



Episode 318: Fecal Microbiota Transfer (FMT) for Gut Health and Autism

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Katie: Hello, and welcome to the Wellness Mama Podcast. I'm Katie from [wellnessmama.com](https://wellnessmama.com). And this episode may go deep on a topic that you aren't even familiar with or probably, most likely, have not tried. I am here with Dr. Jason Klop, who has been working in the field of digestive health and microbiome restoration for many years. During his time, he's focused on conditions that were not responding to pharmaceutical interventions, such as irritable bowel syndrome, Crohn's disease, ulcerative colitis, and small intestinal bacteria overgrowth, otherwise known as SIBO.

Dr. Klop has learned that the foundation for all health lies in the gut, and through his extensive experience has incorporated FMT with great results. And he has broadened his focus to offer this treatment to children with autism and autism related symptoms. Now, if you don't know what FMT is, you are not alone. This is a new and somewhat cutting-edge treatment, and he's going to explain what it is, how it works, and some of the amazing results that they are seeing. So, without further ado, let's join Dr. Jason Klop.

Katie: Dr. Klop, welcome and thanks for being here.

Dr. Jason: Thank you so much. Thanks for having me on, and I'm excited to share.

Katie: I am excited to jump in with you because you are an expert on a topic that I don't know a lot about, but I'm extremely fascinated by. And, I mentioned in the intro something called FMT, but I left it vague. And so, I think that's exactly where we need to start. Can you explain what is FMT, and basically, what are some of the ways that you use it?

Dr. Jason: Perfect, yeah. Great question to get us started just so that all of the listeners are actually cued into what FMT really means. So, what it stands for is Fecal Microbiota Transplant. And, if you, kind of, break down the word, or the words, it sort of makes sense. But, in essence, what we have is, we've identified donors who are extremely healthy who meet very rigid criteria about what healthy actually looks like, both from a medical history standpoint as well as stool and blood screening. So, if they, you know, achieve all those things, we know that they have a very healthy gut microbiome, which is sort of the microbiota part. And then, we have somebody who is the patient or who is sick, and you asked me, "Well, who is that that we normally work with?"

Well, traditionally FMT is only used in those, you know, in the U.S. and Canada, for patients that have *C. difficile*, or at least that's the only approved use. Outside of that, though, there's a lot of really compelling evidence for other conditions like Crohn's, ulcerative colitis, IBS, I do almost exclusively work with kids with autism, and the list goes on. Basically, any condition where you know there's a lot of gut dysbiosis or disturbance in the gut microbiota. So, with this very healthy patient, we have a very sick patient, or not always very sick, but we know they have gut disturbance and they have symptoms as a result of that. We take the stools from this very healthy donor, it goes through a processing, a lab processing which has, you know, pretty standards associated with that. And that's implanted into the patient who is sick, and there's several routes of administration, there's the oral route, there's a...you know, and they call it bottom up, which is the enemas, or there's colonoscopies. So, those are the main routes of administration. And so, that's the basic premise, you know, you have someone who's got a really great gut, someone who doesn't, you take the person with a really great gut, you process their fecal material, and you end up with really highly concentrated bacteria, and then, that is then implanted via some mechanism into the patient.

Katie: That makes sense. And it's so amazing to me, I know that we've done all this research, and we know just how important the gut is. In fact, I think the more research comes out, the more clear it is that gut health pretty much is connected to or dictates every other aspect of health. And so, I think it's amazing that we're able to now use technology and use science to do things like this, but I think there's also still, when people first hear about it, there's a little bit of like a, "What now?" Kind of factor with something like this. But, let's go a little bit deeper on how we can see such a drastic effect in the gut from this type of procedure.

Dr. Jason: Sure. And you're really right. I mean, when people hear what I do, they kind of break down into two camps. One camp is like, "I have no clue what you're talking about and that sounds disgusting." And the other camp is like, "Wow, that is so fascinating. How do I get one," or, "how do I learn more about this?" So really, it is that way. And, I think, you know, there's a lot of misconceptions about this, and a lot of people sort of have

the idea that it's a dirty, messy process, and then it's smelly and all these other things, which it really isn't. You know, once it goes to the lab processing, then it is something that comes out very pure, and is really quite palpable. I actually was just in Copenhagen meeting a researcher and somebody who manages the lab there, and we're just collaborating on some things, and the capsules that they use, you can still see the color of the material, they are double encapsulated. And, he said in the beginning, he was worried about what people might think when they could actually see the color of what was inside of the capsule. And then, he said to me, "Well, you know, they wouldn't be sick enough if they wouldn't be willing to take these capsules, just seeing the color," which is a really good point. So yeah, that is a common thing. Getting into your question now. I know I went a little off-topic here. What were you wanting to know specifically?

Katie: I'd love to go deep on, kind of, what kind of results are you seeing with this clinically? Because, like I said, I definitely understand, at least, through my research in the whole probiotic, prebiotic, all those things that just how important the gut is, but I feel like this is a completely different level, and you're able to do things in a much more complicated and probably have a much bigger effect. So, what kind of results are you seeing with this?

