

The Thyroid, MMC, SIBO Connection: What to Test and How To Treat It Masterclass Q&A with Dr. Gary Weiner

Shivan Sarna: Hi everybody. I'm Shivan Sarna. Thank you for being here with SIBO SOS Speaker Series and part of the virtual conference, the first annual virtual conference.

This session is with Dr. Gary Weiner. He is a naturopath. He is someone who's called upon by supplement companies and conferences to speak about his expertise—that are many. His practice's name is [Pearl Natural Health](#). And the reason why I'm telling you that is because once you hear what he has to say, you're going to want to know how to get a hold of him. And you're going to want to have a phone consult with him. And so he is doing that these days. If you're in Portland, stop by, get an appointment there. However, he is one of the practitioners that definitely does phone consults and can help. Rue the world wide web, but we love that part about the web.

I found his help to be instrumental in my wellness and my healing. I think you will too as we talk today about thyroid and SIBO and the gut.

I'm going to hand things over to you, Dr. Weiner.

Dr. Weiner: Alrightee... well, good afternoon. Again, it's very nice to be invited to do this. I want to speak to you about this very significant relationship. We talk about significant relationships all the time with partners and couples. It's like a keeper. It's real. It's not just a transient relationship. Well, that's what I'd say about the SIBO and the thyroid.

In the community, we've been looking a lot lately at underlying causes of SIBO because we're really learning that if only it was as easy as just giving antimicrobials and a prokinetic and be done with this—it's not. Those of us who are getting the really difficult cases know all too well that there has to be a search for underlying causes which, unfortunately, are not always just one, but there are a lot of causes.

And so, as the curtain opens—and I'm a hopeless effects fanatic. It keeps me stimulated in the brain while I'm working on presentations.

We have here the Tree of Life with the main root of SIBO and the branch and all these symptoms that you know so well that we're always looking at in patients with SIBO.

And the important thing to know is that, underneath it, it is lots of roots with other causes of the SIBO itself.

Dr. Pimentel recently at the SIBO Symposium in Portland called SIBO a meta-phenomena, and warning—it was a doctors' conference mainly—not to be confused into thinking that it's a primary phenomena.

I think, probably, if most of you out there are patients, you may fall into that same trap of thinking of SIBO as *it* in itself the root, when in fact, there are deeper causes that you've been exploring with different speakers in this series that Shivan has organized. [05:20]

Dr. Weiner:

You can see in red in the root there that thyroid is one of those causes, a dysfunction, or dis-thyroidism is, in fact, a risk factor for small intestinal bacterial overgrowth.

The thyroid gland itself, represented by this butterfly-shaped figure, is located in your neck between the laryngeal prominence in the top of your sternum. It's about the size of a walnut. And really, it provides and makes hormones that form the metabolic gas pedal of your body influencing every organ and system. And that will include of course the gastrointestinal tract.

The relationship between SIBO and the thyroid occurs in the context of the relationship that the gut has with the thyroid. In general, that begins in embryology. For those of you that don't know, embryology would be human development. As the human being is developing as an embryo, the thyroid gland is actually created in the foregut, which is to say that the thyroid and the GI tract are developing together out of related tissues. That's pretty interesting considering how related the thyroid is to the gut in the developed human being.

There are relationships between the gut and the thyroid through the liver. The liver is part of the digestive system. The liver is also where the thyroid metabolized significantly. Eighty percent of the thyroid metabolism occurs in the liver itself.

And then, there's something called enterohepatic circulation which has to do with how the thyroid gland appears to secrete the hormones through the bile. The gland makes the hormones. They circulate. They are absorbed in the liver. The liver creates bile and secretes that into the GI. And then it's reabsorbed. And this is the way—one of the ways—that the thyroid is actually regulated in the body, through the GI.

It's also responsible for that HCl and mucous secretions in the body. And the pancreatic fluids are dependent upon the thyroid hormone.

In fact, so much of thyroid metabolism is actually handled and regulated through the gastrointestinal tract. And the two go hand-in-hand.

Probably the most significant overlap between the gut and the thyroid and SIBO and thyroid is through motility itself. We tend to talk about the migrating motor complex in relation to SIBO. We have to remember that the thyroid is one of the key regulators of motility.

And the reason these two circles are overlapped is because thyroid problems and GI problems focused on SIBO are often co-presenting, meaning they can create the same symptoms—diarrhea, constipation, bloating, abdominal pains, fatigue. The things that you associate with SIBO I'm sure are also exactly, precisely the same type of symptoms that are created by dysthyroidism or abnormal metabolism.

This is where there is confusion for patients, and frankly, for doctors who have to sort this out.

This is best summarized, the relationship, in this paper from 2004, that diseases may be related to motility dysfunction. Just contemplate that as you think about SIBO cases that don't resolve. [10:12]

Dr. Weiner:

Any segment of the GI can be involved. Typical manifestations of thyroid illness may be just borderline, they may be missing, or they may be concealed by other problems like SIBO. Motility-related digestive symptoms may conceal an underlying, easily mis-detected disease or symptom pattern or meta-phenomenon like SIBO and must be carefully analyzed.

This is really important. I know it's a kind of boring slide, research summary. But the take home here for you is SIBO and thyroid are often confused.

So, there are many obstacles to the regulation of the thyroid gland. I think this is out of place. I don't know how this happened. Please forgive me. We're going to actually start with this one, I'm so sorry.

The thyroid gland, that butterfly, walnut-sized illustration creates basically two hormones—one is T4 and levothyroxine, and the other is T3 which is liothyronine or triiodothyronine. The T stands for *tyrosine*, four molecules of it or three molecules of it. And you can see that we make about 100 mcg. a day of T4 and 6 mcg. a day approximately of T3. Most of the thyroid that we make is T4 or thyroxine. And the reason for that is that we are constantly having to turn thyroxine into liothyronine or turn T4 into T3 as we need it moment by moment, tissue by tissue, everywhere in the body.

It is so fundamental to the metabolism of every tissue of every organ, not just the GI tract that there is a very complex regulatory mechanism in place. Most of this is occurring in peripheral tissues and not in the thyroid itself.

There's also something called T1 and T2 which is referring to one molecule of iodine or two molecules of iodine. And there's not that much known about these. I don't have too much to say about them except they're there. They seem to be part of a cascade of reactions that turn into the more relevant hormones T3 and T4.

And in the peripheral tissues, when I say that, I mean—some of this is left over from medical lectures to doctors. Excuse me if I haven't changed some of the terms to easier ones. Peripheral meaning outside the thyroid in different parts of your body.

In the peripheral tissues, that's where the T4 turns into the T3. It's on demand. It's like, “Uh-oh, I need T3” and boom, I make it.

And under stress—and this is very important for you. I saw some of the questions come in already and saw that there were questions about reverse T3. Through complex reactions where iodine molecules are lopped off of T4 to become T3, sometimes—and that happens through

something called D1, D2, D3 and D4. D standing for deiodinase, meaning *lop off the iodine*.

Under stress—which I'm sure many of you have a little of that in your life—something else is made instead of T3. And that's reverse T3.

So, in the body, T4 has very little direct action on any tissue. It's called a prohormone. It's T3 that has the action. It's the action that's actually going to cause peristalsis in the gut. T4, it does very little. T4, you can consider it like a little transfer molecule that's moving around ready to be deiodinated, ready to have one of its iodines lopped off of it by D1, D2, D3 or D4. [15:13]

Dr. Weiner:

I think in medical school, there's a whole day of lecture on just what I just said to you. So if you don't quite get it, don't feel bad. I think most of us didn't get it for a long time.

Under stress, when you have a disease, when there's lots of mental-emotional stress, when there's lots of inflammation in the body, that's a stress. When you're eating the stuff that's not right for you, that's a stress. When someone you love talks to you the wrong way, that's a stress.

Under stress, you often don't make the T3 that you need. You can make this reverse T3 which I guess on some level is a survival mechanism to preserve your energy, to preserve what you need. That would be speculation on my part, but that happens.

Now, most of this is regulated in the pituitary gland which you know is an endocrine gland, a gland in your head. And if the pituitary regulates a lot of hormones—including thyroid, adrenal gland, the sex hormones—the pituitary makes something called TSH which is *thyroid stimulating hormone*, and that then contacts the thyroid receptors and makes the T3 and T4—mainly T4 as we said.

Now, that TSH is regulated by a higher order of hormone in the hypothalamus. And that's called TRH or thyroid regulating hormone.

So, the secretion of your hormones in the thyroid is very, very related to your brain, your pituitary function, and your limbic systems and emotions—which is hard to talk about in terms of how we regulate that medically. But there are relationships between emotional states and the

thyroid and the neurotransmitters that are very hard to delineate in terms of medical interventions.

That said, the hypothalamic-pituitary axis, HPA, is regulated through a negative feedback system. That means the more thyroid hormone you make, the less stimulating hormone is created by your brain. The less hormone you make or that is available or that is registered, the more the brain stimulates.

You could think of these stimulating hormones as asking for more hormone, asking the thyroid to make more.

But regulation is more complex than that. I think new doctors and patients reading the Internet think it's all about the HPA axis, it's all about the TSH, it's all about T3 levels and T4 levels and that whole HPA axis relationship—which I've listed as number one. It really goes further than that. And research is not quite clear on the complex mechanism of how all these regulatory systems interact.

They include the deiodination reactions—the D1 through D4—in the peripheral tissues, the dopamine and the neurotransmitters and other hormones of the body, including the sex, steroids, and cortisol. And finally, it includes the gastrointestinal tract itself.

If you are ill in your gastrointestinal tract—and we have to include SIBO, the meta-phenomenon that it is that Dr. Pimentel said it was just recently—it's a sign that the GI tract, which itself regulates thyroid, may not be in order. And that's a problem with regard to this discussion and probably some of the frank, firm, clear answers that I know many of you are seeking about, how to resolve thyroid problems in relation to SIBO. But it's a conundrum. It's a confounding variable for us. The fact that so much of the thyroid is regulated by the GI itself, so how then do we heal it—which I hope we have some insight into that by the end of our talk today. [20:17]

Dr. Weiner:

I don't know if any of you saw Hamilton. I was lucky enough to have four tickets for my family. And I won't belabor the point. But there's a song in there called *The Room Where It Happens*. This is the room where it all happens for the thyroid. The red section is the blood, and the gray section is inside every cell in your body.

In the blood, the T4 is carried by a binding globulin, a binding protein, a carrier protein called TBG, thyroid binding globulin. And that travels

through the blood. And it leaves the blood and goes into every cell as T4. So, you see, you can take thyroid as a T4 supplement, and it has to go through the blood and get into the cell because it doesn't really become T3 until it gets in the cell and binds to a protein and goes into—that blue circle is the nucleus of the cell where the genetic material of every cell is. Inside the nucleus, that T3 binds and creates something in conjunction with the DNA called messenger RNA. And that synthesizes protein and causes the response in that cell.

So, this is happening in every cell. And that response is the action of the cell, you could say, *breathing*—that cell doing what it does. If it's a liver cell, it does liver things. If it's a GI cell, it does what GI cells do. And part of that, in the muscle cells of the GI, is peristalsis and the movement of the bowel.

When it doesn't go right in the room, when it doesn't happen in the room, for a lot of reasons, then we have hypothyroidism or hyperthyroidism—too little action from thyroid or too much.

In SIBO, we're mainly going to be talking about hypothyroidism (and a little bit about hypothyroidism) today. But I want you to just get an understanding of the pictures.

Constipation is mostly associated with hypothyroidism, but not exclusively. And diarrhea, more exclusively with hyperthyroidism—though not exclusively. Hyperthyroids can be constipated for other reasons; and hypothyroid can also have diarrhea for other reasons, one of them being that they are hypothyroid with SIBO.

The basic picture of the hypothyroid is one that you can see is often consistent with many of the things you see in SIBO—fatigue and brain fog, cognitive problems, coldness (not always with SIBO, but in hypothyroidism), low immune function, low neurotransmitter function, depression.

Hypothyroid folks tend to gain weight, have trouble losing weight. There's water accumulation and swelling. There's too little metabolism. And when there's too little metabolism, you have the low's.

And there's goiter. Because of the low thyroid, there is a swelling in the thyroid. That can also occur in hypothyroidism. In hyperthyroidism, you have the opposite. You have hypermetabolism.

Instead of coldness, you have too much heat in terms of the action that the thyroid gland has on muscles. There's too much action. There's too much metabolism. There is heart palpitations, something called *tachycardia* where the heart beats too quickly. There's too much sweat. Hypothyroid folks tend not to sweat. They often complain, “I don't sweat” until menopause. There's heat intolerance in hypo and hyperthyroidism, coldness and hypothyroidism.

You can see, if you compare these two columns, the differences of the two.

