitchen sink approach, and it's slow and steady, and you have a couple forward days and then something hits you, and you go a couple back and you have a trauma response to that. But, I have watched my mom and myself, and my sister, and patients and loved ones, but in particular, me and my mom over time really slowly chip away at quality of life to come to a place where we went for a trip to Italy. My mom and I probably couldn't have gotten on a plane at different points in our disease, and have a grand old time. This was a couple years ago before COVID, but we did it through diet, we did it through mindfulness, we did it through trauma work, we did it through microbial therapies, microbiome restoration therapies, is what I call it. You name it and we've tried it.

0:20:51.3 DM: The other part about the microbiome that's interesting is my ecosystem is really different than my mom's and it's really different than yours, and so there has to be an individualized approach, because my trial and error is going to be different than hers, which is going to be different from everybody else's, because my microbes are different and making different molecules and my set point is different. So I learned that it's not a one-way street and you can make really significant strides towards healing, it just takes time and you should journal because you forget how sick you were. It's never a one-size-fits-all, which is cool because naturopathic medicine really puts that together in a way that it was hard to understand, here's your directory and the expectation and here's your diagnosis, and there's not a lot of room for, "Well, what if I do this and what if I change my life and do different

things to try to mitigate that," and it turns out it can work. I know you've seen that, all of our naturopathic friends have seen miraculous things. It took a lifetime and many generations to get to where I started, and so it took time, it takes years. I still have pain, but it's a lot less.

0:22:13.4 DS: Thank you so much for sharing that and I hear you, and I'm so glad that you had your family, your mom who had the proclivity to lead you to these therapies and that you were able to explore this healing journey rather than the other kind of trajectory that modern medicine would have put you on. Andrea, you mentioned microbial restoration therapies, so tell us what you're talking about. If people are listening who might have a similar story to you or might have autoimmune illness or chronic illnesses that we see, maybe gear this conversation to those individuals.

0:22:55.2 DM: I also have IBS, I had a colonoscopy, and they weren't quite sure if it was IBD or not, I was the stinky kid who farted a lot and couldn't figure out why I was always sick, but I knew after learning all of this that my microbiome needed to be reset. There are alot of tools for us to do that, primarily food and supplements, and there's not a right way to do it, but I think of all those as microbial therapies. Then sometimes we plateau, and there's only so far you can get. So I looked towards my mentors, which were Carmen Campbell and Mark Davis, who were doing helminthic therapy, which is really interesting and maybe we can get into it, but they were also doing fecal transplant, and at that time it was kind of 'let's try everything.'

0:23:53.3 DM: I found them to be really effective for me, and then knew that wasn't something I could translate to all my patients. Fecal transplant is deliv-

ering the stool of a healthy person to the colon of the recipient through colonoscopy or a capsule or something, and there's a lot of legality around that, it's not approved, you can only use it for C. Diff, but I knew it was really powerful.

0:24:20.2 DM: So we developed a sterilized version that's like a super probiotic except all the bacteria is killed. So when I say microbial therapies, I mean anything that's going to modulate the microbiome that we've evolved with since the beginning of time, and so that includes helminths and FMT, but in a clinical setting we are sort of limited in using those, and so I really wanted to find a more accessible tool. My co-founder and collaborator and clinic owner, Piper Dobner, and I had both worked with Mark and Carmen and came out of that experience being like, "Okay, how do we do this?" And the answer was to think about the molecules, and that's where it came full circle where people aren't really looking...They're trying to decide who the good guys and the bad guys are, and we were like, "Nope, we need good compost and we need good fertilizer, and we need the molecules that we know are going to change the environment to grow the right ecosystem."

0:25:24.8 DM: That's where we started to take fecal transplant stool that's healthy from really happy, healthy people that are very different than my ecosystem, and sterilize their stool and make it into what we're calling Thaena, Biotic Thaena is the company, but it's like a prebiotic postbiotic combination from a whole ecosystem, so it's poop that's been sterilized and turned into powder, it's very fancy poop powder, but it's a microbial restoration therapy in the same way we think about probiotics or prebiotics as microbial restoration therapies. I think everything naturopaths do is microbial restoration therapy in some way, but that is the one in particular that we're really excited about and working with.