Dr. Jason: Sure. And, to comment a little bit on the probiotics angle, there's been no research to date that shows us that there's actually engraftment. So, what engraftment means is that you're giving some of these probiotic strains, you're putting them into the body, but none of them actually stick around. So, they go through the system, they have a bit of a transient effect, which can be good, which can be important, at least for the time being. But then, if you do testing later on, you'll never find that that strain has increased. So, for example, I've had patients who've spent two years taking every different kind of probiotic out there trying to build up, let's say, lactobacillus or Bifido. And, after the two years, they're just totally frustrated because the levels are not going up. And, that's really the difference between probiotics and all those other types of supplements out there. They can be good, and they can really result in some changes in symptoms, but none of them stick around. And, that's the main distinguisher between probiotics and FMT, which is, we're taking these microbiota from a healthy human. We try to optimize the gut as much as possible before we do the transplant, and after that, when we do testing later on, we can see that these specific strains that we can at least test for, do go up, and with that the symptoms improve.

So, what do I see? I mean, I told you a little bit off the air that I work with a lot of autism, and so that's a primary part of my work now. I used to work with a lot of different conditions, some of the ones that I've described to you a little earlier, like the IBS, IBD, and some neurological symptoms, and so on, and so forth. So, those are the main areas that I have experience in, although, before getting into those, I do want to mention C. diff because I think it's really important, again, as we're talking about this, that people understand that this really is only approved for C. diff in Canada and the U.S. Although, there are other ways of getting this, which is, you know, kind of what I do, is helping people who don't fit into that category. But, with C. difficile, it absolutely has the most research. In the research, there's a greater than 90% cure rate with the treatment of C. difficile after just one or two treatments with FMT. So, phenomenally effective, and in all of that research, very safe and very well tolerated, which are two areas that I think are very critical, you know, when making the decision to use this kind of a treatment. So, that's the case for C. difficile.

The other conditions, it really varies. The best, you know, study, if you will, for kids with autism came out of Arizona State University. And, in that study, they actually treated these children for eight weeks using FMT. They did beforehand Vancomycin, as well as a bowel cleanse, which is also similar to what we do. And, after 8 weeks, they checked up 8 weeks of FMT daily treatment, they checked in at 18 weeks and they found an 80% improvement in digestive symptoms, and about a 25% improvement in the autism-related symptoms, which can look like anxiety, or hyperactivity, or sleep disturbance, or cognitive challenges, and language issues. So, they've seen about a 25% improvement in that. And then, again at 2 years later, they followed up at that point again, and they've seen that the 80% improvement in digestive symptoms maintained, which by the way was huge. These kids with autism have very debilitating and severe GI symptoms in many cases. And then, further to that, at that 2-year point, they've seen an additional improvement of 20% in the autism-related symptoms. So, 8 weeks of treatment, 80% improvement in GI symptoms and close to 50% improvement in the autism-related symptoms at the 2-year check-in.

So, what this tells us is that eight weeks of, you know, improving the gut function, that treatment doesn't only last, so it's not like a probiotic, let's say, where when you stop it, it stops working, and the improvements that you see continued to build with time. Now, one of the things that we do that it's a little different compared to that study is, we actually treat for even longer so we've doubled it, so we do 16 weeks of treatment. And, I would say that our results are on par, perhaps exceeding in some areas of that study, and, I think, primarily, because we're extending the length of the treatment. So those are the main things. I mean, I could talk about some anecdotes of what we see with kids, some stories and things, but that's a really great study, to help explain, from a research standpoint, what they'd seen.

Katie: That's really fascinating, and especially understanding, I know there's a lot of speculation and research about autism having a connection to the gut, so that absolutely makes sense. And, you're able to do this with kids, which is incredible, and to see those kind of statistical changes is, kind of, unheard of in this field. I want to circle back to C. diff for a second, just on a personal note. So, my husband, his appendix ruptured years ago, and he got a C. diff infection, it was in his body internally after the surgery. And then, he struggled with gut issues for years and he eventually had SIBO as well. And, finally, now, I've gotten everything under control, but that's incredible to know that this is actually approved for anybody who has C. diff. That's an important one, I want to make sure we just highlight that for anybody who actually has that condition.

Dr. Jason: Yeah. The only, sort of, little caveat here, which I don't honestly believe is a crime against humanity is, is that, you need to go through three rounds and fail three rounds of conventional fairly hardcore antibiotics, and at such point as you've failed those three rounds, then you can use FMT. So, in the treatment, using those three rounds, it can do a lot of damage to people. And, that may well have been why your husband ended up later on developing SIBO because he had to go through and use different antibiotics. Now, he had a ruptured appendix, so, I mean, yes, you absolutely need antibiotics. I'm not suggesting that people shouldn't use them, but anytime you do use an antibiotic, you are damaging your gut microbiome and you're increasing the likelihood that you're going to develop some type of illness that is connected to poor gut diversity. Which, as we continue to do research, nearly every chronic disease is in some way connected to gut disturbance of some sort or another.

