KRESSER INSTITUTE
FOR FUNCTIONAL AND EVOLUTIONARY MEDICINE

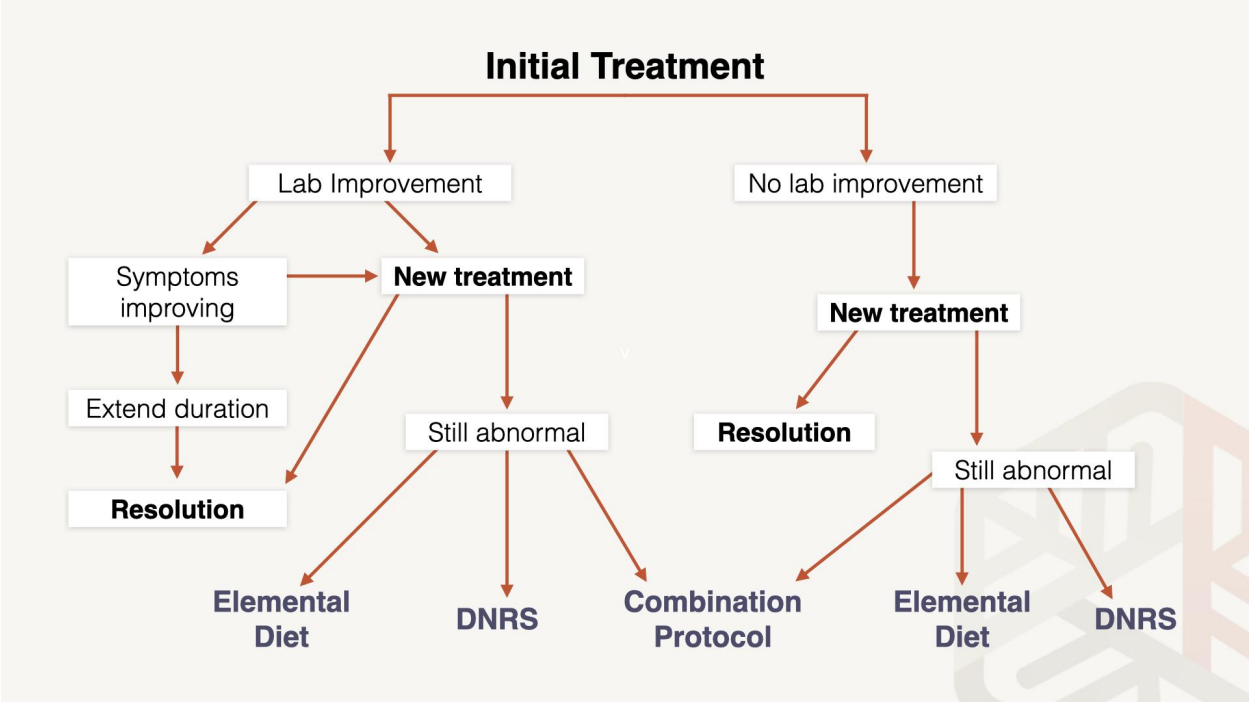
Gut Treatment Protocols: SIBO, Part 9

What happens if the test is still positive? Like I said, the recurrence rate ranges from 44 to 50 percent, and that probably has a lot to do with not using doses that are high enough or durations that are high enough.

44%

recurrence rate?

One study found a recurrence of SIBO of 13 percent at three months post-treatment, 28 percent at six months, and 44 percent at nine months. The major caveats of that study, though, were that the probability of recurrence was increased with older age, constipation, a history of appendectomy, and chronic [proton pump inhibitor] use. As I said before, SIBO [is] as much a symptom as it is a cause. The authors themselves said that without correcting potential mechanisms that led to bacterial colonization of the small intestine, SIBO will likely recur. [That's a] very important point. Second is that patients in these studies were not using the adjunctive therapies that we've discussed, like biofilm disruptors, probiotics, [and] prebiotics, and empirically, I think in our patient population, recurrence is much lower than 45 percent at nine months. Nevertheless, the key takeaway here is that you have to look at SIBO from a Functional Medicine perspective, and if it continues to recur, it probably has to do with an underlying mechanism that has not yet been corrected.