And hypothyroidism, again, were going to be mainly concerned within SIBO. There's mood swings. There are memory problems. There's often a complaint of dry skin—dryness, loss of hair. There are menopausal complaints. There are menstrual complaints in premenopausal females, joint and muscle pain. High cholesterol is common. [25:29]

Dr. Weiner:

The hormones created by the thyroid gland, as I said, are affecting every system in the body, not just the GI. But the GI is the one that we're going to focus on for now because it's connected to our subject.

We said constipation is mainly associated with hypo and diarrhea with hyper. We said that the thyroid dysfunction can affect every part of the GI. It causes low motility in the esophagus, which is what we're looking at right here, itself and what's called *decreased propagation velocity*. And in hyperthyroidism, it causes hypermotility versus hypomotility.

In the stomach, we also see alterations. As my colleague, Dr. Sandberg-Lewis often says when we're talking about the GI, we have to look at all segments, not just the small intestine. We who focus on SIBO can fall into that trap of just looking at the small intestine when, in fact, the problem of SIBO can also often be accompanied by problems in other parts of the GI.

When we come to the small intestine itself, we see hypomotility in hypothyroidism; and hyper-motility—we see decreased peristalsis in hypothyroidism and we see increased hyperthyroidism.

However, both of them can cause SIBO for different reasons. You know from previous lectures that any disturbance in motility where there is a lack of it sets up an environment where SIBO can flourish.

Likewise, in hyperthyroidism where there's too much peristalsis, the stool can move so fast that the food is improperly mixed with the components of digestion that are needed to properly digest. So there's also malabsorption there and SIBO.

So, while we say hypothyroidism mainly causes constipation, and hyper mainly causes diarrhea, because SIBO is so frequent in hypothyroidism, once it's there, it can easily cause diarrhea too.

So, I think all cases of SIBO with diarrhea or constipation, whether methane predominant or not, will need to be evaluated for the thyroid being a player here.

Hypothyroidism has been associated with altered GI motility from the very beginning of research on thyroid. However, after 2010, there have been numerous studies showing directly, and rather inconclusively, that GI symptoms in hypothyroidism should be evaluated for the possibility of SIBO—an important study to look at, and we will.

Thyroid function from a 2018 study—hot off the presses—may be impaired in patients with small intestinal bacterial overgrowth which should be taken into account in diagnostic and therapeutic management of diseases of these organs.

Functional thyroid disorders were associated with bacterial overgrowth and different microbial composition. [30:07]

Dr. Weiner:

And finally, a history of overt hypothyroidism is associated with SIBO development and *persistence*.

I want you to read that again. Overt hypothyroidism is associated with SIBO development and *persistence*.

Most of you, I'm imagining, are watching and paying close attention to everything that Shivan's guests are saying because of persistence of SIBO. I mean if you solved the problem, you probably would not still be watching.

I shouldn't say that because they're so interesting to hear, all the different speakers. But it's that persistence that gets you doing your own research and advocating for yourself because you're finding clearly that you need different points of view.

And so, that came out as early as 2007. In other words, if I could cut to the chase on this, this research study is saying, "Hey, look at the thyroid if you have persistent SIBO," period. I mean we could end right here. I mean that's really my message to all of you.

But the plot thickens, doesn't it? You remember this guy, don't you? Okay, this is not medical school, and you're not being quizzed. This is motilin, the 22-amino acid polypeptide hormone that plays that crucial role that Dr. Pimentel and Dr. Sandberg-Lewis and Dr. Siebecker and everybody else has been talking about that is so important to cause those cleansing waves, the house cleaning between bowel movements.

Look at this. Motilin has been found in the human thyroid. Well, I told you, embryologically, the thyroid was created in the foregut. So, it makes sense that they would share similar chemical components. We observed the concentration of motilin and plasma and also gastric motility before and after thyroidectomy. These results demonstrate that motilin from thyroid could be secreted into peripheral plasma and affect gastric motility.

So, all we really want to say here is that the thyroid appears to affect the migrating motor complex. It's another factor.

Thyroid motilin from this very small study participates in the regulation of the MMC. All I can say to you is, due to this, your thyroid is affecting not just peristalsis.

So, let me clear that up for you in case some of you aren't tracking me on this. Peristalsis is the advancing of the bolus, of the food in your intestine. As you have digested it down to the small intestine, it's advancing that forward toward a bowel movement.

Thyroid affects peristalsis deeply. Thyroid also affects the MMC. That's not peristalsis. I know you were at all the other lectures. And you may have forgotten that. The migrating motor complex is the cleaning waves, the cleansing, the housekeeping between bowel movements. That's why you've been told you shouldn't eat between

meals, so that housecleaning can occur. The maids won't come in the room unless the sign is out. You know that one.

So, pulling together what I've said so far, we have dysthyroidism and SIBO that intersect. That intersection is that they are comorbidities. Medical terminology, what do I mean? Thyroid problems and SIBO problems happen in the same patients. The research shows that they often do.

Thyroid dysfunction, i.e. a problem with your thyroid, is one SIBO etiology, one cause of SIBO. It's one of the risk factors. But SIBO is also one cause of the bowels symptoms in thyroid problems.

That's interesting. For those of you who may be watching who don't necessarily have a problem with SIBO anymore, or have a little, have *some* problems, but have a diagnosed thyroid problem, and you seem to have gotten it all zoned up in terms of your breath test— [35:14]

Dr. Weiner: Really, what I'm saying—I'm sorry I'm waffling here—if you have dysthyroidism and bowel problems, it may be because of SIBO. You may have gotten the numbers right on your thyroid tests, but you still have diarrhea or constipation. Then it may be your SIBO. We have research on that now. Those studies I showed you are basically demonstrating what you see on the slide right here, these other two messages.

Shivan Sarna: Hey, Dr. Weiner, can I ask you a quick question?

Dr. Weiner: Yes...

Shivan Sarna: So, correct me if I'm wrong, you can have the negative breath test from your SIBO, but you still have your symptoms. You feel like your SIBO has cleared, but you still have this underlying cause of the thyroid? So like you had thyroid problems and SIBO. And the thyroid may have caused the SIBO. But now that that's resolved, you still have the thyroid issues, that's just one of the symptoms that gone away?

Dr. Weiner: That's one of the scenarios. In other words, yes, we have those cases. And I may have one in here, or I may not. We take care of the SIBO, and yet we still have bowel problems.

So, we're saying—to answer your question, Shivan—yes, it could be the thyroid. But in fairness to all the topics and speakers and roots of my tree illustration, it also could be something else, yeah.

Finally, thyroid treatment—we were talking before, before I took Shivan's question, about the intersections. Thyroid treatment as an adjunctive SIBO therapy or SIBO treatment as an adjunctive thyroid treatment should be discussed, should be considered if you're not making progress in your SIBO treatment or your thyroid treatment. We need to look at that as a factor.

Let's remember that 12% of the US population, according to the American Thyroid Association, will develop a thyroid condition, even more if you start to consider what we call subclinical thyroid, hypothyroidism, which most doctors of a conventional nature will not treat. That's when your TSH test is elevated, but your free T3 and free T4 tests are normal. Most doctors won't treat that.

And then, there are radical interpretations of TSH, which we'll talk about. But by mainstream research, 12% of the population, an estimated 20 million Americans, have some form of thyroid disease. Up to 60% are unaware of it because of a lack of screening.

Women are more likely to have problems. Etiologies defined for you causes largely unknown. It's mainly said that it is autoimmune, but that is not defined as having any specific cause.

The prevalence of thyroid dysfunction in IBS is very high. And the study that I looked at showed 19% of IBSD patients had a thyroid problem; 27.8% of IBSC.

IBSD for new listeners is IBS with a predominance of diarrhea. IBSC is IBS with a predominance of constipation. And IBSM, a predominance that is mixed, usually described as alternating diarrhea and constipation.

Now, what's really fascinating to me—and I hope I can fascinate you with it—is that these statistics came out of studies where SIBO wasn't even considered. And it reminded me of the good old days, the good old days when IBS was defined not by SIBO at all. This is before Dr. Pimentel had his way with the research and brought to our attention

with his co-researchers that there was a problem with bacteria in IBS. It was called Rome II. [40:23]

Dr. Weiner:

When I graduated from medical school, and IBS was what we call the purely functional bowel disorder, it reminded me (when I presented recently for the SIBO Symposium in Portland) of the cases I went back to look at before we even know that SIBO was there. But interestingly, where I used a lot of thyroid for the treatment of IBS, and lo, and behold, it often worked.

And so I think we were treating SIBO through the thyroid even when we didn't know what we were doing, when we were just treating the motility problems that thyroid caused.

So, we'll do some really quick cases like your medical students. And I'm going to try to make them really clear and simple. For example, one of those early cases from the '90s is this 30-year old female who came to me. I was fresh out of medical school—or '92 or '98, five years out of medical school. She had four to five liquid bowel movements a day, bloating and flatulence, very tired (since she was a teenager). She had lots of ear infections until the age of 18 with a lot of antibiotics and heartburn and was on acid blockers.

She a standard American diet. She was always cold, depressed and moody. And she was given the kind of things most people are given by other docs for bowel movement problems—Imodium, tricyclic antidepressants, fiber.

And she only had modest improvement. Okay, clear? Alright...

I did a physical exam and some things we do in the office to see if the thyroid's involved. A slow delayed Achilles' reflex is often indicative of low thyroid. The sign of her tug, that's where the eyelash is only filled in halfway where you're losing a lot of what's called the lateral part of the eye lash.

Shivan Sarna:

You mean the eyebrow? The brow?

Dr. Weiner:

Did I say eyelash? I'm sorry, the eyebrow, this part here, the lateral side. And a low body temperature. These are often nice, little signs in the office that you should be looking at the thyroid.

And she had a TSH—which I'm not showing you the ranges here. It's in the high part of the normal range. She had a normal free T4 level on the labs. And so she got—what I was doing in those days, I gave her a half a grain of Armour Thyroid and an anti-inflammatory diet which is just a whole foods diet that's non-gluten grains. That's what we sort of used to do in the '90s before we really were too stimulated by this Specific Carbohydrate Diet. The Low FODMAPS really hadn't come to the fore.

And I gave her some well-intentioned digestive enzymes and probiotics and fiber formula. She came back a month later, and she tells me she had stopped the fiber formula and probiotics because they aggravated her. I didn't really realize that that's a typical reaction if you have SIBO. Many people are aggravated by probiotics and by taking fiber.

So, she stopped that. But after three days of taking the thyroid, she had solid stools and decreased stool frequency. And she was warmer and had an improved mood. And when I retested her TSH, it was in the lower part of the range and she was a happy patient who hadn't really even invested that much in her new diet yet.

So, there's an example for you of a case that probably had SIBO, but we didn't test in those days. And maybe the thyroid was obviously—it seemed it was more of a risk factor than anything else. She did very well. She did change her diet. One can really improve by going from a standard American diet to a whole foods diet even without doing, for example, a SIBO Specific Diet. Some smaller cases, *SIBO Light*, as I like to call it, might respond as that one did. [45:14]

Dr. Weiner:

This 28-year old female with hyperthyroidism, autoimmune hyperthyroidism, which is called Graves' disease, she had the symptoms of hyperthyroidism, of tachycardia, diarrhea, and excessive perspiration, bloating, flatulence, and heartburn. No prior history of IBS. And she had just started the anti-thyroid medicine that is given to most hyperthyroid cases to block the thyroid. And after three months of this—and in this case, I gave her this methimazole—she had an improvement in her heart symptoms and in her perspiration, but a persistence in her GI symptoms. In other words, she still had diarrhea. It didn't improve even though everything else did.

So, if we look at her labs, we can see a TSH—and I don't want to bog down this presentation by going too much into the hyperthyroidism labs, but just to say that, in hyperthyroidism, the TSH is very low. And as the thyroid repairs, it increases.

So, we can see that it got better. And the circulating level of T4 went from being high to being normal. And the circulating level of T3 went from high to being normal. And the bowel symptoms did not change.

Now, I hope I'm not losing anybody. The bowel symptoms didn't change, but things were getting better. And hyperthyroidism, by the way, it takes a long time even with the medication that I prescribed here. It can take months and months. And as long as the patient is getting better with the very, very dangerous symptoms of a heart that's beating out of control, then you're okay too as long as you're moving in the right direction.

What's of interest here for our SIBO audience is that the bowel symptoms didn't change, that hyperthyroidism cause SIBO likely, but treating the thyroid itself was not enough, that SIBO persisted—remember that word *persistence*—the thyroid problem can lead to SIBO, but the treatment of the thyroid symptom doesn't always resolve the SIBO without SIBO treatment.