And so, yeah, it's extremely effective, however, you first need to use antibiotics three times and have it not work any of those three times, then you can do an FMT. And, at that point, you know, one, these people can be in extreme pain, having diarrhea, and bleeding, and all sorts of stuff, and, within a day or two, they're absolutely back on track. So, it's really phenomenal. And, I personally wish that people didn't have to try three times, maybe once, or maybe not even at all if they choose. But, nonetheless, those are the standards that we have to follow.

Katie: Wow, yeah, that's definitely frustrating. So, I'm curious when someone comes to you and you're working with them on any of these potential things, what does that process look like, how do you prepare their body for this, and then what does the after procedure look like, how do they maintain it?

Dr. Jason: Sure. Great question. So yes, I do really believe there's something as trying to, as much as possible, optimize the gut to receive, if you will, this treatment. Now, a lot of times, why people are choosing to do FMT is because they don't have a lot of the good bacteria that they want. And so, they're saying, "Okay, I don't have a lot of this stuff that I want, I want to put it in there." But, the challenge is, is that there's a lot of other things that we don't want there because, you know, having a good healthy gut microbiome means that it can manage the environment, and keep out infectious things, and keep overgrowth of bacteria, and fungus, and other things in check.

However, if you don't have a lot of gut diversity and a lot of really healthy strains of bacteria, that doesn't happen, and so people have an overgrowth of different types of bacteria. Sometimes, they're just commensal, they're within the body, they're healthy, there are just way too many of them. Same thing on the side of the fungus, it can be a very similar thing. It's normal to have fungus in your body and Candida, it's just, when you get too much of it is when you start to get symptomatic and problems are created. So, because of that, before we do FMT, we want to kind of clean the slate, if you will, and try to reduce the amount of burden or reduce the amount of overgrowth that there are.

And sometimes, we'll do stool testing to get a better sense of what's really there and what type of interventions we need to include or consider as a part of the pre-treatment process, but ultimately, typically includes a natural antimicrobial of some sort, it could be one or two. Oftentimes, we use Biocidin, otherwise, it oftentimes, especially with kids with autism, does include Vancomycin. Vancomycin is used as a pre-treatment as well in the Arizona study, but in many other studies, it's something that this field of people that work with FMT have often included beforehand, and that really brings down overgrowth.

And so, you know, some people sometimes say to me, "Well, I'm really against doing any kind of, you know, antimicrobials or antibiotics," which I totally understand. And the question is, should we do those types of treatment beforehand? And, usually, the way that I explain it is, is that, when we're doing FMT, we're trying to climb a mountain. And, the mountain is much easier to climb when there's less pits, and boulders, and steep parts, and cliffs, which is usually the overgrowth. So, our likelihood of getting to the top of the mountain and seeing a relief in symptoms is going to be higher if we make the climb easier. And the climb will be easier

when we clean the slate. So, usually, that's what happens, we're getting rid of an overgrowth of bacteria, in some cases parasites, and Candida, and whatever else.

And then, immediately after that, we start with FMT. Now, just before doing the FMT, in some cases depending if we're working with kids or adults, with adults, we usually get them to do a slight fast, oftentimes a 24-hour to 48-hour fast. Again, fasting will help clear out bacteria. And then, after that they do a bowel cleanse, so we just kind of clean them out even more, usually using magnesium, and increasing doses to the point where they have loose stools. So that's the pre-part, and then, you know, the treatment part is, again, there's variables depending on the condition and everything else. But, just relating to the work with autism is, is that we start out with a big loading dose. So, it's a large amount of bacteria in the beginning, either via capsules or via enema, and then, after those two days of the loading dose, we just go on and do a daily, fairly low, maintenance dose. Now, when I say low, it's like 2.5 billion bacteria every day. Which is not super high but still high enough. And we do that for the next 16 weeks.

Now, you asked a really good question of, how do you maintain the treatment? There's a couple of things. One, you want to make sure that you don't do things that are going to kill off this transplanted bacteria, which we want people to avoid whether or not they've done an FMT. But antibiotics as much as possible, you know, eating foods that are going to be damaging it, whether you're trying to choose organic where possible, and other types of things that we know can damage the gut microbiome. So, that's one big one but probably as important as that is, trying to get as much diversity in the diet as possible. That's how you maintain a healthy gut microbiome, is eating as many different foods as you can in about a week, is the way that we put it.

So, the kids or even the adults that we work with, our goal is to initially get up to 50 different kinds of foods in a week. And, from that, you know, once they can reach the 50 foods, then we have them try to shoot for 100 different foods in a given week. And, I'll admit, that's hard, that's not easy. But the standard American's eating like maybe 10 to 15 different foods in a week, which is not a lot, and that tells us then, that their gut microbiome is not going to be diverse, which is a problem. So, to have a diverse gut microbiome, you need to be eating a lot of different foods, which is why, you know, I take issue with a lot of diets out there which are generally limiting.

Now, I'm not suggesting that you should eat a lot of different junk food, because there's a lot of that too, but it's just as much different kinds of foods as you possibly can. And, people, you know, typically it's like, "Oh, I just eat the same oats." Well, why not trying different grains, or why not trying different kinds of seeds, and nuts, and so on and so forth. So, that's a huge factor in helping to re-grow that. And, as you can get that gut to begin healing, that's when you'll start to see symptoms even outside of the gut, because, initially, typically, we see the improvements in the digestion first. You know, it depends on how quickly that can happen. In some cases, it'll be a couple of days where a child would have had diarrhea, in some cases, for three years every single day, within two, three days of doing FMT, bang, normal regular bowel movement.