0:26:17.3 DS: That's really exciting. And as you mentioned, there's a lot of limitations and legalities around doing the FMT or helminthic therapy, or therapies that came before what you've created, so I like how necessity and limitation breeds innovation. How does this work? If someone's listening and saying, "Okay, I have an autoimmune illness. I might get some of this," how do I interact with this product?

0:26:46.4 DM: Well, it's not a silver bullet, but my short answer is always like, "Go find a good naturopath." Go find a good naturopath or, if there's not one where you live, a functional medicine doc who understands that a microbiome matters, and then work with them with all their tools. My clinic, Flora Medicine, has a physician program where we can provide the ThaenaBiotic to other physicians to use with patients, and so they can send their doc our way or they can come see one of us in Portland. We also have a doc in Idaho who does remote consultations. We're in a state that's legal for remote consults. We can see you as patients, or we really want to encourage you to work with a partner locally, too, if you have a physician like you that wants to help support, they can always order the ThaenaBiotic from us. This is me being a terrible salesmen, but that's not where you start. You start with nutrition, foundations of health.

0:28:03.1 DM: We have really powerful tools and supplements that modulate the microbiome. You can't do this without vagal nerve. I mean the more I worked with gut health, the more I realized our brain and trauma patterning and nervous system. I wear a heart rate variability monitor because it pops and my tachycardia is bad, but also because my nervous system is con-

stantly in sympathetic mode and nothing I do is going to fix my nervous system unless I deal with that stress piece, and the trauma piece and my EMDR or cognitive behavioral therapy. So that's a piece of the puzzle, too, I think that ThaenaBiotic is cool and the fecal transplant is great, and it definitely can help you plateau, but my asterisk is that it's not a silver bullet and we have to think about modulating the microbiome from, again, the kitchen sink approach.

0:29:03.3 DS: I totally agree. And again when we think about naturopathic medicine, we're not in a conventional paradigm, one thing, one drug, you're better. It's all of these things to make ThaenaBiotic work and shine, and it's also about the right timing. Tell me, is this a long-term solution or do people do this intensively for a period of times, or how do people integrate it?

0:29:26.9 DM: We're learning. Again, necessity breeds innovation. So we needed something that was sterile when COVID happened, and we had already been thinking about it and had it in beta testing, and then all of a sudden, we couldn't treat our C. Diff patients from our fecal transplant stool bank because of COVID and so sterilizing was a solution. And we've learned a lot. We are doing a whole bunch of research and have a start-up and we're looking to do clinical trials but everything we have today is anecdotal, which is how a lot of our medicine is and that's totally valid. We're finding that it's a small amount over time that seems to be helping patients with anxiety and depression and brain fog, which is really interesting, and fatigue, which we didn't expect, and then it helps with diarrhea and constipation which makes total sense. It's small dosing over time, and not just a one and done. It's one to three months.

0:30:34.2 DM: Sometimes we've had patients on it for longer periods or they take it for a few months and stop, and then they're like, "Actually, I'm going to go back on it because I felt good for a while." Everybody is different, everybody's microbiome is different, just like all of our therapies. I treat a lot of and see a lot of SIBO, and it's another tool in the SIBO toolbox. It's killed, so there's no bacteria to inoculate SIBO but it will shift the motility and maybe support the good guys to grow back so that the bad guys get knocked down. My mom is going to take it every day for the rest of her life. But for most, I think it seems to be like a three to six-month low dosing, but that could change if you ask me that question in six more months. I'd have totally a new data, we just got off a call with a doc who's really excited about it and that was our best guess answer, and we'll know more, the more we have a chance to collect data.