In this case, we weren't doing SIBO yet. But in those days, I was doing stool analysis. And here, we had Klebsiella and Candida albicans which were two organisms that can show up. I often see those when I do stool testing in cases with SIBO. In other words, many patients with SIBO also have dysbiosis of the large intestine where something can be cultured—not always, but often enough.

So, in the patient's treatment plan, what I want to point out to you is, in addition to doing the regular things I would do for a hyperthyroid case (including reducing stress, doing some acupuncture, getting the patient on a better diet)—remember, this is 2003. We're still not really into SIBO yet. I'd give them a couple of tinctures—one for their thyroid to help it regulate, and another for the adrenal gland to help it regulate. And for that bacteria that we found, and yeast, I gave berberine and oregano, two friends you probably know from the herbal treatments of SIBO.

And lo, and behold, one month later... dramatic improvement in the diarrhea and the bloating.

So, the reason I'm going back, and I'm hoping you're following me in doing these old cases, is to show you the role that this has probably always been playing even before we were measuring SIBO in that when I treated with antibacterials, it probably was treating the patient's SIBO.

You can see here where we look at 10 months of labs that, after continuation of this plan, the lab values all resolved. And the bowel symptoms also resolved. And that big change came when we gave antimicrobials.[50:09]

Dr. Weiner:

So, if we now move to the research on SIBO and thyroid and what we now know, we start with a 2017 study with 50 hypothyroid recruits and 40 healthy controls. Hypothyroid patients were given T4 only medication which is known as levothyroxine or Synthroid, and they became normal—they had normal thyroid tests—before they're tested SIBO with GBT's (which means glucose breath test which were used, and still are, by some doctors to test for SIBO).

Twenty seven of the 50 patients were positive for SIBO by glucose breath tests. I'm sure, with lactulose, it would be a higher number. They got seven days of rifaximin and had a decontamination rate of 78.4%.

The conclusions of the study were that once SIBO is established in hypothyroidism, or in the hypothyroidism phase, it does not clear spontaneously even when euthyroidism is achieved.

SIBO development and persistence of excessive bacteria might modulate neuromuscular function and clinical manifestations. And overt hypothyroidism is indeed a risk factor for SIBO.

This is big stuff for, I think, the SIBO community.

If we go to the 2018 Polish study, researchers recruited 34 SIBO diarrhea patients, 30 constipation patients, and 30 controls.

The thyroid hormone levels were similar in both SIBOD and the control patients. But patients with constipation-predominant SIBO had thyroid panels characteristic of hypothyroidism.

The TSH was measured, the free T3 and the free T4. And an antibody to thyroid which is often measured to determine if Hashimoto's thyroiditis which is the main cause of hypothyroidism was present. The antibodies to TPO or thyroid peroxidase (which is one of several measures for Hashimoto's disease), the main cause of hypothyroidism, was significantly higher in SIBO groups compared to the control group.

So, this really is to say that SIBO patients have a susceptibility or a co-morbidity, they are likely to have, or more likely to have, autoimmune thyroid illness than non-SIBO patients.

Read: SIBO patients with problems with your SIBO, be tested and understand if you are a Hashimoto's patient, if you need the attention and care to an autoimmune disease, as it were—though a very survivable, I must say

Conclusion of this study—and mine, and I hope yours—SIBO should be taken into account in the management of thyroid diseases.

Okay, another study, 2017, this was a retrospective German study with 1809 patients—the purpose of which, to assess for risk factors for SIBO. This is fascinating, really fascinating. In fact, Shivan got wind of this when I said I was going to talk about SIBO. And she said—this is how ahead of the game she is—she said, “Are you going to talk about that study with levothyroxine?” and I said, “You bet!”

They studied four categories of risk factors—impaired gastric acid barrier (that's not enough HCl. And by the way, thyroid is one of the co-regulators as I said in the beginning of my lecture when you were probably just getting comfortable and might not have really heard that), they studied impaired gastric barrier, impaired intestinal clearance, immunosuppression, and miscellaneous factors including thyroid gland variables. [55:25]

Dr. Weiner:

Conclusion: the most important contributor out of all of those to SIBO were levothyroxine therapy and hypothyroidism.

So, hypothyroidism in this study, I actually don't have an intrinsic feeling for my own practice that thyroid is bigger than any other factor that other docs are talking about. But in this study, hypothyroidism was bigger than any of these other factors *and* bigger than hypothyroidism was a patient who was on the main therapy for hypothyroidism already. That's pretty strange. In other words, if you're on T4 medication only, you are at risk for SIBO.

Of course, unfortunately, the study had no insight into why that was.

This is an abstract of that study: "Levothyroxine therapy and impaired clearance are the strongest contributors to SIBO and the results. The most important contributors for the development of SIBO, in ascending order, are immunosuppression, impairment of intestinal clearance, and levothyroxine use."

So, the most common cause of hypothyroidism is indeed autoimmune factors, which get called *Hashimoto's disease*. And the cause of Hashimoto's disease in traditional literature is quite unknown, quite just an object of speculation, of what those factors are.

Unfortunately, in my community of integrative physicians who work the gray areas of the research, this comes down to a lot of detoxification of the body and looking at where there is toxicity in the body to try to get those factors down and to get the body balanced and get the inflammatory cycle balanced. And then, we can start to make some headway with treating Hashimoto's in a fundamental way.

But back to this study where levothyroxine is a risk factor, this really raises the big question in our last section of the presentation, before we sum up, which is how do we treat the thyroid.

How do we use thyroid treatment as an adjunctive SIBO therapy? You're all here, what's the hook of you being here in addition to just working on matters of health is our common cause in SIBO. And what role does thyroid treatment play if the very treatment that most people are on is a risk factor for SIBO?

I mean, to me, that's a mind blower and a very difficult question. So, it behooves us to go over what the questions really are for you—and that is 1) is the thyroid one of the causes of your SIBO? If you have been

diagnosed with hypothyroidism, is it being treated optimally? Does that T3 medication need to be considered?

There are T4 medications. There are medications that are mixtures of T4 and T3. Could you have a subclinical or sub-laboratory hypothyroidism, meaning could you require treatment even though, clinically, you don't have hypothyroidism?

Could subclinical hyperthyroidism be related to your SIBO? Could the thyroid problem be an obstacle to the effective treatment that you have received already or the well-intentioned treatment that you've received that has been only partially effective or were not effective?

So, when we talk about the standard of care—and this is complex material, I warn you—the main controversies in thyroid care are around these areas: [01:00:06]

Dr. Weiner:

One, how to read the TSH? Do we use the range? Do we use subclinical? Or do we go rogue and not look at labs at all?

T3, should it be given? Should it be included? Should it not be included? What kind?

The use of desiccated thyroid, this pig thyroid, the glandular medicine that has been with us since the 20th century, early 20th century? Dessicated thyroid, it goes under brand names like Armour Thyroid, Nature Throid, WP Thyroid.

So, the treatment of choice—and now I'm talking standard of care. I'm a physician, I am talking from the largest number of physicians' point of view. But because I am an integrative physician and a naturopathic physician, we will also talk about what we do outside of the conventional standard of care. So you've got to keep two heads on here.

The standard of care in traditional conventional medicine is the very risk factor for SIBO. I smile when I say it because it's a real surprise when we look at that study, Levothyroxine T4 therapy.

And the routine use of combined T3 and T4 is ill-advised in standard literature and in standard parlance through the American Thyroid Association publications.

No support at all for the use of desiccated thyroid, which most naturopathic and holistic physicians tend to be open to, if they do not prefer desiccated thyroid—or at least a combination of T3 and T4 where indicated.

Therapeutic goal—we're back now to the standard of care, the way T4 is used. It is used until the patient has an amelioration—that means *improvement* in medical parlance—and a normalization of the TSH, a reduction of goiter when there is goiter, and an avoidance of overdosing of thyroid, *thyrotoxicosis* (the medical term).

So, really, let me break this down for you. Standard of care is to reduce your symptoms, but most of us see patients who are on standard of care and still do have symptoms. And I'm sure from the look of many of the questions I saw in my advanced peek (that Shivan was gracious enough to share with me), I could see that feeling that T4 wasn't enough in many questionnaires.

Normalization of TSH is often reached, but it's not a normalization of symptoms.

The historical context of this is that, in the 20th century, desiccated thyroid was given. And desiccated thyroid contains both T3 and T4. It used to be dosed not by labs at all in the 20th century, early 20th century through mid, even through the '70s, but by basal metabolic rates and a serum iodine level and normalization of symptoms. But in truth, a lot of people were overdosed and thyrotoxicosis was common, meaning doctors made many patients hypothyroid temporarily in order to try to cure their low thyroid function by dosing by symptoms. I hope everybody is following me there.

It was in the 1970s that TSH was invented—not invented, was developed. The physiology and biochemistry and laboratory diagnostics were evolved enough to find this and use it. And the entire research profession was involved in identifying these deiodinase-mediated conversion reactions. And through that, justification for a T4 monotherapy (or just using T4 or levothyroxine) became the standard of care as the best to stabilize and normalize a TSH. It became the way it's done. And T3 and T4 combinations were excluded entirely. And that still, to this day, dominates (although there is more openness in some environments). [01:05:41]

Dr. Weiner:

If we look at the research on T4 monotherapy, limited studies in it, but this one from the New England Journal of Medicine in 1971, T4 monotherapy fails to restore hypothyroidism markers at TSH-normalizing doses.

So, in many cases, it did restore hypothyroidism. But there were enough cases worth publishing where it didn't. And frankly, these are probably many folks watching today and the people that come to the doctors often featured on SIBO SOS, cases where T4 monotherapy is failing to restore the symptoms of hypothyroidism

T4-treated patients with normal TSH, in those patients, the basal metabolic rate remained 10% less than controls even after three months of treatment of levothyroxine.

I hope you're starting to get the hint of where I'm going with this, which is that, sometimes, it may be that T3 is what is needed in some of the cases where the bowel is still having symptoms and where the patient is still having symptoms of hypothyroidism.

In another New England Journal article study in 1965, doses of T4 that normalized the BMR actually suppress the TSH and cause iatrogenic thyrotoxicosis, meaning they caused hyperthyroidism—which is dangerous.

Higher serum T4 levels will impair—and this is the one I think sheds the most light on the levothyroxine study. I'm surprised that this was not mentioned. Higher serum T4 levels will impair systemic T3 production via downregulation of a deiodinase pathway—I could spend an hour on this study alone—meaning if you just dose T4, you can impair T3, which is the active form, which is needed for peristalsis and for stimulating the migrating motor complex to sort of move that into the SIBO arguments, to our argument for SIBO.

Nonetheless, doctors are using free T3 and free T4 as I do (and as I'm sure many of the doctors in our panel does). And the American literature has kind of co-opted or imported the European Thyroid Association standards which have outlined a way in which T3 therapy should be used.

And so candidates for combined therapy are those who've had a thyroidectomy (meaning who had their thyroid glands removed. And many people with hyperthyroidism have their thyroid glands removed,

and then become hypothyroid), post-ablation therapy (ablation is where part of the thyroid gland in hypothyroidism is destroyed to decrease the thyroid levels), or a serum T3 level is below the lower end of the T3 reference range.

So, this is worthy of you noting for those of you who are on T3 therapies already or on T4 therapies. Many doctors, including myself, will look at the T3 reference range and try to get the thyroid function where the T3 is in the upper part of the range. [01:10:01]

Dr. Weiner:

Dosing T4 and T3 should attempt to mimic normal physiology. And that is a ratio of 13:1 to 16:1 while maintaining a normal TSH.

This is pretty strict. And I would say, for most doctors who use desiccated thyroid, this does not meet this requirement. In other words, desiccated thyroid has a ratio of about 4:1 and not 13:1. And if we were to meet these standards, we would not be helping the tremendous number of people that we do help with desiccated thyroid.

Dose of [T3] should be divided into morning and afternoon doses. And that's because T3 doesn't last very long in the body.

So, those are the European standards, in addition to monitoring the TSH every six weeks. But monitoring T3 levels is not recommended.

As we move forward here, desiccated thyroid which contains both T3 and T4 in a single grain of Armour or Nature Throid, we have 38 mcg. of T4 and 9 mcg. of T3.

In the conventional research, if we look in PubMed or any of the online resources, we see that desiccated thyroid extract did not result in significant improvement in the quality of life by the standards of the study. But more than half the patients expressed a preference for it. Most of my patients do prefer it. It does cause significant improvement. But in this study, of which there were other variables to consider, it didn't show. This study is used as an argument against the desiccated thyroid rather than for it.

This is the range of TSH. You can see, it's about five points. Many doctors will not treat the thyroid if the TSH is in this range. Many doctors will still not treat the thyroid even if it's five points above this range if the free T3 and free T4 levels are normal.