Same thing with chronic constipation, we have cases where they're doing enemas every single day just to have a bowel movement. A couple days later, regular form bowel movements using no laxatives, no enemas, no

nothing. But, as you can imagine, as that gut begins to heal, and, you know, there's a lot of talk out there about gut-brain function, and, you know, the gut-brain connection, as well as leaky gut and everything else. Well, as we begin to heal the gut, we then begin to see improvements in many other areas. And so, that's, you know, really, really promising and, of course, that encourages whoever is experiencing those types of symptoms, to, sort of, you know, pay reverence to these new gut microbiota because they are so transformative. But, they do engraft, so they do become a new part of your microbiome.

And, this is a question that I get a lot as well, "I do it once, do I have to keep coming?" And, the answer is generally, "No, you don't." So long as you respect the gut microbiome and continue to try to nurture and build it, you shouldn't need to continue to redo treatment. Although, there may be some conditions where that's necessary, just taking Crohn's or ulcerative colitis as an example, where, you know, you may put somebody into remission, which absolutely can happen. But, as time passes, perhaps something comes up, or they go through a stressful period, or they need to go on an antibiotic, or something like that, in those cases, you may need to consider doing a short burst of a treatment just to reboost that gut microbiota, and, you know, prevent someone from going into a huge flare again. So, that's the general overview.

Katie: That all makes sense. I would love to talk a little bit more about fasting because you mentioned that you sometimes encourage fasting before because of the gut changes that it leads to. And, I am a huge fan of fasting in my own life. I've never done FMT, but I'm curious, just from your perspective and your research, what type of fasting are you using, and what kind of changes can people expect to see from that?

Dr. Jason: Sure. So, I agree with you, I think fasting is awesome. I think even doing intermittent fasting for a lot of people is quite achievable, it's not very hard to do. And, it really gives the whole body a break. And, there's a lot of research in a lot of different areas on the benefits of fasting. However, as it relates to FMT, our main goal is, really, to starve off bacteria, and fungus, and things that we don't want there. And so, that's really the goal of it, is to reduce overgrowth even further. So, we have somebody do a couple weeks course of say antibiotics, or herbal antimicrobials, or other things, and then we have them stop all of that for 48 hours before starting FMT. And, our big goal with that is because we don't want any of these bacteria to start killing off, you know, the newly transplanted bacteria, and then we have them do a straight two-day fast.

If they can do it, you know, if they have enough vitality and strength, because some people don't, and then, of course, young kids, I mean, it's really hard to keep food from a young child who doesn't understand what it is you're trying to do. So, in many cases, we don't do it in that regard, but as it relates to FMT, our primary goal is to kill off overgrowth of bacteria, as well as, kind of, clean things out and have more space, if you will. You know, sort of, air quotes there "space" for this transplanted bacteria. And then, following, you know, that fast, you do a bowel cleanse, you just clean it out even more. And now, when you do that large loading dose, there's more, sort of, real estate, if you will, for these transplanted bacteria to go in and have their effects.

Katie: That's fascinating. And, another thing that you mentioned that I think is probably also just great advice for any of us listening was about eating much more variety in food, and a much more varied diet. This is something I know I've read about how in our current diets, like you mentioned, many of us eat the same foods

over, and over, and over. And, there are so many benefits across the board from the micronutrients, to the gut diversity, etc., when we eat a whole, like wide variety of foods. Is that something that you recommend even with patients who you're not doing FMT with?

Dr. Jason: Oh, absolutely, yeah. And, it can be really hard. I mean, you mentioned SIBO before. Well, there's the typical diets for SIBO, right? Whether it's SCD or low FODMAP, or, you know, antiSIBO, or whatever the diets are, there's a lot of them, and they can definitely result in improvements. And I advocate for them, but what I advocate is for short term. You know, some people just get comfortable sticking with a very restrictive diet, and that oftentimes doesn't work out in the long term. And, you know, there's always, sort of, fads that are popping up, right, like carnivore diet. I mean, some people are seeing phenomenal improvements with that against autoimmunity and other conditions. But, my concern is, is that, by doing and following those diets, long term, you're going to be restricting the gut microbiome even more. And depending on how long you're doing them, you know, perhaps the numbers of those bacteria go down, and then, with time, once you do reintroduce food again, you know, perhaps they'll come up again to a level that's supportive of the body. Because, the body does have a, sort of, fingerprint, if you will, of what a healthy gut microbiome is, especially if you do have an appendix. However, the longer you do and follow a restrictive diet, that the bigger the problem that it will create down the line.