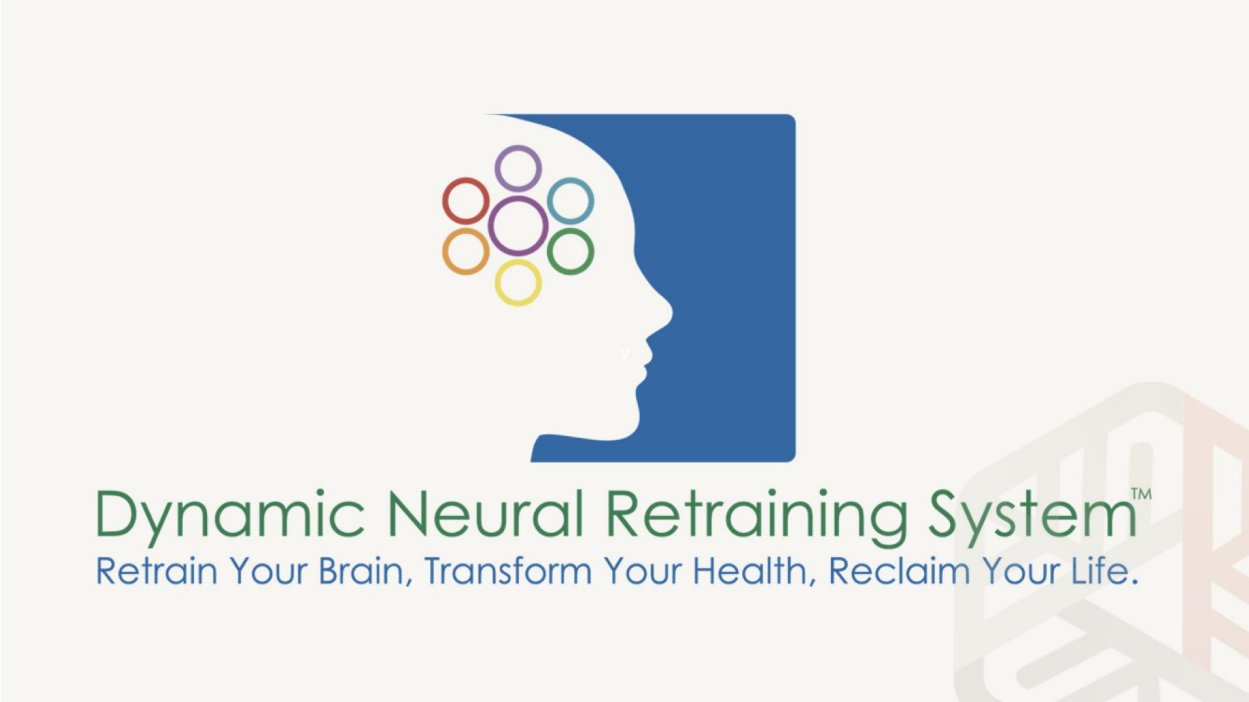


If you have a patient with follow-up tests that are positive, here are some things to consider. If it's the follow-up test and your labs improve but don't resolve, you could try a different treatment. So if you previously did [a] botanical treatment, you could do the pharmaceutical treatment of rifaximin. If you do rifaximin, you could change over to do botanicals, and you could also consider extending the duration depending on the test results and if the patient is feeling better. I will often extend [the] duration or change a few things up if the test results had improved and the patient was improving. If the extended duration of the same protocol or a new treatment fails with the second follow-up test, you have a few options depending on your patient's bandwidth and tolerance for additional treatments. You could consider an elemental diet if the patient is willing or a combination protocol.

If the patient repeatedly tests positive, you need to start considering potential underlying mechanisms that you may have missed, including gut dysbiosis, parasites, and infections; things [like] heavy metal toxicity, mold, [or] biotoxins; or other chronic infections like tick-borne illnesses or gut–brain axis dysfunction due to [hypothalamic–pituitary–adrenal] axis dysregulation or stress.

This algorithm that I'm showing you on this slide is just an example of different ways to go through the treatment protocol and algorithms. We'll provide a handout for you, so you don't need to worry about copying it down now.