Is this right? Well, there's conflict in the research. More than 95% of normal individuals have TSH below 2.5 according to this study. The remainder with higher values are outliers, most of whom are likely to have underlying Hashimoto's thyroiditis or other causes.

This is a mainstream journal. And there are many, many studies like this which are used to refute the standard of care, such as this one arguing that therapeutic interventions should not be considered when levels are below the long-accepted threshold.

Yet even though various large surveys defined a much narrower range of TSH between 0.3 and 2.5, I tend to look at that range. I tend to look when I look at a patient's TSH that if they are below 2.5 and they have symptoms of hypothyroidism and various medical problems and depending on their history of using thyroid, I will consider treatment despite the fact that they are outside of the standard levels.

This is for those of you—and I did see one question about subclinical hypothyroidism in the list of questions that I took a peek at a few minutes before the lecture. Dysmotility symptoms were observed in subclinical hypothyroidism and symptomatology related to dysmotility, i.e. SIBO, appeared to be improved with thyroid replacement. This was 2013.

So, we really should be looking at subclinical hypothyroidism. In this 2015 retrospective study of 399 subjects, it was concluded re-evaluation of the reference systems on a broader scale is necessary and that subclinical thyroid functions are being missed in a tremendous number of patients. [01:15:17]

Dr. Weiner:

This is a rat. A lot of our studies on thyroid are done with rats. And here, in a combined replacement therapy with T4 and T3 which completely restored the thyroid function in rats where the thyroid was removed, it was much lower doses of T4—

I'm sorry, let me read this.

“Combined replacement therapy with T4 and T3 worked and completely restored euthyroidism in thyroidectomized rats at much lower doses of T4 than those needed to normalize T3 in most tissues when T4 was used alone.

Okay! What does this mean? More optimal achievement of normal thyroid when T3 and T4 were used in the rats. Here's a sheep. As you know, these animals make a lot of methane. This is a veterinary study showing that the use of T3 influenced digestive kinetics—prokinetic, are you getting the connection—in the methane yield in sheep. Results indicate that increasing plasma T3 concentration of the thyroid hormone within physiological levels reduces digestive retention time and leads to a reduction in enteric methane.

I like this study because so many of our difficult cases are methane cases, like this 63-year old female with constipation, bloating, abdominal pain in a setting of Hashimoto's. She came to me on Levothyroxine, 50 mcg. For 10 years, she was on 50 mcg. a day of Levothyroxine.

Look at her methane in my first SIBO test, 76. And look at the methane downstream from that. It's a carpet of methane throughout the entire small intestine. If you look at her thyroid function tests, they're all within normal limits. What do you do with this?

So she got rifaximin and neomycin, followed by low dose erythromycin. I'm going to make an assumption that you all know what those are and not explain because I am behind. And you see the high methane baseline, which is a sign on a lactulose breath test that it's going to possibly be a difficult case. You can also see the methane is carpeting her small intestine downstream from that 20. If you look at that 37, and that 43, and that 43, and that 50 at 80 minutes, and a high rise in hydrogen and methane.

So, she was given, for various reasons, herbs and low dose erythromycin and low dose naltrexone. And six weeks later, she still had a 20. Her results were better in terms of rises. So progress was made. But the baseline methane didn't budge. We continued the herbs, but added to the levothyroxine T3 as liothyronine, 5 mcg., one tablet twice a day.

So, in that second line, second dot, second medicine, liothyronine, that is a generic form of T3 which I essentially added to her T4 prescription, and we got a normalized methane.

Now, this is not going to happen in every case this well in full disclosure to my colleagues. And I have many cases like this. But I have other cases where there are other factors. And so we don't want to

walk away with a false impression that adding liothyronine will be the answer in every case with high methane. But I am seeing this enough to pay a lot of attention to it.

You can see that her free T3 level—all her levels improved. But her free T3 level went from being in the lower part of the range to a higher part of the range, meaning that European standards.[01:20:13]

Dr. Weiner:

Another case similar or related, a 31-year old female, also with constipation. She has a bowel movement every three to four days, was diagnosed with slow transit constipation. No response to fiber laxatives, magnesium, various pharmaceutical laxatives like linaclotide or two tricyclic antidepressants. Bloating, flatulence, belching, abdominal discomfort, hair loss, chronic fatigue, lightheadedness, years of thyroid screens with a normal TSH.

And on her lactulose breath test, high methane again and high peak rises of hydrogen and methane. You can see the carpeted methane throughout the small intestine as it goes into the large intestine.

And the TSH, that is frankly normal. But with an interpretation that is somewhat radical in the community of it being closer up to 3.0. But with free T3 and free T4 levels that aren't usually even measured in the average conventional office, we have low values and thyroid antibodies.

So, with these thyroid antibodies, we can diagnose autoimmune thyroid disease. And this is a typical picture that I often see in early Hashimoto's where it's not manifesting very strongly in the TSH. If we cover up the rest of the values and just see what an average doctor sees, they don't touch the thyroid, but by doing the more advanced testing, more complete testing, you see that we have uncovered a thyroid problem.

So, this patient is treated with thyroid through a compound thyroid that I chose to make for various reasons instead of using a manufactured product. She took that for a week, and then she doubled it in the second week.

And in three weeks, she had a stool every day, improved energy, and decreased bloating and flatulence.

I continued her on herbs. And at the same time, I added prokinetics. And we see an improvement in her methane and a SIBO test, a lactulose breath test that is largely improved. And we also see improvement in her thyroid tests, at least her function tests, her TSH and her free T3.

A follow-up on this patient is that her constipation is consistently improved. And she has one formed stool a day, but still feels unfinished. She still bloats often. And it's painful. So, in addition to continuing the botanical protocol and continuing the low dose erythromycin, we added additional prokinetics support and adjust the thyroid with an increased dosage to find improvement in her bowels one month later and an absence of the fatigue, getting better thyroid treatment which is affecting her bowel and her SIBO treatment considerably with a nice concluding lactulose breath test from this period of time, including thyroid function tests.

So, what I want to do, because of time, is I want to skip some of these other cases and go to the summing remarks. You have all these cases, and you've read them. What I want to say is that, in this case, which has the headline of *Diarrhea and Hypothyroidism Bacterial Overgrowth as a Possible Etiology*, we said earlier that constipation is the main bowel pattern associated with hypothyroidism. But when there's SIBO, bacterial overgrowth can cause diarrhea in hypothyroidism, which is not the usual pattern we see. And we have a case here that I want you to look at and your own notes. And you can see it. [01:25:20]

Dr. Weiner:

So, in going to this slide, when we treat an underactive thyroid, we are often using thyroid medicine. But there are also other pieces of the picture that are detailed here for you. Nutrition is an important component of treating the thyroid. The immune system is important. The adrenal gland function is like a brother or sister to the thyroid gland in terms of completing the endocrine balancing that needs to occur because the thyroid is interacting with adrenal glands and sex steroids in ways known and unknown. And the adrenals is especially important.

And then, the microbiome as a whole, SIBO is a piece of. It's representative and part of what's going on with the microbiota, but it's not the whole picture. And Hashimoto's disease and Graves' disease

autoimmune thyroid problems are associated very strongly with microbiome issues, of which SIBO is only one piece.

For those of you looking for easy answers, it's hard to say what those are when it comes to this. The nutrition involved and the thyroid metabolism is complicated. It involves adequate iodine. Too much iodine by taking lots of supplements of iodine can actually cause a worsening of hypothyroidism. But it can also cause hypothyroidism. So making sure your iodine is right is important.

Selenium, zinc, important minerals. The thyroid needs them to properly function—copper, tyrosine, B12, vitamin E, vitamin A, DHEA, pregnenolone. I'm sorry, the last two are hormones.

The iron is extremely important. I know Dr. Gurevich talked to you about iron tests and lab tests. And it's very important in getting thyroid treatment that the iron is correct, is balanced, that you're not anemic, that you don't have too much or too little.

These are the pieces that need to be looked at.

The immune system, most thyroid illness is autoimmune. And the treatment of autoimmune diseases, of which these cases get lumped into that category, is a complex discussion about how we detoxify the body, how we use various supplements and pharmaceuticals to help regulate the immune system, how we detoxify the body and what we look at. That has to be taken into consideration in some cases.

We want to reduce the negative influences on the immune system. The adrenal gland makes the hormones cortisol, DHEA, and others. If the cortisol is not balanced in a human being, the thyroid will not work well.

We must at least test and assess adrenal function when we're working with a problematic thyroid gland.

This is a picture of what is called the reaction of alarm resistance exhaustion and recovery due to a stress stimuli. This is what's supposed to happen in most of us. You get stressed, and actually, at first, the stress causes a decrease in your adrenal cortisol, which then rebounds in resistance and increases. And you get an increase in this, which is healthy, while you manage the stress. And then, once that is over,

you're exhausted, but it recovers. That's the way it's supposed to happen. [01:30:05]

Dr. Weiner:

In people who are chronically stressed, it doesn't happen. You have an alarm reaction, and you don't have the cortisol to manage that. You have an absence of resistance. You have an absence of recovery. You have a persistent exhaustion.

I drew this myself. I did this to make the point that it is impossible to have good thyroid regulation if you have this kind of an adrenal function.

We have to address the adrenal gland function with treatment and stress reduction and a change in behavior—which is the hardest things for any of the doctors to do with any of the patients just in the clinical half an hour or hour in addition to prescribing medicine taking care of the SIBO prescriptions. How do we also make an effective change toward changing the things that are so difficult to influence?

So, we have to strengthen our gland. We have to take various supplements and pay attention to that.

Chronic stress impacts thyroid negatively. It reduces T4 to T3 conversion. It suppresses the immune system. It decreases inflammatory control and increases cytokines. It makes thyroid receptors more resistant to thyroid hormones. The prolonged cortisol elevation then increases estrogen and increases levels of thyroid binding globulin. High or low cortisol weaken the immune system and its primary barriers including the gut barrier.

So, a lot of overlap in low thyroid function and low adrenal function that a good, knowledgeable doctor can help you sort out.

And the microbiome has to be looked at as a whole in thyroid cases to some degree because the characterization of the gut microbiota was confirmed in Hashimoto's patients. They have altered gut microbiota.

So, when we treat the thyroid, we can use meds. We have to decide T4, T3, natural, synthetic. But we also should look at nutrition, immune system, adrenal function, microbiome. We should look at the whole health picture of a patient.

Between you and me, often, there is a move—and I do this as well—toward medication at first because of its immediate assistance that it can provide to making a patient feel better and having an influence on the case. But getting to the bottom of the low thyroid function often involves these other areas *in addition* to treating the whole gut itself and influencing the SIBO (which is what we're all here for).

So, the take home to wrap this presentation up, SIBO docs and patients really need to recognize the thyroid problems are related to SIBO and IBS. If you take home nothing else, take home that.

SIBO docs and patients should understand progressive medical perspectives on the interpretation of TSH, the use of combinations of T3 and T4, and diagnosis of subclinical hypothyroidism.

SIBO docs and patients must consider that abnormal thyroid function is most commonly hypothyroidism, but it can be others. And it can be a big obstacle to the resolution of SIBO.

A complete thyroid workup should be performed on SIBO and IBS patients. That work up for the thyroid, the TSH, the free T3 and the free T4, make sure that you don't get the total T3. I mean, they're useful, but these are the ones that are most useful.

We have the reverse T3 which is very helpful. I don't always require it. And I haven't talked about it very much. If there are questions about it, I'll take it during question and answer.

And the antibody test most commonly associated with thyroid problems, the thyroglobulin antibodies and the thyroid peroxidase antibodies. [01:35:06]

Dr. Weiner:

Appropriate thyroid medications can be considered for motility support. That's the big take home message. And they can be levothyroxine. I am tending not to use that because of the study. I certainly do have cases where people are just fine with levothyroxine.

I really should take it off this slide because since encountering that study, I'm really not using it alone very much at all. But there are some outliers that are still remaining on it who are doing just fine.

T3 medications which are available, desiccated thyroid, and combination thyroid products, including those that are compounded by the doctor.

Other forms of treatment can and should be considered. Nutritional treatments, immune enhancements, detox, treatment of the whole GI, and treatment of the whole body, boy, did I get away with murder on that slide.

Okay! Action items for you in closing:

If you have SIBO, evaluate the role thyroid problems may be playing. Determine if you should pursue treatment of dysthyroidism or refine your current treatment. I realize many of you may be on thyroid treatment already.

Get the help you need to review thyroid tests in relation to your SIBO. And if undiagnosed, determine if the thyroid should be considered as a risk factor for SIBO. I'm now doing a thyroid work-up with most new SIBO patients.

If already diagnosed, determine if you're on the optimal medication to support motility.