0:31:38.6 DS: It's really exciting. I'm definitely going to hop on the bandwagon. I have a bunch of patients that I'm going to pick your brain about. With that being said, do you feel now that you don't have access to FMT because of COVID? I know that FMT, even though legally, it had to be C. Diff and there were all these other wonderful benefits beyond C. Diff, but do you feel confident? I'm just thinking of patients who do have C. Diff and they need a solution.

0:32:08.1 DM: Definitely. We are providing FMT for C. Diff again. So we now can test every stool for COVID. I just took, I don't know, nine months to figure it out. So if patients have C. Diff that failed antibiotics, FMT is 90+% effective, and it's a one and done, and that's what they should do. I mean we have a stool bank that is providing FMT for C. Diff now, and if you're in a place that you can't get access to that, because we can't provide that if you're the same

as the ThaenaBiotic, the ThaenaBiotic does seem to help. I mean C. Diff is tough. If you have C. Diff, I want you to get an FMT, and a lot of our job is being patient advocates and trying to help them figure out how to do that.

0:33:01.6 DM: For everything else, whether it's chronic UTIs and you've had 200 rounds of antibiotics, etc - those are places where we're thinking about other places FMT has been effective.

0:33:16.2 DS: It's a really exciting next step, and again, with the whole goal of creating more access to these types of modalities that otherwise wouldn't be as accessible. I know people who are listening are probably like, "Well, what about probiotics? Do they work? Do they not work?"

0:33:33.7 DM: Same flavor, different approach. We can only culture between 2% and 10% of the bacteria that are in our colon, they're hard to grow, and a probiotic is something that we take out of the colon, the colonic bacteria that grows either naturally in yogurt or something, or is something that's cultured in a lab, and there's a lot of money and research going into figuring out how to make good drugs, bugs as drugs. I don't know how many billion dollars the probiotic industry is, I think it has limitations, but it also has benefit.

0:34:20.2 DM: My plug is for a naturopath named Dr. Jason Hawrelak who really does a good job of summarizing what we do and don't know about probiotics, and because I'm killing all the bugs, I have the liberty of being like, "I don't care, I'm not going to read that literature," but it is a microbial therapy, and so you just need to make sure that you have data behind what it is, or if you're using it intuitively with a grain of salt because there's a lot of marketing.

Just because it says it is what it is, it doesn't mean...I mean, that's how everything is. You need to trust your naturopath or provider to help you get a good quality probiotic, and they're different, that's really different than what we're using which is all of the bacteria in a colon, so it's 100% of all the bacteria that comes from the colon, and all of its molecules and associated fibers and ferments. Our product is more like a kombucha scoby that's been fermented or a herbal tea ferment kombucha with a lot of complex stuff than it is a probiotic.

0:35:40.4 DS: Thank you for that clarification. When we think about this generational kind of transference of microbiome diversity to hopefully evolve, so people are healthier through the generations, do you feel like ThaenaBiotic is safe for pregnant women to take?

0:36:02.1 DM: I mean, that's a...

0:36:03.8 DS: I know, I probably should ask that off the podcast, but I'm just thinking about it because you know there are too many sick kids out there, and so I'm just thinking of this as a way to change the course.

0:36:14.8 DM: So without going down a slippery slope, what I do know is FMT has quite a bit of safety data. So fecal transplant, tens of thousands of patients in the US have had fecal transplant in the last 10 years, and we have good data on that safety, and the major risk with FMT is infectious disease, and we have fixed that with our product. We can look at FMT data and extrapolate safety, we are doing our own safety data as best we can, and then beyond that, what do we know about pregnancy and fertility? There was an

autism study done looking at fecal transplant in autism, and it was really effective and it was a big deal. It's a study out of Arizona State University by Dr. Adams. If your listeners are interested in autism, they should Google Dr. Adams, Arizona State, Autism, Fecal transplant, they'll find it. I should find a citation for this, but if a mom is anemic when conception happens, baby is 50% or something in that ballpark more likely to have autism. So we know the microbiota during conception on plays a role in setting the thermostat of the fire alarm.

