

Gut: Advanced Treatments – Part 1

Hey, everybody, in this section we're going to briefly cover more advanced treatments like probiotic and prebiotic implants, fecal microbiota transplant, or FMT, and helminthic therapy. These are only necessary or recommended when the patient is still not better after everything we've discussed, and even then they are only appropriate in certain situations.

Let's start with probiotic and prebiotic implants. So this involves administering probiotics and prebiotics rectally via an enema bag and a flexible hose. This can be appropriate for patients that can't tolerate oral prebiotics or probiotics, possibly because of SIBO or small intestine inflammation, etc. The procedure would be as follows: You have the patient purchase a two-quart natural rubber enema bag with silicone hose. You can get this on Amazon, or sometimes from the local drugstore. I will put a link directly to the product on Amazon in the resources section just so you have an idea. They would then prepare one-eighth cup of filtered water chamomile tea at about 90 degrees. You don't want it to be too cold or too hot. If it's too cold, the patient won't be able to retain it because it will kind of cause a contraction response in the colon. If it's too hot, it can kill the probiotics you're going to have them put in there. So they would add maybe a quarter-teaspoon of BiotaGen or other prebiotic and one capsule of Prescript-Assist or similar probiotic, and you can increase these doses substantially over time, but you always want to start cautiously to avoid any significant side effect or response. So then they would cinch the clip on the enema hose so it's closed, add the prebiotic/probiotic liquid to the enema bag, hang it on a towel rack or a doorknob in the bathroom, then have the patient lie on their left side on the floor, apply coconut oil or other lubricant to the tip of the enema applicator and then insert gently and slowly into the rectum. Then gradually release the cinch so that the liquid flows into the rectum, not too quickly, have them retain it for a minimum of 15 minutes, or if possible, ideally overnight, and the patient can do that three to five times per week before bed. I haven't seen any specific research on implants, but empirically I've seen it be successful in many cases where oral probiotics were not tolerated or caused a lot of adverse side effects, and of course the concept is very similar to FMT, so from a mechanistic standpoint it makes perfect sense.

The much more potent version of a probiotic implant, of course, is the fecal microbiota transplant, or FMT. This is a transfer of stool or its microbial isolates from one human donor to another. It's been a hot topic in the media and research, I'm sure you've heard of it by now, and there's actually a long history of FMT. The first record of its use was in China 2,000 years ago. It was a lot less sophisticated at that point, oftentimes involved just drinking stool, as gross as that sounds, and people would actually get pretty good results with that. In modern times, it's been used to treat antibiotic-resistant *C. diff*. It's still the only thing that the FDA has approved it for in the US, and we'll talk a little more about this shortly. More recently though, studies have suggested it may be effective for other GI conditions like IBS, possibly IBD, although the research is mixed there, and then other conditions that aren't strictly limited to the GI tract like metabolic disease, chronic fatigue, and even depression.

I've written and spoken a lot about FMT and will provide links to research and more info if you want to dive in. For example, I've done at least three different podcasts on it, and we have some blog articles as well, but I want to just focus briefly on practical application in a clinical setting.

There are some really big obstacles to using this therapy with your patients. First is that in the US, as I mentioned, it's only approved for antibiotic-resistant C. diff. The doctor can only legally perform the procedure for patients that have Clostridium difficile and have already taken and failed antibiotic treatment.

Second, it's really hard to find suitable donors, and this may be less of a concern if patient has antibiotic-resistant C. diff and they're facing death. In that case, you're just trying to exclude the major risk factors, like the donor also having C. diff or some other serious communicable disease. You're not caring at that point about their diet and other things like that because the studies overall have shown that irregardless of those factors, patients with C. diff ... life can be saved through this procedure, so at that point you're just trying to find a donor that's not going to make the situation worse and could save their life.

But for conditions that are not life-threatening, like a lot of our patients interested in it for resolving gut issues or perhaps skin problems or fatigue or autoimmune issues that haven't responded to other kinds of treatment, I think donor selection is really, really important. Several years ago, prior to this even being on the FDA's radar, I was advising patients on how to do at-home DIY FMTs with donors, and I was using the donor selection criteria that were established for the Centre for Digestive Diseases in Australia, Professor Tom Borody's clinic, who basically pioneered the modern version of the procedure, and what I found was that it was extremely difficult to find donors that matched those criteria. I might test five, six, or even seven potential donors for a patient before we found a suitable donor, and what was particularly frustrating was that we'd find someone who looked great on paper, they had a good diet, they didn't have any history of antibiotic use, they didn't have any gut symptoms, but then when we'd test them they'd have Blastocystis hominis. We talked about this in the testing section, how Blastocystis can be non-pathogenic in one person but if it perhaps gets into another person who has compromised gut microbiota and other issues, it can be a problem. So that donor would be excluded even though that person didn't really have any symptoms and looked otherwise very good on paper.

Probably the biggest problem facing clinicians is finding people who have no history of antibiotic use given the average person is taking 15, 16, 17 courses of antibiotics by the time they're 21 years old, finding people who have just really good gut health, regular bowel movement, minimal gas and bloating, who are eating a fiber-rich diet to feed their beneficial gut bacteria, those people are few and far between.

Finally, the third hurdle, this is admittedly less of a hurdle, at least in my experience, because when people are really sick they're willing to try just about anything, but there is an aversion factor to doing this procedure, especially at home, because to be perfectly blunt, it involves blending stool in a blender and implanting it into the rectum or colon that way, and it's certainly not for the faint of heart, and it's pretty vivid. Not everyone is going to be interested in or willing to do this.