If you are on the optimal medication, determine if you're on the optimal dose of the optimal medication.

If you have not been tested for SIBO and have IBS symptoms and thyroid problems, get properly evaluated for SIBO. I don't think I have to tell you folks that. But you never know! There may be somebody who just tuned in and didn't see all the other wonderful presentations.

If thyroid problems are present and difficult to address, determine the role of additional factors that may be contributing to dysfunction.

For sure, because of the enormity of the subject, I talk to you less about nutrition, adrenal health, toxic influences, the microbiome, and other subjects related peripherally to thyroid. There's only so much one can do. I think we have had a good introduction to this today.

I've also included a survey to help guide you in your self-help to see if you need to consult further. It looks like this. And the first part of it is just for any outliers who are not sure if they're still suffering from

SIBO. It's just a helping tool basically for ongoing SIBO (which is probably the reason most people are here anyway, is because you were treating, and you're just looking at all the problems which most of our practitioners know all about).

The big ticket thyroid tendencies, the big thing with hypothyroidism, is low energy, low temperature, low neurotransmitter function for mood, and low immunity. If you've got those big ticket items, you really should look at it—other signs and symptoms that can be indicative.

And then, finally, medical conditions, other conditions, that are associated besides SIBO.

And then, some interpretive notes to help you.

And with that, Shivan, I am going to say... I did what I can.

Shivan Sarna: You did great, Gary. Thank you very much.

Guys, grab Gary's information right there. There's the phone number. Pearl Natural Health. This is in Portland. He is doing phone consults or Skype. And remember, he can't be your primary doctor. He can work with your physician as a consultant. He can work with you as a consultant. So, you could coordinate with his office.

Okay! That was a lot. Take a breath everybody. Grab your water. Do what you need to do. Thank you very, very much Dr. Weiner. That was *amazing!* Really helpful...

Dr. Weiner: Thank you.

[01:39:54]

Shivan Sarna: Okay. Here's the deal. We have some really great questions. We have some that have been pre-submitted as well. I'm going to ask some, the ones that came in live. Here we go!

Dr. Gary Weiner: Okay.

Shivan Sarna: Okay. Do you need some water or anything?

Dr. Gary Weiner: I'm good, I'm good.

Shivan Sarna: Okay, just let us know.

“Would a person with regulated thyroid, despite hypo or hyper, still create a SIBO situation, or only when thyroid is dysregulated?” So Cat, are you saying things like, “If my thyroid is under control because I’m on medication, would it still be a SIBO situation?”—that’s a good question—“Or was the damage done before the actual diagnosis came because symptoms presented later?”

Dr. Gary Weiner: Well, what I see and what I can tell you is that if you went through a period of hypothyroidism where it was not regulated, that could have caused a SIBO. That's part one, yes. And as that study showed that SIBO could persist beyond the correct regulation of the thyroid with medication.

And then, something else is needed. Something else is going on. And it's not that. I hope that answered the question.

However, having said that, I must also say, since I see so many patients who come from other physicians on thyroid medication, that medication may not be optimal, that there may be a better medication that will get more MMC and peristaltic regulation through the thyroid.

But having said that, that may not be the case either. Then you want to look at the labs and the other pieces of the puzzle. I see people who have good regulation, and then I do their antibodies, and I see outrageous levels of Hashimoto's. And so we begin to do work on the whole body to try to get the autoimmunity down. And then, there's better regulation.

So, the first part of my answer is quite clear. The second part is that one needs to tease out what one is doing. A doctor may say it's properly regulated because the TSH is fine. Where is it in the range? If it's 3.5, and it was 7.9, how would your thyroid be if we could get that down to 1.5 and your T3 level in the upper third of the reference range? Would that affect the migrating motor complex and your SIBO if you're like those constipation cases I showed you where it ain't moving or you know...?

When Dr. SSL wrote that song, *The Methane Blues*...

Shivan Sarna: A bestseller, no doubt. Yes, cute, cute song.

Have you ever seen this before where cancer radiation, cancer is in remission, the gut gets basically destroyed, the microbiome? It's just SIBO. Then resolve the SIBO. But still feels terrible and horrible gut issues.

Dr. Pimentel have said that radiation can destroy the vagus nerve. That was really interesting. But what are your other thoughts on that?

Dr. Gary Weiner: Well, listen, there are cases after cancer therapies and after surgeries where nothing we do seems to restore bowel function. Those can be very tragic cases.

I always look at the thyroid in those cases and make sure that it's optimal.

So, I think in the language of this, there is euthyroidism—E-U-T-H-Y-R-O-I-D, you saw it in the presentation. Euthyroidism is normal thyroid. So one wants to get euthyroid.
[00:05:00]

Dr. Gary Weiner: Now, there's different interpretations of what that is. Optimal euthyroidism, conventional understanding of euthyroidism, I tease that out. My scope of practice as a naturopathic physician which overlaps with conventional medicine—we have similar medical training, but we are able to look into those grey areas of the research, and take the therapies in that direction within our medical boards and our scope.

A radiation patient who has been deemed euthyroid, I would start to interpret the TSH and the T3 and the T4 and the reverse T3 and look at if there is Hashimoto's there, and try to do other therapists including treat the thyroid differently than it is being treated to see if we can't restore peristalsis and MMC function better or get a better treatment of the SIBO that's developing because of the lack of peristalsis.

I hope I answered your question.

Shivan Sarna: Sure! No, no. We just are trying to brainstorm on it.

Okay, guys, we have an hour and ten minutes, an hour and five minutes. And I have a lot of questions that have been pre-submitted that are super specific. So I'm going to whoop through some of these that are live, and then I'm going to go back and forth some more.

“Experiencing low energy, SIBO, motility issues in the esophagus. But endocrinologist sees no issues with FT3,” free T3, “being in the lower end, but still within range. What would you consider to be the lower end of the reference range?”

Dr. Weiner, you just showed that slide, right?

Shivan Sarna: No. But here, I will do this.

So, first of all, I just want to say, I can answer that question. We want to be very wary of giving you medical advice with such a profile of a case.

So, the free T3 level is, depending on which lab you're going through, about a 3-point range. The one that I'm looking at from I think Quest Diagnostics right now is 1.0 to 4.4—1.0 to 4.4.

So, you should divide that into three parts. If you divide 1.0—so 1.0 to 2.0, 2.0 to 3.0, 3.0 to 4.0. That would just be a simple way for an example without troubling the math minds of too many of our listeners.

So, 1.0 to 2.0 is the first part of the range, the low part of the range. From 2.0 to 3.0 is the middle part of the range. And from 3.0 to 4.0 is the upper part of the range. You want to be at the upper part of the range.

That's controversial. But the European Thyroid Association did cite that as one criteria for considering using T3.

So, I would say you want to use a T3 or a combination of thyroid medicines to achieve a T3 in the upper part of the range consistently. And then, judge if you're getting more motility.

Shivan Sarna: So, Dr. Weiner, this is where I kind of appear rude because I don't usually comment, and then I just move on. And so I go fast. That was it. That's my disclaimer.

“When should we worry about reverse T3? What level would raise concern?”

If you have a slide or you've addressed this, you just need to say it was addressed.

Dr. Gary Weiner: Well, we didn't talk too much about the reverse T3. It's a controversial factor. It's considered experimental. I do run it on most of my patients. Eight to twenty five is the average reference range, nanograms per deciliter.

The arguments for reverse T3 is that, under stress, *under stress*, you will make high reverse T3 and low T3. In lot of cases, I see that. When a patient doesn't convert well to T3 from T4, they often enough (but not always) show a high or higher normal reverse T3 and a low free T3. [10:27]

Dr. Gary Weiner: So, when do I get concerned? I get really concerned if I have a low free T3 and a high reverse T3. If I'm low in the range, low normal free T3, and high normal reverse T3, I get the picture that the patient is under stress.

Now, let me just say this. It is normal for a patient with another disease to make less T3. So when people come to me, or they read on the Internet, "I'm making low T3. I have inflammatory bowel disease. I'm not responding to therapy. I am 10 lbs. underweight," that's what happens. Sometimes, I give some T3. I would not recommend to doctors—I saw there were some doctors online that you just give T3 when they're low and T3 blindly. There are cases where a patient is suffering from other inflammatory problems and are making low free T3 where giving little bits of T3 helps them symptomatically, helps the bowels.

So, when I see the actual high reverse T3 and the actual low T3, I know that what they wrote these studies about is actually happening.

Shivan Sarna: "How often is hereditary involved in the thyroid problem?"

Dr. Gary Weiner: Oh, I would say 70% to 80% of the time. Most thyroid disease is autoimmune. And autoimmune thyroid disease is very often hereditary.

Shivan Sarna: "Have you ever, in your practice, seen acupuncture really help with thyroid?"

Dr. Gary Weiner: Yes. Yes! Acupuncture is a system of medicine that does treat the entire body's sub-physiologically based on a system of rivers and valleys that were not developed in the age of medicine. But we do see help there often.

Shivan Sarna: “What is the status of WP Thyroid? Are they making it still? I did better on the Nature Thyroid. Can you speak to the fillers in these meds and reactions to them?”

Dr. Gary Weiner: WP Thyroid was available in Oregon the last time I prescribed it.

Shivan Sarna: Is this for you, Cat? Cat, you’re not in the States, right? So is that the problem? Go ahead, Dr. Weiner.

Dr. Gary Weiner: Well, you know, there’s a kind of range tolerated or not tolerated by many people. The cleanest is the WP. Is it WP? Yeah, the one you just mentioned. It is free of additives. It is the cleanest available that I know of.

Second to that would be I think Nature Throid. And then, Armour Thyroid is tolerated by most even though it has—none of them have a great deal of chemical fillers in them. I would say if you are sensitive to all chemicals, go for WP. And short of that, Nature Throid is usually your best bet, and Armour. I mean they do come from conventional animals, all of them.

Shivan Sarna: Yeah, what does a vegetarian do?

Dr. Gary Weiner: Well, a vegetarian is probably best served by a doctor writing a compound with a bioidentical thyroid combination from a compounding pharmacist where the doctor specifies x micrograms of T4 and x of T3. And it can be formulated just like desiccated in the ratio of 1:4.

Shivan Sarna: Okay. “Can you define desiccated for me again?”

Dr. Gary Weiner: Desiccated thyroid is the animal's thyroid gland is basically processed, ground up, isolate—I know, doesn't it sound yummy? It's animal thyroid that's been processed to deliver a certain number of micrograms of T4 and T3, but also contains some amount of T1 and T2 and iodine and other cofactors and nutrients that are just in the animal's gland. [15:35]

Shivan Sarna: “If someone was out of the States, and they wanted to consult with you, do you know what the laws off the top of your head are regarding scripts?”

Dr. Gary Weiner: Oh, I see... I don't know the laws off-hand with that. I'm not able to prescribe in places where I don't hold a license like that, yeah. So it would be consultation only.

Shivan Sarna: "If free T3 is high end of normal range, and free T4 is low end of normal range, but TSH is a 5, what's driving the high TSH? Could it be peripheral resistance due to inflammation?"

And I can't ask him, "Does it mean thyroid medication?" because that is a straight-up medical consultation question. But did you get the first part? "If free T3 is in the high end of normal, free T4 is in the low end of normal, but TSH is 5," what's your theory on what's driving the high TSH.

Dr. Gary Weiner: That's complex. There is the resistance or receptor problems where it's not binding, you're showing the levels in the serum, but you're actually not getting an action. You're not getting binding to whatever organ the T3 is supposed to bind to.

The tests and the whole objection to the tests by various authors and researchers is that the thyroid function test don't show us anything about what's happening in the cells and whether or not there is binding.

There can also be a pituitary dysfunction where you have adequate thyroid circulating function, adequate binding, but the pituitary gland is not registering or reading. It's a pituitary problem. And the endocrinologists don't do very well with those problems, except watching them or assessing for tumors and such.

Shivan Sarna: Could it also be a methylation issue, do you think?

Dr. Gary Weiner: In theory... in theory... in theory, yes. I don't think I see that anywhere on the research.

Shivan Sarna: Fazil, I know you have a question. And Carly, I know you have a question. Let me get back to you guys on that. Let me get to some of these...

Dr. Weiner, I don't know if you said it. But I know that this has happened to me, and there's also somebody in the group who's had

this. What makes someone's hair fall out when they get on thyroid medication? Do you know?

Dr. Gary Weiner: Well, when they get *on* thyroid medications...?

Shivan Sarna: “I got *on* thyroid,” yeah.

Dr. Gary Weiner: That does happen. And I don't think I have an answer to that. There are a few—very few. Occasionally, a patient will get on thyroid medication. They feel really good, some of them. But they start to lose some hair. There are some interaction between the thyroid medication and the follicles that cause hair loss. But it's very rare.