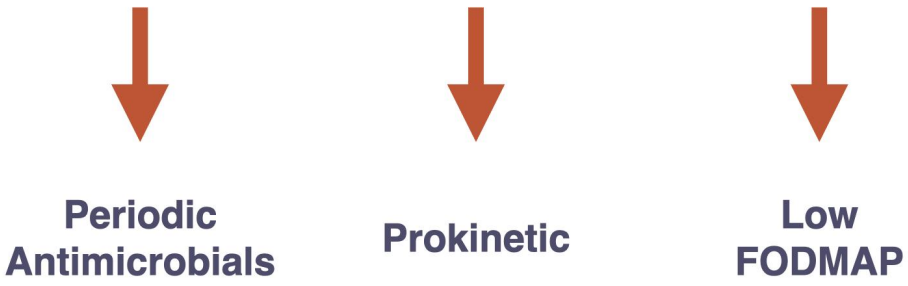
You've probably already gotten the sense from watching the presentation, but if you haven't, I'll say it more clearly: SIBO is not always easy to treat. We often see cases that are difficult to treat or symptoms in labs only improve temporarily. We find it hard to justify repeating the same treatments over and over and over again with little improvement for that patient. So we can't just ignore the gut–brain connection and the fact that our gut is essentially a network of nerves. Through research and neuroplasticity, we know that "neurons that fire together, wire together," meaning the more you use a certain set of pathways of nerves, the stronger they get. If we experience any kind of trauma at any point in our life, and it doesn't have to be an emotional or psychological trauma; it could have been a physical trauma such as a surgery or a car accident, it could be a microbial trauma such as infection, a chemical trauma such as a toxin or exposure to a toxin. This usually leads to [a] fight-or-flight response, which is protective in the short term, but it can get stuck, which it often does. It can become maladaptive over the long term. I think that what is happening with many patients who have recurring SIBO or other recurring gut issues is their nervous system is stuck. They have a limbic system injury at some point in the past, and their nervous system is stuck in this pattern of unhealthy function, and that creates a hospitable environment for bacterial overgrowth or the presence of other pathogens. If you only treat the bacterial overgrowth or the pathogens themselves without addressing the underlying pattern that is leading to the environment, then you might get some short-term results, but you'll see a lot of recurrence, or you might not even get the short-term results at all.



In these cases, we've been referring patients to the Dynamic Neural Retraining System (DNRS) [program] as a way of addressing that limbic system injury and essentially reprogramming their brain and nervous system.

We've seen some pretty remarkable results in the case of patients who stick to this program and whose symptoms began or at least exacerbated and intensified after some kind of trauma. Again, [we're] using a very inclusive definition of trauma, not just emotional or psychological, but physical, microbial, environmental, or toxic. There are a lot of other options outside of just DNRS. There [are] programs like the Gupta [Program], and there is [the Emotional Freedom Technique], tapping, so there [are] lots of different steps of introductions to this nervous system and limbic system retraining.

Recurrent SIBO



Let's say you ruled out all of the causes of SIBO that we talked about or the underlying mechanism cannot be addressed; for example, if a patient has a disease or a mechanical problem that impairs gut motility that's not a reversible condition, the patient may need periodic re-treatment with botanical or pharmaceutical protocols. Now, as I just said on the last slide, I'd be cautious about assuming this unless you have really explored other possibilities like addressing the deep-seated nervous system patterns in patients with something like the DNRS, Gupta Program, or other methods that are based on neuroplasticity. But if it has been done and the patient is still struggling, you may need to re-treat. I think that botanicals are often the best option here, such as the core protocol and additions like Atranil or some of the other additions that we talked about, especially if they have methane-predominant SIBO and constipation because of the lower risk of depleting the gut flora and potential complications. Then there are the additional steps you can take to reduce the likelihood of recurrence, like prokinetics in the case of dysmotility and immune-mediated causes of impaired motility, as we previously discussed. There are also possibilities of doing periodic diet modifications like low-FODMAP or 30-day reset diets if symptoms return. Again, I'm reluctant to have anyone on a long-term, low-FODMAP diet because of the overall impact to the microbiome, but [I] do find it helpful to use periodically in the presence of returning symptoms.

Now, keep in mind that prokinetics are just one way of addressing the dysfunction of the [MMC]. The [MMC] is a neurological system. If the patient has this limbic system injury or hardwired

nervous system pattern, or they're experiencing a lot of stress, that's going to directly affect the nervous system, as well. Using different entry points for treating that [with] body-based somatic therapies such as somatic experiencing or [the] Feldenkrais [Method], things like [the] DNRS system that I talked about, those are probably more effective, in my experience, than the options we're talking about on this slide. But they require a much higher level of commitment by the patient. I'm presenting all of these options so that you can make the appropriate choice depending on your patient.

Before [we] finish, I want to share the botanical protocol we use with kids who are not able to swallow pills and the dosing for them. I covered some of the dosing already for prokinetics, but I want to give you the dosing for the antimicrobial or botanical protocol and pharmaceutical options. A reminder that with children, you want to start low and go slow. I often find them pretty resilient, but keep in mind that you technically have two patients or clients, the child and the parent. So there is some navigation to figure out what works best for both people and the entire family. This may mean adjusting the dosing regimen around school schedules and more. And the main reminder here is to be flexible and understanding.