So, yeah, I'm definitely a huge proponent of trying to have as much diversity as possible in the diet, but even, you know, beyond that, I think we have to keep in mind, the number one source of all of the bacteria within our gut originated in nature. So, as well as eating as much different types of foods as we can in a week, let's say, the big goal too should be able to get out in nature, you know, hug trees, walk barefoot, you know, do gardening, do all of those things that expose you to different types of environments. And, for those of you that like traveling, you know, you can just use it as an excuse to go traveling and, you know, put your feet in different sand or things like that. But, I really think it's important that as much of eating different foods is important, it's also getting out in nature, and, you know, forest walking, and all these other things that have shown real benefit. And, I think a part of that is just because of the microbiome.

And a lot of the issues that we're dealing with now is...well, in part it's overpopulation, and we don't have the exposure to parks, and fields, and everything else, but as well with that, people are just wanting to be clean all the time. And, I think that, in part, has created some of the issues that we have now, and that's this whole idea of germ theory and people, you know, concerned about not getting any types of bacteria. But, that doesn't really help the body or help the immune system in the long run.

Katie: Got it. Yeah, I'm also a huge fan of spending time in nature gardening, my kids just being outside barefoot climbing trees, interacting with the whole microbiome of the environment. I'm curious if, because this is able to make such a huge change in the body, and, I mean, it really is staggering, the things you're saying it's able to do. How can you make sure that it's not going to cause a negative change? In other words, is there any instance where the bacteria that's being transplanted isn't optimal, and then, it leads to problems?

Dr. Jason: Yeah. No, this is a really a great question. Now, I'll explain my experience, but really, what I think is more valuable than my experience is the large depth of research that we have. And, when you do proper donor screening and you make sure there's nothing infectious there, then the likelihood of having any kind of negative reaction is very limited. And, if you look at the wide range of research, and they've done this on all kinds of different conditions by now, they always, at the end of the studies say, you know, "Safe, well tolerated, effective in many cases." And so, that's key. I mean, that is really key. However, if you do this wrong and you don't do donor screening properly, absolutely, this can be a huge problem. I mean, I've seen cases, usually, people doing it at home, and, you know, there's like, "Oh, my sister's boyfriend tells me he's very healthy and I'm not very healthy at all, and so, I'm going to use his stool." And, there's no screening, and then, later on, they come to find out, "Oh, my God, I've got H. pylori, and I've got all these other issues." And then, you go ahead and test this, you know, sister's boyfriend, "Oh, he had H. pylori too, and he had these other infections." We just didn't know about it because he was extremely healthy, or at least appeared to be healthy, and his immune system was strong enough, and he wasn't showing overt symptoms of that.

So for us, you know, we do a lot of blood screening looking for anything infectious, hepatitis, HIV, syphilis, all of that stuff, blood screening, all of those, plus stool screening, so looking for parasites, you know, viral infections, and Candida overgrowth, and so on, and so forth. There's a long list of things that we test for. And that's really important, of course, testing. But more important than that is even their medical history. So, all of our donors are breastfed, vaginally born, never used antibiotics in their life. In our case, they're not vaccinated, although I don't know that that's an absolute criteria, but just so happens to be that those are the donors that we work with. And then, you know, they're not overweight, you know, they're athletic, they're in sports, and the list goes on.

So, we need to make sure from a blood and stool testing standpoint that they're very clean, as well as from a history standpoint, making sure that you know, no immediate family members have cancer when they're 30, or brother who's got, you know, a skin condition, or other things like that. So, it's really...the donor screening is really, really critical in making sure that it's safe and effective. Because, if you have a low quality donor, you may not see any change of symptoms because they are not giving you a lot of gut diversity. Same thing with, if you do take stool from a donor and they are not properly screened, and it turns out, you know, Yersinia or some type of infection, that could cause real problems in someone whose gut is compromised.

So, yes, there are risks, but they can be mitigated by proper donor screening, and so that's absolute number one. And, this is why I'm not a huge advocate for home FMT or DIY FMT. I know some people resort to that, and I understand why people do, because it's not easy to get it and it's not exactly cheap either. But, I think it's just really, really critical that you make sure that proper donor screening is done, because when it's done, it's extremely safe. We do see mild symptoms, you know, when we do the enemas, for example, there can be an increase in gas, a little bit of cramping, things of that nature. Kids with autism, sometimes we'll see some increase in their existing symptoms. So, perhaps, they're a little hyperactive, they may be a little more hyperactive for a short period of time.

And a big part of that is because we're introducing a large amount of bacteria, and it's kind of having a fight, if you will, with the existing gut microbiota to find some sort of equilibrium. And, in the process of finding that

equilibrium, there's a bit of a fight. Some of them die, and when they die, the body has to detox them out. And, if the body has trouble in detoxing, that's when it can become an issue where they can experience some symptoms. Because, in effect, there's an increase of inflammation in the body, and anything that's already going on will be exacerbated somewhat. So, actually, a lot of what we do, or a part of what we do is, is we have most people do, supporting their liver to really make sure that their liver can properly detox whatever we're killing off.

Katie: Got it. That makes sense. Okay, so for anyone who's listening who maybe has SIBO or has some kind of diagnosis, or has a child struggling through autism symptoms, what is the process like to find you or someone like you, and how can they begin that process?