Hair loss is a symptom of low thyroid, but it's also a symptom of stress and poor adrenal function.

I think people do very poorly on thyroid supplement when their adrenals aren't set. And in a case like that, I would ask that person to make sure that, if they're doing well on thyroid besides the hair loss, to make sure that they're looking at the adrenals carefully.

Shivan Sarna: Okay. What about iron? You talked a little bit about iron—iron and the relationship with the thyroid and the thyroid medication. If your iron levels aren't quite right, will that make the thyroid medication not work? [20:01]

Dr. Gary Weiner: I don't think we can go that far. I think we want to say that to have good thyroid balance, to make adequate thyroid hormones, we need good iron levels. I can't necessarily say that the thyroid won't work. But we don't make adequate thyroid if we don't have adequate iron.

So, we want to get that ferritin level well into the normal range if not up to 50. And if there's anemia present, we want to get that figured out. And that could be B12, that could be iron. If there's SIBO, there may be problems digesting iron. We may need to supplement iron for a time until the digestion gets sorted out and give other nutritional cofactors for iron like vitamin C.

Shivan Sarna: Okay. We have to talk about this because there's so much confusion. “Iron supplements can make you more constipated,” from Arlene. That's true. And that's why a lot of these folks that we've been talking the talk about iron infusions. “What's your take on iron infusions?”

Have you seen it cause an inflammatory reaction in patients?" Talk to me.

Dr. Gary Weiner: there are some danger in iron infusions, IV. I see people do much better—we treat a lot of inflammatory bowel disease in my clinic, and those people are often anemic. And we use intramuscular iron which is a nice midway point between oral iron which is so poorly tolerated—I see iron bisglycinate better tolerated than most.

But IM iron or intramuscular injection of iron is quite safe generally when performed correctly by a physician. And it does a very good job of bringing the iron level up until the digestion can be restored.

I don't do IV iron. I do refer for it to a doctor who does it when I feel like we really need the big guns.

Shivan Sarna: Would the intramuscular be more—this may sound like a strange question. But would it be easier on the system in an intramuscular way than the IV?

Dr. Gary Weiner: Easier on the system, I'm not quite sure what you mean. I mean intramuscular injections are absorbed through the muscle into the bloodstream. And intravenous are directly into the bloodstream where there can be reactions. And in sick people, very sick people, I try to avoid it. I don't really want to do them in my own clinic where there isn't a great deal of nursing.

But the IM's are well-tolerated. I mean the gold standard is the IV. IM is pretty darn good. And we're doing them with great success. So I think your listeners should investigate that.

And it's also much cheaper. The IV procedures are very, very expensive. And the IM's are not.

Shivan Sarna: And do you use the same—sorry, I didn't mean to interrupt you. Do you use the same iron that they would put in the IV bag into the muscle, like Venofer or whatever?

Dr. Gary Weiner: Since I don't do them—but I believe it is the same, iron dextran, yes.

Shivan Sarna: Alrightee... I wanted to say that, Karen, I think that Dr. Weiner answered your question. And I think that Gabriel, he already did on the content of the presentation. And I think that happened for you, the

person who is in here I think right now, who's moniker in the participant area is the letter C—bless you honey—and that your email starts with M and has a cuss word in it. How's that? We're in my little secret game show here.

I think that they've covered it, Dr. Weiner has covered it. If he hasn't, pop into the Q&A box and ask it in a different way.

“...the right test to lead to the correct treatment beyond Synthroid for low energy and constipation, MMC and transit time.”

We've talked about the tests. That is for you, Janet. [25:12]

Shivan Sarna: And Sheila, “Can THC and CBD hurt or help MMC?” That is just like a lot of letters right there. What's THC again? Oh, THC, okay. And “CBD help or hurt MMC function?” What are your thoughts on that?

Dr. Gary Weiner: I don't have a lot of information on that. And I don't usually use that in SIBO. Although I think there's a lot of anti-inflammatory—the way I would handle that. I don't use those or recommend cannabinoid products in people with GI disorders.

There is some inflammation in SIBO. It's not to the degree of inflammation and cytokine responses we see in IBD. And the THC and cannabinoid products are anti-inflammatory. Inflammation sets up MMC problems—in other words, motility is disordered when there is inflammation. Inflammation is part of this.

So, from that point of view, yes, I would say that might be helpful.

Shivan Sarna: “It's becoming increasingly more difficult to get a porcine-derived thyroid medicine. If it becomes unavailable in the near future, what synthetic might be a good replacement?” And this is for Debra.

Dr. Gary Weiner: Well, I don't know. We seem to have many options for porcine. There's Armour. There's Nature Throid. There's WP Thyroid. If those were to become unavailable, you can then use one, a combination of manufactured products to include T3 and T4.

So, levothyroxine can be prescribed, as it always is; in addition to that, a liothyronine or T3 product (which is available in every pharmacy). It

goes by the name of—Synthroid is the manufactured product. And then, there's a generic called liothyronine or triiodothyronine.

So, a physician who is open to T3 prescription, if you're on levothyroxine, may add liothyronine to it like in that case that I showed you. And there you have a—it's not the same as desiccated. But the ratios can be played with monitored carefully.

Then there's the compounding pharmacy where you can make a medicine. The doctor can make a medicine in behalf of a patient and specify what amount of T3, what amount of T4. And you can add other things to that. And you can also sustain release it. You can play with its delivery system. You can make oils of thyroid medicine. You can make different delivery systems. And there's only a few, but you can do that. Topicals don't seem to work very well.

Shivan Sarna: What do you do with the oil?

Dr. Gary Weiner: They're just drops. In other words, people who don't tolerate the capsules.

Shivan Sarna: Capsules.

Dr. Gary Weiner: It's also nice to make medicines. I forget, there was one of your listeners who was intolerant of the binders in Nature Throid or Armour Thyroid. With a compounding pharmacy, you can limit what is used. You can use probiotics. You can use cellulose only. You can make it as pure as possible, so your patient can tolerate it.

Shivan Sarna: Okay. Nancy, I think we've also answered your question, Nancy V. Let's see...

Meal spacing. So Cathy H, "I meal space, taking MotilPro and antimicrobials right now. My free T3 has been low. I'm coming up a bit after taking Thyraxis. I'm wondering if I could be low because of the limited amount of carbs I'm ingesting. If so, what are some carbs that we could recommend to support me?"

Dr. Gary Weiner: Well, the reason for this, I believe—and it is a conundrum because when you're treating a low adrenal, low adrenal function, low cortisol means low blood sugar between meals. And so, how many SIBO patients are stressed? Could there be one? Could there be one, Shivan?

Shivan Sarna: Yes, there could be one. [30:15]

Dr. Gary Weiner: Okay! So if you have low adrenal function, then you have low blood sugar. And that thing that we're all told, which is eating like a chipmunk always, doesn't let you heal your MMC.

So, I think the problem here—I don't have a special magic carb for you, dear listener. What's really needed is, possibly, you need to look at your adrenals, and possibly be on a cortisol supplement, or certainly supplements that raise your cortisol or support your adrenals, so that you can tolerate the times between meals.

Is there a carbohydrate substance to take that doesn't affect house cleaning? I'm not aware of one that has been proven to not affect house cleaning. But I think taking perhaps some herbs to increase the cortisol—

So, I think taking maybe some drops of licorice extract, which if you have some cortisol, it's going to raise it somewhat. You could be assessed for adrenal fatigue. And if you're really in the basement, consider cortisol supplementation while you're trying to heal as a transitional kind of therapy. Talk to your doctor about that.

I think it would be a disservice of me to try to name a magic carbohydrates that you can eat that doesn't inhibits the—

I mean, when it comes to survival, you will have to eat something. And so, apple—well, I don't know what you're able to eat and not able to eat. But when it comes to survival, you eat something and your migrating motor complex will have to wait, as you know.

Shivan Sarna: Yes. Yes. Yes, yes, yes.

And also, apples, question mark. FODMAP, high.

Okay! “How would you treat someone with IBS, SIBO, Hashimoto’s, and other autoimmune issues as well as gastritis and hypochlorhydria if recent SIBO test show high methane at distal end of test and flat line, suggesting hydrogen sulfide in a second test.”

“Seven courses of rifaximin did nothing. And bad reactions to Allimed and oregano oil.”

Arlene, Arlene, Arlene... my gosh, woman... Right! So I'm glad Dr. Weiner is going to be able to...

Dr. Gary Weiner: Let's see if we can frame that question. How would we treat this case with all these things going on? What have we go there again?

Shivan Sarna: We have IBS and SIBO, Hashimoto's and some other fun autoimmune issues just in general, gastritis, hyperchlorhydria, methane at distal end of test, and flat line, suggesting hydrogen sulfide in a second test...

I mean, is it SIBO? Could it be something else? I'm wondering, Arlene, what is your underlying cause. Do you know?

She's not going to be able to answer, I don't think so.

Dr. Gary Weiner: Yeah, yeah. I mean this is one of those very complex cases. I'm sorry, I'm not able to shoot out an immediate answer. I mean I don't have a magic answer for how to treat that. If the digestive symptoms are primary, and there is a suggestion either by your doctor or through your own research based on the quality of your stools and the level of gas and odor, then treating hydrogen sulfide, if you've not been treated—

Soon, Dr. Pimentel will—he's busy working on a testing method for that and actually some experimental medications. You should look at that.

Shivan Sarna: She said adhesions and C. diff. Man, those adhesions, man... that's...[35:05]

Dr. Gary Weiner: So first, you've got to treat the C. diff. And of course, microbiota transplantation, fecal transplant is a proven therapy for C. diff. If you haven't been treated for C. diff., you need to take care of the C. diff. before you do anything else.

And adhesions of course are a case of chronic SIBO. Have you investigated the physical therapy maneuvers to break those adhesions because adhesion therapy without a physical modality is very difficult. I would go down those avenues.

Shivan Sarna: Okay.

And then, Michael, you asked a question. And you're right, we covered it in the topic.

Okay. The person whose last name is Zang, we feel like we covered everything in the presentation.

Okay... hmmm...

“Any other lab value you find in blood tests useful in relation to a SIBO case?”

Dr. Gary Weiner: Well, there are so many. I don't know if we can...

But in general, in a chemistry screen, I'm looking for other signs of malabsorption. So I'm always doing the routine tests. That would be vitamin B12, vitamin D, iron studies. When I'm finding a low values—low ferritin, high methylmalonic acid, low serum iron, low B12, and serum electrolytes, protein, albumin—I'm looking for a picture of malnutrition. SIBO cases often have a malnutrition component. So, I'm using those tests to see how grave this is.

I'm not sure the extent of your question in terms of—I mean, Dr. Gurevich addressed her in her masterclass I think, the array of tests that we do. I'm looking at all of that and all that she discussed.

Shivan Sarna: “How do you treat reverse T3?” which you've already addressed? How do you treat low free T3? Tell me if you haven't addressed it. You did the optimal ranges. Thank you. How do parasites affect thyroid T3 binding?

Dr. Gary Weiner: Well... okay... So, we'll take the first question. How do I treat reverse low?

I don't treat low reverse T3. I look at what is underlying a low reverse. I'm sorry, it was “how do we see high reverse T3” or was it low?

Shivan Sarna: How do we treat *high* reverse T3?

Dr. Gary Weiner: High, high. High reverse T3, first, I don't treat it. I look to see how it relates to the rest of the thyroid function tests. And I try to find what the stress is that is causing T3 to not be made at the expense—I'm sorry, for reverse T3 to be made at the expense of low T3.

In the short term, I may do some T3 therapies to augment the absence of T3 and the bad effects it's having on the body. I usually do not find that it is a sustainable solution in the long run.

I want to say this to all our listeners, that the thyroid is a very sensitive little gland, and it's dynamic. It is changing in relation to the rest of the body. The thyroidism is a meta-phenomenon, meaning there are other phenomenon that trump it and that we shouldn't take whatever we do with it as a permanent solution to what always has to happen. So, it can be important for some time.

So, in terms of the high reverse T3, I will sometimes change the thyroid prescription to include some T3—small amounts—to find what amounts helps the bowel and helps the whole picture.

At the same time, I'm looking for why. Is it emotional stress? Is it another disease process? Is it an inflammatory process? What is the stress on the body? What is the stress on the person? What is the stress in their life? What is the stress from food? What is the stress from the SIBO? Put it all in proper relation and then make recommendations thereafter. [40:06]

Shivan Sarna:

So, here's a good one. This is about hydrogen sulfide SIBO. “Low free T3 and reverse T3 ratio that my practitioner describes as one of the worst she's ever seen. In light of the flat line, hydrogen breath test and my presenting symptoms, which is constipation...” Wait, wait, wait... is that right. Right! Yup.