Botanical protocol for **children**

Therapeutic agent	Dosage
Biocidin (Bio-Botanical Research)	1 drop/10 lbs/d body weight in 2–3 doses 30 min before meals
CSA tincture (Woodland Essence)	2 drops/10 lbs/d body weight in 2–3 doses 30 min before meals
Lauricidin	Start with 1-3 pellets a day; increase to 8 pellets/10 lbs/d body weight in 2–3 doses
TerraFlora	1/2 capsule taken at lunch or before bed; can be mixed with food or beverage
Atrantil (optional)	Only for kids that can swallow capsules; Ages 7-11 1 cap BID; ages 12-17 1 cap TID; >18 adult dose
Lactobacillus plantarum (optional)	1/4–1/2 capsule taken at lunch or before bed; can be mixed
Iberogast (optional)	3–6 y.o.: 10 drops TID; 6–12 y.o.: 15 drops TID; >12 y.o.: adult dose (20 drops TID); before meals

Here's a botanical protocol for children. Biocidin is a nice antimicrobial botanical product; it's in liquid form, one drop per 10 pounds of body weight in two to three doses 30 minutes before meals. The CSA tincture stands [for] *Cryptolepis*, *Sida*, and *Alchornea*; these are pretty potent antimicrobial herbs, so you don't need to use both of these. [I would use] Biocidin and more gentle approaches, and CSA, you could use in more severe cases or for older kids. [For] the dose, there [are] two drops for 10 pounds of body weight in two or three doses 30 minutes before meals. Lauricidin, you're familiar with. These are small pellets. So often, even young kids can handle that, especially if you mix it with food. We start with one to three pellets a day [and] increase to eight pellets per 10 pounds of body weight per day in two or three divided doses. [For] Terraflora, one half capsule [is] taken at [the] lunch hour [or] before bed. Open the capsule and mix with food. It's pretty tasteless, so kids are usually not going to notice. Atrantil is only for kids who can swallow capsules because it does have herbs that can irritate the esophagus. [For] ages 7 to 11, the dose would be one cap twice a day. [For] ages 12 to 17, [it] would be one cap three times a day, and then over [age] 18, it would be the full adult dose. [For] *L. plantarum*, one quarter to one half capsule [is] taken at lunch or before bed. That can be mixed with food. Iberogast is a liquid, so even young kids can take it. Three- to six-year-olds can take 10 drops three times a day. Six- to 12-year-olds will take 15 drops three times a day, and [those] over [age] 12 get the adult dose of 20 drops three times a day. It's best to take [it] a little bit before meals.

And just another reminder with Atrantil, the peppermint and other ingredients are very irritating to the esophagus, so make sure you don't dump that onto food for kids. And I wouldn't even recommend using a capsule maker unless you get the enteric-coated capsules. I haven't been able to find small, empty enteric-coated capsules at size three. I have found size two, but those are only sold in bulk [and] pretty expensive [at] $150, I think. So it's probably just best to avoid Atrantil until a child can swallow those capsules. Also, they don't need to be on all of these, so choose the products that make the most sense based on symptoms, presentation, and lab results. Start with one or two products and build up as needed.