Dr. Jason: Sure. So, to find someone like me, there's not a lot of people like me. I'm the only one that I know of right now in the world that's duplicating the study for autism. In effect, we're duplicating it in many ways, although we've improved it in others. So, there's nobody else that's doing it the way that I am. Although, there are other clinics that do FMT, so I'm not the only one to do that. But for us, I mean, most people are either referred by their physician or they hear about it through somebody who got really great results, you know, another parent. So, those are two big ways. And, they usually just send them to our website, which is [fmtsolution.com](http://fmtsolution.com), and they can learn a lot more about that.

And, for us, for autism, I would say most kids with autism are absolute candidates for FMT. I mean, I've just looked at so many stool tests now and heard from so many families by now where I don't even think twice about whether or not I think someone who has autism and a lot of digestive symptoms, they should definitely consider it if they're considering therapies and they want to go down the route of treating the gut, I think that's definitely the case. However, in other cases, like IBS, and SIBO, and IBD, and things, I definitely think there are some people who are better candidates than others. And so, for us, we really make sure that we screen and we really get a sense of, hey, is this person likely to show benefit from FMT? And, if they are, great, we can have a discussion about what that treatment might look like. But, if not, then, you know, perhaps go do something else.

And really, what I think is important, of course, if you have C. difficile, you're in a, you know, acute state, you've got a lot of problems, you need treatment. So, we don't really treat C. difficile. But, for other conditions take IBS, for example, actually, the research is quite compelling based on the improvements that people can experience with FMT. But, it's not the first place that I would start. You know, if somebody came to me and said, "Oh, I have IBS." And, I'd say, "Well, what kinds of other treatments have you done today?" Well, nothing really. I took a supplement that I found on Amazon somewhere. Well, I think you need to do a lot more first, right? Like, let's see, you clean up your diet, let's see you get your lifestyle, improved, reducing stress, getting more physically active, and the list goes on. If all of those things fail, then yeah, I think you might consider doing FMT. But, otherwise, you know, it doesn't make a lot of sense. For Crohn's and ulcerative colitis, similar thing. I mean, those are conditions that are generally more severe, but it's definitely something that, you know, I still think you need to really make sure the foundation on the groundwork stuff has already been done.

And then, SIBO, this is an interesting one because I used to treat a lot of SIBO. In my experience of treating a lot of SIBO, I've never come across a patient that didn't first have some form of really bad gut dysbiosis. Meaning that, perhaps, I hear these stories all the time it's like, "Oh, well, in my 20s, I was given antibiotics for acne for five years," or, "I had one month where I was in IV for pneumonia infection," or "I got ear infections all the time as a kid, and then I had antibiotics every couple of months, and then leading into that, I had constipation throughout my teenage years, and then in my 20s, you know, I got out of university went to work, it was extremely stressful and everything just fell apart then." But oftentimes, when things fall apart, it's just a matter of time, it's just the straw that broke the camel's back, but what's really happening is, is that there were many signs before that, that showed that the gut was becoming more and more deplete of these healthy beneficial broad-spectrum bacteria. And so, that's usually the case.

Now, you know, given that I've treated a lot of SIBO, I don't personally see FMT as a treatment for SIBO. Although, there is a very, you know, small study that did show that, that it is actually something that can treat SIBO, and quite effectively, actually, I was surprised. But, what I think, if you do consider treatment with SIBO, you definitely need to make sure that you're reducing the overgrowth to begin with, kind of, like we talked about before, right? It's a mountain, we're climbing it. We've got to try to reduce this overgrowth as much as possible to make it so that we can get to that ascent.

But, really, I would consider it if someone continues to relapse. I believe a lot of the relapse is not around, "Oh, well, you just started eating, you know, food again too quickly." Or, you know, whatever it is, "You didn't stick as close to the low FODMAP as you should have." I think it's just because there's nothing to counteract it. It's just like you have a garden, right, and you get rid of all of the weeds, but you never put in any corn. Well, the weeds are just going to come back, it's not like when, it's just how soon? And so, you need to rebuild the gut. And, for some people, they can do that through expanding the diet slowly, and then, slowly working on that. Remember, I said there's a bit of a fingerprint. However, if that fingerprint is gone and there's no memory of what a healthy gut looks like, it's going to be nearly impossible, in some of those extreme chronic cases of SIBO, to totally, you know, be into long term remission, able to eat and have a normal healthy lifestyle again. So, in those cases, I might consider doing it, but it would follow a pretty intensive pre-treatment to, kind of, clean out that garden, if you will.

So that, when you have done that, you can immediately follow it up with FMT, lock in those benefits, and see that it doesn't continue to relapse. And, I've definitely done that, and that works quite well. But again, you know, people, when they're at the point of considering that, they've usually gone and done and tried a lot of things, because, you know, for a lot of people, it's quite an extreme thing to travel for this and to, you know, pay the money that it takes to get it done, and be gone from work. And so, there's a lot of variables that come into play. So, usually the people that reach that point are more severe, I would say.

But, yeah, so that's the premise. I mean, people find out about me through a lot of different ways. We screen to make sure that, A, they would benefit from this, and B, that they're very well informed. You know, we want people to really understand what they're doing, why they're doing it, and if they have any question that

they're very clear on it, so that there's not a, "Oh, wait." They know they show up, and, "Oh, wait. What, you're actually using, like, fecal material?" It's like, "Well, yeah, that's what we do here." So, really, making sure people are very well informed and that they can make a decision from that place. And then, if so, you know, we go into the logistics and planning of arranging their treatment, and taking care of things that way.