0:37:50.6 DM: So you want a healthy microbiota, you also want micronutrients, you want to be avoiding environmental factors. There is a lot of things we don't know, and pregnancy is always one of those things where I'm definitely not going to recommend this for pregnant women because I don't know, I don't have a study that shows it is safe, but I think it's important for us to have candid conversations about relative risk of lots of things, and early childhood development, and the passing of microbes via the vaginal and stool, because baby gets a mouthful of stool and is covered in the vaginal microbiome at birth, and that immune system is being developed in utero, this is important for us to start to think about if we're going to start to undo some of this systemic damage to the ecosystem of our microbes that we've done over the last 100 years of industrialization.

0:38:43.5 DS: I know we have to, of course, be safe and be strategic, but this is, I think, a really exciting field that should be explored for prevention, turning that extinction thing that's happening, turning that around, having our ecosystems thrive and flourish.

0:39:06.5 DM: Yes, I believe knowledge is power even if the knowledge is depressing, if that's a way to make an educated decision of relative risk. I'm still going to drink a beer or need a pizza sometimes even though it destroys me, but I understand what I'm doing and why and I could make that decision.

0:39:24.5 DS: Yes, good point. And in the meantime, we're going to work on creating more resilience, so when the beer and the pizza comes that it doesn't destroy us, right? That's going to be the litmus test, right?

0:39:40.7 DM: Sure.

0:39:40.8 DS: That's the naturopathic challenge diet, beer and pizza, how do we know? So, Andrea, I feel like I could talk to you for another hour but I want to respect your time. You gave us a lot to digest, I am super interested to learn more about your work and collaborate with you. Is there anything else that you feel like you want to leave our listeners with?

0:40:03.6 DM: I want people to feel empowered and not get bogged down in the doom and gloom. I'm always empowered to make decisions because I understand that it's a microbial ecosystem, and I want the listeners to come away with, "Wow, I have this really cool organ system that's super adaptive, that helps me be resilient in the world. How do I support it?" You support it with good food, and quality fibers, and good mental health. What you eat, drink, and think matter, and it hopefully will give you a litmus test to make decisions, and sometimes the stress is worse than the wrong decision. So knowing that all of that's going to be an interplay in individual decision-making, I'm hopeful that that helps put people in the driver's seat of their health and wellness.

0:41:04.4 DS: I appreciate you saying that and we're on the same page. I know with a lot of what we talk about, it can be a bummer and we can get overwhelmed, but there's so many solutions. And as you said, even given what the human body is up against, it still always has the opportunity to heal, recover, create anew, and we have to focus on that, right? Well, where can people find out more about you, and your clinic, and your company, and your work? Let us know.

0:41:31.7 DM: So everything is more or less through our clinic, which is flora-medicine.com, or the biotech spin-out is Thaena, which is where we get ThaenaBiotic from, but it's a little bit in stealth mode. So the website is just a piece of art I like. But Flora Medicine has resources. I teach microbiome nutrition at NUNM. There's continuing ed. There's lots of resources if people want to hear me ramble for hours on, and it's all on our website, under the 'What's New' portion.

0:42:12.0 DS: Awesome. Well, we'll have a link to all of that and, again, it's so nice getting to know you and thank you for your passion about all things poop and microbiome, and for inspiring us today. Thank you so much for being on the podcast.

0:42:26.2 DM: Thank you for creating the platform. I like to ramble but it's people like you who help communicate this, and that's super valuable and important, and none of this would happen without you. So thank you, too, for providing this platform.

0:42:45.6 DS: Oh, thank you for saying that. Well, team effort. We're in this together. Thank you, Andrea.

0:42:52.3 DS: Thank you for listening to the Spectrum of Health Podcast. I hope you enjoyed my conversation today with Dr. Andrea McBeth, and please check out her website at floramedicine.com. If you are enjoying this podcast, I'd love to hear from you. I'd be so honored if you left a review on Apple iTunes, and please feel free to always contact us at info@drchristineschaffner.com.