I think the question really is: “What’s the difference between dysbiosis and SIBO?” That’s question one. “What’s the difference between dysbiosis and SIBO?”

Dysbiosis is a general term referring to abnormal microbiota. The microbiota colonizes the entire GI tract from top to bottom and is also in other places in the body. The dysbiosis can refer to bacteria, but also fungi and also, when we look at the microbiome, the virome, viruses, and parasites.

So, all of that, these life forms that are not human that are in the body. That’s dysbiosis, an abnormality of all of that.

SIBO, as Dr. Sandberg-Lewis and Dr. Siebecker pointed out in 2015 in their article in NDNR is dysbiosis by another name. It is a particular

transmigration. It is bacteria that is normal in the body in the wrong place. It is a kind of dysbiosis. It is a subset of a larger dysbiosis, but it is not the same thing as dysbiosis as we know it.

Does that make sense?

Shivan Sarna: It does. I think it's a terminology thing. I think you got it.

"How do you treat hydrogen sulfide?"

Dr. Gary Weiner: Difficultly. I'm using DMSA with bismuth. I don't see that much hydrogen sulfide in my practice when I do find it. I've had some success with Dr. Anderson's protocols using compounds of lipoic acid, bismuth and DMSA. But it's not something I do that often. I don't think I have any new, novel ways that your listeners haven't heard about with hydrogen sulfide.

Shivan Sarna: I don't know if this is even answerable right now. But methanogen SIBO that becomes—and you did the test. It's high methane, right? Next test after some treatment, it's hydrogen sulfide SIBO. Do you see that?

Dr. Gary Weiner: I've seen that a couple of times. Well, it's hydrogen sulfide, it means flat line.

Shivan Sarna: Flat line, yeah.

Dr. Gary Weiner: I've only seen that a few times. And then I would move on to hydrogen sulfide treatments thereafter.

Shivan Sarna: Okay, okay. That was for Shelly.

So, here's Bernadette. I know you asked this earlier, Bernadette. And so I hope you're going to watch this one. You hear us talking about it.

By the way, guys, if you take the transcripts and put them into a Word doc, and then search your name—it's tricky if you have an unusually spelled name. But Bernadette types in Bernadette. Hopefully, she will see where in the transcript we're talking about her. That's why I often try to use your names.

"My question is why, after a round of rifaximin and neomycin, my methane levels went down, but my hydrogen levels doubled?"

Dr. Gary Weiner: Well, it's actually quite common for hydrogen levels to go up when methane levels come down. And that's because the methanogens, meaning the archaea, the organisms that make the methane gas, they feed upon organisms that make hydrogen gas. They trump them. They have a higher Darwinian order. And as those are annihilated if they are successfully treated, you would expect often to see the hydrogen go up. [45:27]

Dr. Gary Weiner: So, often, you'll see hydrogen down, methane up; then treatment. Methane down, hydrogen up. Your practitioner may then modify the treatment to favor hydrogen and then see hydrogen resolve.

And then, of course, if you have other risk factors going, the whole thing comes back again.

Shivan Sarna: It does.

“Will the poor motility caused by”—hold on for just a second, you guys. Karen, just make a note of 629 for Ms. Bernadette.

“Will the poor motility caused by euthyroid, hypothyroidism, high TSH, normal T4 and T3 prevent you from correcting SIBO to reverse the euthyroid hyperthyroidism?” or enough to reverse it? In other words, above what TSH level do you believe one must give euthyroid hyperthyroid patients, thyroid supplementation to be able to clear SIBO?

Dr. Gary Weiner: I think what you're asking is—

Well, I see anything over 2.0 on the TSH as worthy of my consideration of thyroid treatment? So the top of the range is 5.0—4.5 or 5.0—but if it's over 2.0, I'm looking at it. I'm then looking at the free T3. Is it in the bottom of the range? In addition to SIBO symptoms that overlap with thyroid, do they have other thyroid symptoms that are not necessarily SIBO symptoms?

Do I have an argument for a trial of thyroid? Are they cold? Do they have an Achilles' reflex? What's the lateral eyebrow hair?

Shivan Sarna: Tell me about the Achilles reflex again?

Dr. Gary Weiner: Well, the Achilles reflex is often delayed in hypothyroidism, the sign of her tug—oh no, that's not what that is, just delayed Achilles' reflex.

So, it's just an office examination. What I'm saying to you is I'm looking for does it add up, and they happen to have a TSH over 2.0. I complete my thyroid testing. I do my antibody testing. I do a T3 and reverse T3, and T4. I do a complete thyroid profile and look at the symptoms.

And if there's a good argument, I will commence a trial. Personally, while I look at the numbers—I'm a physician, I look at the numbers—if what I'm looking at *appears* to be hypothyroidism and the numbers don't add up, I will carefully supervise a trial and see if a small amount of treatment makes a hill of beans of difference. If it does, I safely continue that trial. And medicine works this way.

We got to remember that before the advent of the '70s, desiccated thyroid was given just based on symptoms and iodine levels. We should also say I look at iodine levels. I use the test known as the iodine loading test and also serum iodine levels to get a sense of iodine status. Iodine is fairly normal in the United States in the average person. But there are a number of times I find iodine insufficiency and that's very helpful with the thyroid.

Shivan Sarna: I know you work with a lot of people with IBD and Crohn's. This is very interesting. "How do you distinguish weight loss being from SIBO or Crohn's symptoms or being an eating disorder? Do you have any specific red flags to distinguish one from the other? If somebody is struggling with gaining weight and don't like to eat much or remember to eat, what recommendations do you have?"

Dr. Gary Weiner: Those are a lot of questions. There are all sorts of ways to distinguish IBS from IBD. I mean, the fecal cal-protectin and fecal lactoferrin stool test can readily distinguish IBD from IBS. [50:20]

Dr. Gary Weiner: If someone has Crohn's's and SIBO which is very common, one does a breath test and those stool tests. And if the breath test is elevated, if the breath test is abnormal and it's SIBO, and there's a high cal-protectin or a high fecal lactoferrin, then you have simultaneous SIBO and IBD. If cal-protectin is normalized, even though they have a disease, they likely have IBD in remission of active disease, but an active SIBO.

So there are tests to help sort out that a physician will know how to do.

Shivan Sarna: So, I think I misread the question. It has to do with an eating disorder. How can you tell if it's an eating disorder or weight loss due to SIBO or Crohn's.

Dr. Gary Weiner: Okay... well, in the case-taking, a physician asks lots of questions. There are telltale signs of eating disorder around the attitude towards food, body image, behaviors such as vomiting and restrictions, binge, purge.

I am usually asking some questions that are pointing me in that direction. And if I feel there's emotional disorder here and eating disorder, and that's combined with the SIBO and inflammatory bowel disease, that's a tough case. It's very tough because all the things we do in SIBO, all the restrictions, all the columnar charts and the three colors—and Dr. Siebecker does wonderful work on making this user-friendly—it's nonetheless problematic in a patient with an eating disorder where restriction is not advised psychologically or psycho-emotionally.

So, I think the question is what do I do or what do I advise. I advise the treatment of SIBO. I advise less restriction, less work on the eating front, psycho-emotionally, to make sure we have nutritional support and psycho-emotional support from a psychoanalyst—a *psychoanalyst*, it sounds like I'm from 1923—a psychotherapist, a therapist, a nutritionist. We have to really get a team approach with a patient with an eating disorder and SIBO or inflammatory bowel disease for that matter.

I think that patient needs a primary care physician or a primary physician who is coordinating a group of practitioners to help them. You're going to need that, listener, for good care. You don't want a SIBO zealot to take you into the land of restriction in a dangerous way.

Does that make sense, Shivan?

Shivan Sarna: Yeah, it does. Psychological support, for sure. Maybe it's a mental health professional who could help figure that out too.

Dr. Gary Weiner: I tend to work around the dietary pieces in the beginning with those patients until I get things stabilized and we're at a place where we can do it.

Shivan Sarna: Right. Yeah, no, I hear you. Yeah, underweight can be catastrophic.

Now, at the opposite end, here's Christine. "Weight gain and inability to lose weight despite clean diet and exercise weight training. Question: Can SIBO be the cause of weight gain, inability to lose weight. Over the last two years, having been gaining slowly, and then can't seem to lose it. Have TSH of 4.6. It's now 0.73 on Nature Thyroid, plus thyroid antibodies. Weight train and do cardio. Never been tested for SIBO. Can SIBO be contributing to this? And what can I do to correct this frustrating problem?"

Dr. Gary Weiner: Yes, SIBO can be a part of it. I am hesitant to say that it is the central organizing piece that you haven't been tested for. [55:08]

Dr. Gary Weiner: Remember that SIBO causes or can cause in a significant number of patients malabsorption, and that malabsorption leads to nutritional deficiencies which can be quite related to weight loss.

In patients with this problem, it's important to modify diet. One could be looking at some concepts from this diet called—the high fat diet. Help me Shivan.

Shivan Sarna: High fat? Oh, the keto?

Dr. Gary Weiner: Keto, thank you. I know this well, listeners. It's just that I was having a freeze of the brain. Not that I'm proposing a keto diet, but some of the concepts in keto with regard to protein, carbohydrate ratios can be helpful merged with the kind of work that has been pioneered and championed by Dr. Nirala and Dr. Siebecker in terms of these diets just because the fat, protein ratios, sugar ratios seem to be really important in pushing through to that place where weight can be lost in combination with correct and optimal thyroid care.

And taking care of the SIBO, our listener's question, I think I heard that she hasn't been evaluated for SIBO. Please, please get evaluated for SIBO.

Shivan Sarna: Yeah, okay.

“If someone is doing coffee enemas,”—so Ms. Lopez, this is for you. If someone is doing coffee enemas, and they see less undigested food, they improve motility, transit time, how does this work? And does it indicate another underlying problem?

Because you’re having good results with the coffee enemas? I’m wondering if that’s the question.

Dr. Gary Weiner: Well, I think what we can say is that the bowel cleansing is affecting your health positively. And I don’t know that it says anymore than that at this moment. I think continue those, but then try doing that half the time or every other day for a while and see if you’ve held the benefit. I don’t think we need to necessarily think that you have to do bowel enemas, coffee enemas for the rest of your life.

Shivan Sarna: Right! Barbara, I don’t know if you’re hearing this session. But hopefully, this one helped you. And I’m wondering how your thyroid is, Barbara H.

Just wrapping up with this... who’s that?

“What do you think about raw apple cider vinegar, Dr. Weiner?” I love it.

Most of my SIBO cases, with people on the low FODMAPs, most people aren’t bothered by the apple in the vinegar. But it’s a very nice stimulant of the digestive fluids and very helpful for a lot of my patients in doing that 15 minutes before a meal to get the juices of digestion going.

Shivan Sarna: Okay, this is Bernadette again. Karen, just a note. I submitted this—okay, bop-bop-bop-bop-bop, bop-bop-bop. Her question was why after a round of rifaximin, neomycin that the methane levels went down, but the hydrogen levels doubled. So you basically answered that, didn’t you?

Dr. Gary Weiner: I did.

Shivan Sarna: And if another round could be effective now for the hydrogen levels?

Dr. Gary Weiner: Ah, so that part, thank you. If I missed that part, I’m sorry, Karen. But yes, I mean often I might, and so might others. We might give another round of rifaximin with or without the neomycin depending on what

the picture is. If it's still constipation, if the methane levels are still high, then it certainly would be in order to repeat the protocol to take the hydrogen levels and the rest of the methane. That may be just the right thing to do. And it's certainly an option. I've done that many a time... repeat it. [01:00:22]

Dr. Gary Weiner: If the constipation suddenly is no longer a problem, and methane is no longer high, you could consider—or your doctor with you could consider—just rifaximin, instead of the combo, or moving to another method that I've moved on in a case like that to herbs, an elemental diet. It kind of depends on can you get rifaximin. How did you do on it in terms of tolerating it? Did you feel okay on it? If it worked, and you got a significant reduction in that methane—you know that old expression, “if it's not broken, don't try and fix it.” If that works well, keep going with that strategy. It would be one point of view.

Shivan Sarna: Well, as she's saying, she didn't respond to it after two rounds. “My doctor is putting me on herbals now. Why didn't I respond to it? That has me worried.”

Dr. Gary Weiner: Why didn't I respond to rifaximin and neomycin?

Shivan Sarna: Yeah.

Dr. Gary Weiner: Well, if you look at the studies for rifaximin, just like any herbal studies, the percentages, there was a significant percentage of people, over 20%, that did not respond. You may not be a responder. And therefore, you moved on to another method.

Shivan Sarna: Yeah, right. And maybe those herbals are going to be perfect for you, or the elemental diet... which leads me to this. I have 13 questions, and I have 13 minutes.