Katie: Got it. Are there any, like, contraindications or downsides? I know you said you guys screen really carefully, and I think it makes total sense that someone should try other things first and at least have a really solid foundation with diet and other lifestyle factors. But, are there contraindications or concerns people should know about this?

Dr. Jason: Yeah. For the most part, not really. However, close to a year ago, there was actually someone who died from FMT. And, the reason that they died is...well, there's a couple of factors. One, they were in their 70s, which doesn't really have any bearing, I've treated lots of patients that are elderly, but the other thing is, they had no immune system. So, they had, you know, a medical condition that meant that they had no immune system. I don't just mean, like, a weak immune system, they get every cold, that kind of thing. Like, they had no immune system. The donor had a certain strain of E. Coli that was what we call an MDMR, so it was a multidrug-resistant organism, MDRO. And, that E. Coli strain was resistant to antibiotics.

So, the patient had no immune system to fight it off, the antibiotics couldn't kill it. And so, what actually happened, tragically, is that this patient died. So, I would be cautious, now, to treat anybody that had no immune system. And, you know, someone that might be in that case would be really advanced cancer, or HIV, or other conditions like that. Most people have an immune system, but here's a case where they didn't. Now, on top of that, we screen for all these multidrug-resistant organisms to make sure that donors don't have them, as well as that they don't have any risks of having them, for example, you know, traveling to developing or, you know, Third World countries, you know, spending a lot of time in or around people that are in hospitals, or working in the healthcare field, and the list goes on. So, we make sure our donors don't check any of those boxes as well as screen for it. But, I would say that's, you know, quite likely a possible indication.

The other one is having a perforated bowel, right? But, we would know about that, and someone to be in a pretty acute state. So, if someone had a perforated bowel, you wouldn't want to go putting in a whole bunch of bacteria because that would then leak into their system. As you, you know, sort of, talked about with your husband, you know, he had a perforated appendix, I mean, that's a pretty severe thing, and, you know about it because you're in severe pain, or you'll find out pretty quickly if you haven't found out immediately when it happened. So, those are some of the main ones, but otherwise, I wouldn't say there's any other strong contraindications. But, the main indication, I would say, is, is that there's a history of damage to the gut microbiome, even through natural stuff. You know, I've had a lot of patients that have just spent years taking all different kinds of natural herbal antimicrobials. And, they're less damaging, but they can still be damaging if you do them long enough, you know, combined with limited restrictive diets or bad diets, and the list goes on.

Katie: Got it. Okay. Yeah, that's really helpful to understand.

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Katie: And, I think you're right, like, this seems like, probably, a foreign concept to a lot of people. But, like you've explained so well today, there are so many applications for this, you just want to make sure that your body is well prepared, and that you are doing the right things afterwards. What kind of future applications do you see for this that you think we're not even aware of yet?

Dr. Jason: Yeah, great question. So, I really truly believe that every chronic disease, take heart disease, take cancer, take neurological diseases, diabetes, and the list goes on, I believe they all have a connection to some type of dysfunction in the gut. And, the more that we're doing the research, the more this is becoming clear. Take, you know, Parkinson's for example, they've identified, now, certain bacteria that are missing or, you know, not present or not present in high enough numbers in people with Parkinson's. So, what's going on there, right? Like, something's going on, and so, how are we going to treat that? So, yes, I believe that all chronic diseases will be treated with time with FMT or variants of it. You know, companies are working on identifying certain strains, I don't think that's going to work. I think having the full spectrum of the gut microbiota is really going to make a difference.

But, just to give you some context, they're actually even studying right now, the study started up in China, using FMT for the treatment of coronavirus. You know, the study was just posted, they're just starting to do this research. So, wow, you know, that's crazy, this is a virus and they're using FMT. But, it happens to have some gut symptoms and other things, and so, the immune system is very connected to it. But, I think that, and

as well, they've done some research on using FMT in certain...while patients are using certain chemotherapeutics. And, more explicitly, they study this in mice, where mice taking certain chemo drugs, and then they give them FMT, seeing a better outcome. And so, I don't know, you know, why exactly that is? Is it just that the FMT is so beneficial or is it that it's helping to enhance the effectiveness of the chemotherapeutics, and it's likely a combination of the two.

So, I think there's going to be a lot more indications as we begin to understand, you know, the pathophysiology, if you will, of the development of that condition, and we'll be able to see, "Oh, you know, this is what's happening." So, they're even, you know, using it for hepatic encephalopathy, right, which is a condition of the liver, and they're seeing great results with that. So, I truly believe that all chronic disease, with time, we'll learn how to treat it effectively with FMT. And, it's not to say that, you know, everybody with a chronic disease that would get FMT would necessarily see dramatic improvements, but, you know, taking cancer for an example, you know, a drug will get approved when only 10% of people show improvement of it, you know, not even a cure or anything else. So, I think there's going to be very wide application.