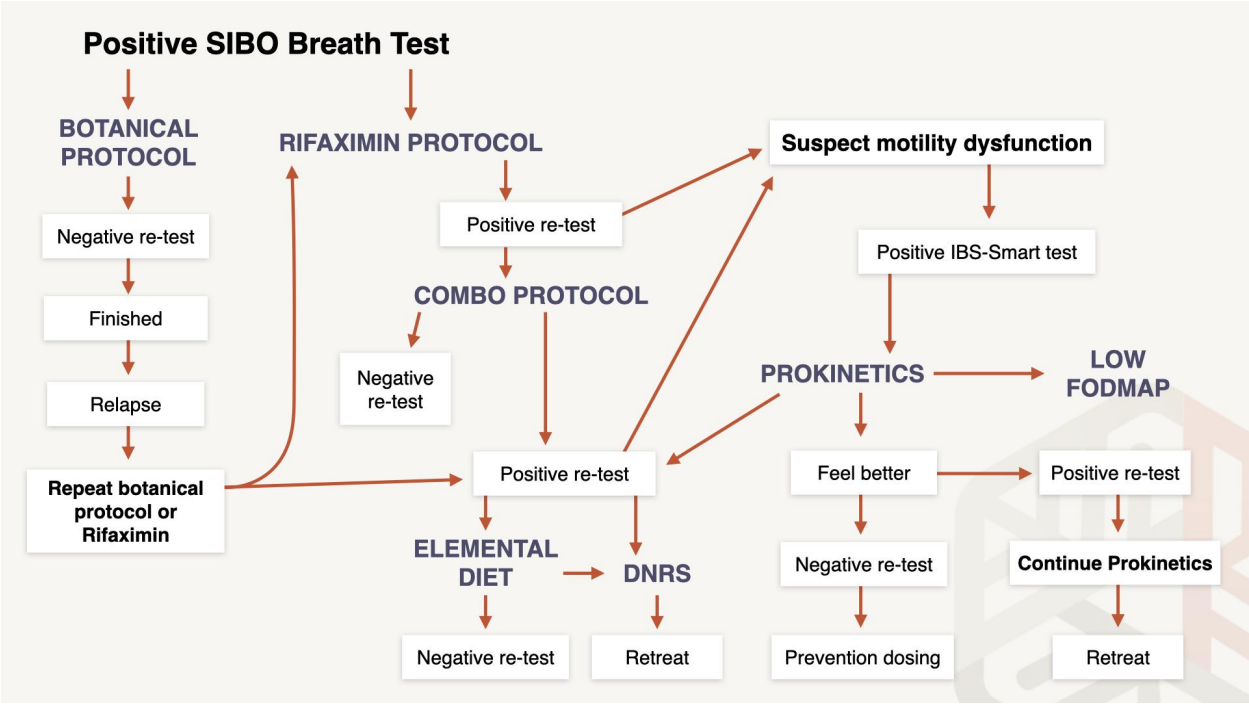
Rifaximin protocol for **children**

Therapeutic agent	Dosage
Rifaximin	200 mg TID or 10-30 mg/kg/d of body weight; duration depends on LBT results
Lauricidin	Start with 1-3 pellets a day; increase to 8 pellets/10 lbs/d body weight in 2–3 doses
Atrantil (optional)	Only for kids that can swallow capsules; Ages 7-11 1 cap BID; ages 12-17 1 cap TID; >18 adult dose
Lactobacillus plantarum (optional)	1/4–1/2 capsule taken at lunch or before bed; can be mixed
Iberogast (optional)	3–6 y.o.: 10 drops TID; 6–12 y.o.: 15 drops TID; >12 y.o.: adult dose (20 drops TID); before meals

Here's the rifaximin protocol for children. Rifaximin is typically [a] dose of 200 milligrams three times a day or 10 to 30 milligrams per day per kilogram of body weight, and the duration would depend on the lactulose breath test results. And then we'll typically add Lauricidin, probiotics, Atrantil in those children who can tolerate it, or *L. plantarum*. Atrantil would be an option if methane is present. Same with *L. plantarum* and Iberogast.

One thing I will note is that it can seem to respond faster, and that is true for both the botanical protocol and rifaximin protocol. We do tend to use a shorter duration of time for each. The rifaximin protocol [is] maybe seven to 10 days, and maybe the botanical protocol will be four to six weeks compared to adults, which, as you know, can range from anywhere from 30 days to even

90 days. So just keep that in mind. When treating kids, we tend to treat shorter and retest sooner and make adjustments more quickly than we would with adults.



Here's a treatment algorithm procedure based on what we've discussed, and it will be included in a handout for you. We'll also [provide] patient handouts for the botanical facts and protocols [as well as] the diets that we've talked about, like the microbial reset diet and the Paleo Reset diet. At the top here, you have a positive SIBO breath test, and you can choose between [the] botanical or rifaximin protocol depending on what is best for the patient.

If there's a negative retest and the patient is feeling better, then maybe you're finished. If there's a negative repeat breath test but the patient doesn't feel better, then you move on to identifying other imbalances. If there's a positive retest, you can do an alternative protocol. If you did a botanical protocol first, you can either do the pharmaceutical approach, or you can do a different botanical protocol, or just another round of the same one that you did if they were feeling a little bit better. If it's a positive test after that, you might want to consider something different. You can evaluate for the possibility of motility disorders, including post-infectious gastritis, as a trigger and go down the path of testing with the ibs-smart test and using prokinetics to support the MMC and/or evaluate your limbic system involvement and decide when to add in neuroplasticity and limbic system training.

Other possibilities in this algorithm are the elemental diet, continuing prokinetics, and then going back from prokinetics to re-treating. Again, there's one way to do this, but I hope that it's helpful and not too confusing to see this algorithm laid out. You'll find your rhythm and give yourself space to explore what works best for you as a practitioner and for your patients and clients.