And, as we move into this world where we're using so many antibiotics, and our environment is so polluted, and, you know, our air is polluted, our water is polluted, our food system is polluted, I mean, all of those things just wreck havoc on the gut, and that is hugely concerning. And, as we, you know, have more of these external forces through the environment, plus our lifestyles, plus all the antibiotics, we're going to be ending up with, well, more chronic disease, but also superbugs, and things that we cannot control, or our immune systems and our gut microbiome will not be able to control, and that we can't, you know, quickly come up with, you know, a vaccine or something like that to handle. So, I think there's going to be application in other cases where once we start to get these, you know, conditions where there's superbugs and things that we can't treat with their standard therapies, this will be something that will be used to try to treat those types of conditions. So, that problem is only getting worse and worse. If you see what's happening in hospitals and beyond, I mean, they're fighting crazy stuff, and the most intense treatments are not killing it off. And so, you know, what do we do?

Katie: Yeah, that's a great point. And, with what you've explained of how people see such drastic changes, and that these changes actually last, which is in stark contrast to so many of the other treatments available, I think you're right. I think it's going to be a really fascinating next couple of years as we start to see this practically applied more, and just continued research on it. For people who want to, like, learn more from you, or maybe even learn more about starting this process, where can people find you?

Dr. Jason: Yeah. So, I keep a fairly low profile, partly A, because it's my nature, and partly B, because there's a lot of people that don't think FMT is all that great, and they want to stop anybody doing it, which is, to me, kind of crazy, but nonetheless. But, the best way to learn more about me is on my website, it's just [www.fmt.com](http://www.fmt.com), (Fecal Microbiota Transplant), [www.fmtsolution.com](http://www.fmtsolution.com). And so, that's the main and easiest way to get a hold of me. There's a lot of information there, we've got a long list of FAQs, for people to really understand what they're doing. And then, also on that site, if you are serious about this and you don't just want to, you know, talk about the weather or talk about, you know, what you've done in your life and everything else, but you really are serious about FMT after reading through the website, then definitely there's an opportunity where

you can book a call and speak with a naturopathic doctor on my team to better understand the process and determine if you are a fit.

The website is really geared towards families with kids with autism, and so that's most of the information. But, nonetheless, if you have a different condition, we do accept other patients who have different conditions and you can still feel free to reach out. We will alter the treatment program, somewhat, depending on the condition. So, not everybody does 16 weeks of treatment, you know, many times people can just do 10 enemas, and that's it. Or, perhaps they need to do longer, you know, it really, kind of, depends. But, yes, that's the best way to find me. If none of those ways seems to be getting a hold of me, you can also just hit me up personally on my email which is [jason@drjasonklop.com](mailto:jason@drjasonklop.com), and I'm happy to answer questions, and/or forward you to speak with the other Doc in my team if I think the call is warranted.

Katie: Awesome. And, I will make sure that those are linked in the show notes, as well as, I think I've seen some of the studies that you've mentioned, I'll link to those as well so people can read. Because, I think, like as I said, it's a really fascinating area, and one that we're just starting to explore, certainly, I'm just starting to explore. And, I'm grateful for you and your time today, and explaining both the process and the science of how this works. And, I think you're right, as we see more chronic problems and more acute dangerous problems, I think we're going to need solutions like this to be able to battle them. I'm grateful that you're there on the front line doing this right now.

Dr. Jason: Cool. Well, thank you so much. And, I think just to add to that quickly. I think to help us improve even further, the outcomes, will be to better identify how we can match a donor and a patient. Right now, we really follow what I call, like, the shotgun approach. Sure, we make sure we have a really high-quality donor, but we're not totally clear on what of that high-quality donor is making such a dramatic difference in a specific patient. And, I also have some cases where, you know, we'll have two people that come get treatment for ulcerative colitis, one of them just has phenomenal outcomes goes into remission stays into remission for years, and then the other person will see little or no change. And so, why is that? And so, I think that with time, and this is a project that I'm tackling currently, is trying to better identify how we can match a donor and a patient. And, as we begin to learn or create that type of model, that will help us to become even more specific for the types of conditions that we can treat and how specifically to treat them. So, if we've got a, you know, sort of, a Rolodex, if you will, of healthy donors, and we understand their gut microbiome, how can we take a look at these patients and say, "Well, here's somebody to match you up with?" And, that's really the fine-tuning of this sort of process, is to try to figure that out.

Now, I might not ever figure it out, because I think this is much more complex than we might imagine. For example, you know, some people think it may not actually be about the bacteria, it could be about the phages, or it could be about something else that's not just about the bacteria. So, I think it is really a complex problem that I'm here working on trying to solve. But, I do think that that will allow us to increase the benefits that we see, the improvements that we see, as well as helping to identify what types of illnesses or conditions could benefit from this, and/or how to maximize the improvements for people.

So, yes. But, otherwise, yeah, thank you so much, Katie, for having me here. And, I really appreciate you asking some great questions.

Katie: Thank you for your time, and thanks to all of you for listening and for your time sharing one of your most valuable assets with us. We're so grateful that you did and I hope that you will join me again on the next episode of "The Wellness Mama Podcast."

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