“I lost a lot of muscle and weight recently because of malabsorption and digestive issues. Will it be good to do the semi-elemental diet or use half elemental powders and half blended meat veggie broth? How to find a practitioner quickly to guide and follow?”

Dr. Gary Weiner: Well, I don't know. I do that often if it's appropriate to consult with you on how to do this. For you, that's a possibility.

Let me say this. The research on half elemental diets is exquisite with Crohn's disease. There is very little on it. But let me tell you from

experience that I use the elemental diet in smaller doses for people with the weight loss problem. I mean you can't just continually do an elemental diet forever. It's really meant for SIBO patients to be done in two- to three-week increments. But moving into a partial elemental for some of your calories to keep your weight up, and to continue the good fight, but not overdo it.

I want to say this loud and clear. There are some videos online if you type in my name that I made on the elemental diets. There's quite a few of them including from the manufacturer themselves, a video that I made with them, on the use of elemental diets. But I want to say continuously using an elemental diet has its danger. It is not meant to be used continuously.

I think it can be used in small amounts with some breaks continuously as a half elemental diet. And I do think it has a lot of value in certain cases of SIBO. And it sounds like your listener is one of those cases that I could be very helpful for her.

Did I answer that?

Shivan Sarna: Yes. Yes, you did.

"I take Armour 90 mg. My functional medical doctor is happy with my current thyroid lab values. He believes I have a primary hypothyroidism and mentioned a possible problem with my HPA axis. And since I last saw him, I began to show signs of another SIBO flare-up. These problems all seem to be interrelated," which is what you've just been talking about. But what condition should she treat first? Carly.

Dr. Gary Weiner: Well, Carly, I'm not sure from that information. When you say that your primary care physician is satisfied with your values, your lab work. I don't know if—they may well be satisfactory to me, or they may not be. I'm really not leaning towards "Well, there must be something wrong." They may be just fine. I don't know. [01:05:11]

Dr. Gary Weiner: There may be room for improvement which would not necessarily mean—it could mean more, it could mean less, it could mean different things. It could mean more T3. I don't know from the information you've given me. I would look at that.

HPA axis is the hypothalamic-pituitary adrenal axis. It's the adrenal issue that he/she is referring to. If your adrenals are not balanced, if you do not have enough cortisol, if you have too much or too little, then there can be a problem with thyroid regulation which may have something to do with your re-flaring of SIBO.

So, if we are to view this as a risk factor, your thyroid and your adrenal issue, then I would say take care of that first, or start with that for a month, and then move on to re-treatment of the SIBO if you haven't treated it already. You say it's re-flaring. So you've probably treated it already, and you feel like things are coming back again. Or you could also do these together. I mean, when we say "wait on SIBO treatment," and you're experiencing acute symptoms, that's easy to say, harder to do, wait. Who's going to wait? So, I think looking at them together...

I think you can look at the things I've said. Is your practitioner reading the tests with some of the more varied interpretations of the TSH, the free T3, doing that reverse T3 test, looking at antibodies, are they out of control, or are they reducing, looking at all of that and making a decision about whether you need to get some other care or not.

Shivan Sarna: So, Dr. Weiner, we have eight minutes, we have 12 questions. These are going to be rapid.

Dr. Gary Weiner: Okay. Shoot them at me!

Shivan Sarna: So, obviously, Dr. Weiner could spend a lot of time talking about each one of these. So he's just going to give us his top of the mind, and hopefully, it will be helpful and a place for you guys to have a foundation to spring off of.

Can you tell us a bit more about how to improve adrenal functions?

Dr. Gary Weiner: Well, the main thing for adrenal function is to take inflammatory factors out of your life. It's doing the psycho-emotional work that you need to do, to respond to stress differently than you respond to it, if that's a problem. I'm not saying it is. It usually is, constructing a barrier between you and the things that irritates you.

And then, in your health, taking care of problems like is the food inflaming you, are you eating things that are inflaming you, do you have inflammatory conditions or allergic-type conditions. Those things

tax the adrenal glands and require cortisol to take care of those things that you need for other things.

So, the things you can do are: look at your food, look at your relationships, look at the things you're doing in your life, and your schedule. Are you over-extended? We all know being overextended and having too much to do is often the main issue of why we inflame.

Shivan Sarna: Right! Okay, so brush border support, you mentioned that on one of your slides. Can you just address what is this.

Dr. Gary Weiner: Brush border supports are the supplements that help heal the gut lining. Usually, they're introduced somewhat into SIBO treatment by most practitioners at some point. That would be digestive enzymes. That would be Betaine hydrochloride. That would be bile extract. That would be glutamine, an amino acid that the brush border uses to self-repair. Those are the things that we call brush border support.

Shivan Sarna: “What dose of levothyroxine...”—I call it *lio*. I don't even know if that's right. But the L-I-O—“do you start with?”

Dr. Gary Weiner: Well, usually, in the average prescription where a doctor introduces some T3, liothyronine, an average amount is 5 mcg. that is often started split either once in the morning, or half of that in the morning and half in the afternoon. And then we go up from there based on lab follow-up and symptomatic follow-up. [01:10:18]

Shivan Sarna: Looking for a natural pharmacy that will use rice or coconut flour as a filler. Any ideas or a list of compounding pharmacies would be great.

That's a Google search, my dear. But do you have a pharmacy that you like in Portland?

Dr. Gary Weiner: Yes, I mean I have relationships with all of them. But my primary pharmacy is the Lloyd Center Pharmacy. They will make those things as this person wishes them to be made (with those things and others) very, very nicely.

Shivan Sarna: He's out of the country. So we'll have to see how that works out.

“For low FT3 and high RT3 and normal T4, is there any advantage of using desiccated thyroid versus compounded T3?”

Dr. Gary Weiner: I can't really say that there's one advantage over the other. If that patient needs T3—T4 is not abnormal very often. It's a 1-point range. This person probably needs more T3 than T4. And desiccated has a 4:1 ratio of T4 to T3. Therefore, a desiccated may be wrong in this patient's case, in this listener's case. This listener may do better with a compound which has very little T4 and more T3.

Shivan Sarna: "I'm wondering about the SOD tablets. Should I take two? I have only been taking one. Or should I change the thyroid medication?"

Now, that's an extremely specific medical question, but what's the SOD—sodium tablets, SOD?

Dr. Gary Weiner: Levothyroxine sodium, is that what they...?

Shivan Sarna: Oh, I think so.

Dr. Gary Weiner: Or is that superoxide dismutase? I'm not sure. I don't understand that question.

Shivan Sarna: "Have only been taking one. Or should I change?" I think it's thyroid medication.

Dr. Gary Weiner: Okay, so what's the question again?

Shivan Sarna: Well, basically, she wants to know should she change it. "I'm wondering about the SOD tablets. Should I take two? I have only been taking one."

Dr. Gary Weiner: I can't make a recommendation about increasing or decreasing with the given information.

Shivan Sarna: If there's more, you can quickly write up, JimShare7.

"Okay, you mentioned detoxification in relation to addressing autoimmune aspects of thyroid dysfunction. How do you detoxify if you have SIBO and intestinal permeability? Do you have to treat the SIBO first?"

Dr. Gary Weiner: Well, no. I mean detoxification, it's a range of therapies. It's anything from someone who's toxic because they smoke cigarettes and drink lots of alcohol and take lots of caffeine and are exposed to lots of

chemicals in their daily life. I might put them on a cleanse searching for toxins.

There have been toxins in the environment that have been related to autoimmune disease and hypothyroidism. There's heavy metals as a toxin. There are mold toxins. There are Lyme disease and co-infection bio-toxins.

So, in taking a case with SIBO and other things, I'm looking for at what level is the problem of toxicity. Is this something that cleaning up the lifestyle is going to do just fine? Or do we need to start doing testing for toxins in the body like heavy metals, like environmental toxins, like Lyme toxins, like mold toxins?

I have a hard time answering that question in a simple way.

Shivan Sarna: That's fine.

The SOD tablets, cytomel liothyronine. SOD tablets, 5 mcg. Cytomel, do you remember talking about?

Dr. Gary Weiner: Yes, that's T3, 5 mcg. So the question is should she increase it or decrease it based on what criteria?

Shivan Sarna: Based on what, Sheryl? Based on what? Okay, come back to us with that.

"I'm so impressed with you, Dr. Gary Weiner [...] It is so helpful." Yes, it's true. Keep the love coming. Come on in! Tell Dr. Weiner what a great impact he's having on you. [01:15:04]

Shivan Sarna: How do you test cortisol?

Dr. Gary Weiner: The best way—there are many ways. My favorite way—not my favorite, I think the most efficacious for a functional issue is the saliva. There are many labs that do it.

And there are two other ways. You can do a 24-hour urine. You don't get the change over the course of a day that you get with saliva. I recommend saliva very strongly.

Shivan Sarna: "It's so confusing about this low stomach acid being controversial. So do you recommend replacing acid?"

Dr. Gary Weiner: Stomach acid, you can become hypochlorhydric or achlorhydric where you make none (but most of our patients just make less than they should) secondary to stresses of various kinds.

So, I recommend supplementing the acids as long as you can't make it and assuming that you tolerate it and it's helpful. It's nice to get to the bottom of it and change whatever is causing that, whatever stress is causing the SIBO. You don't have to take every supplement for the rest of your life.

Shivan Sarna: “What is the best way to evaluate if one is producing appropriate stomach acid if the Heidelberg test isn't available?”

Dr. Gary Weiner: Well, the Heidelberg test is the only real bona fide test that is available. We have one in Portland.

I would say second to that would be a trial of hydrochloric acid where you increase the tablets with each meal slowly until tolerance is exceeded—meaning if you have an uncomfortable feeling, you need to back off. I would say go up to five capsules per meal which is certainly more than is recommended on the label, very slowly. And if you seem to get better and better as you go up and don't get a warm burning sensation—

Of course, this should not substitute for proper medical advice on this from someone that you are working with or consulting with in your particular case.

But this is certainly what naturopathic doctors were taught back in the day and probably still are taught in the medical school, about an informal trial of a routine supplement that's available in every supermarket to see if you tolerate and can keep taking that number of them. And then, at some point, when that mechanism is repaired, you will start to have uncomfortable sensations from this much hydrochloric acid, and you'll need to decrease it.

I hope that that was clear. If it's not, don't do it without supervision.

Shivan Sarna: Okay. “How long would you wait after treating C. diff. to test that it's gone? And would you begin re-treating SIBO again with antibiotics that could trigger C. diff again?”

Dr. Gary Weiner: Well, the recommendations in the literature, UptoDate.com (which all doctors have access to, the Merck Manual) does not recommend retesting for C. diff acty at all because you can still get a positive for some time—and I'm forgetting the amount of time.

Usually, a good treatment, the symptoms will disappear, and you will feel better. And most doctors simply look at that.

Informally, I would say, "Gee, four to six weeks later, let's do a test and see what's happening there." But there is no actual recommendations for retesting C. diff. If you still have symptoms, maybe it's something else. If you have SIBO, then that's there. if you have inflammatory bowel disease, that's there. If you have IBS from factors not related to SIBO—there are other things that can still cause bowel symptoms.

Shivan Sarna: Sheryl, do you want to come in here with one last contextual question regarding the one or two SOD tablets. I don't know if he has information. And I know you've been asking about your kids the whole conference. And we want to help you too.

Let me see...

I think you're trying to find out if you should up your—you've been told "whether I can take one or two, but having been taking one." I don't think we have enough information to help which is the pits because I really want to help. [01:20:00]

Shivan Sarna: Okay! Oh, here we go. "No thyroid. And on Armour. Yes, up the SOD?"

I feel like you're texting me on your phone. I'm not sure what the question really is. No, you don't have a thyroid. You do not have a thyroid gland, thank you. And you're on Armour. And you're trying to figure out about upping the SOD. Phew!

Dr. Gary Weiner: Well, if you're on Armour, you've got to look at your—I forget now if we had a TSH or we knew what the labs were.

Shivan Sarna: I don't think so. I don't think so.

Dr. Gary Weiner: It is possible that, even on Armour—I do this with some patients. We also include a little extra T3 when the case and the numbers support it.

I can't answer that in your case, so I can't give you my stamp of approval, nor would it be appropriate to in this venue.

But it's possible. You should look at adding some T3 to that if you're still having motility problems that you and your doctor think are associated with thyroid and not something else.

Shivan Sarna: "Was on Armour, but now on L-thyroxine."

Last one. "Should HCl only be supplemented with meat meals?"

And everybody, start chiming on the gratitude for the doctor please.

What about HCl with meat?

Dr. Gary Weiner: Well, it is true that the meat digestion, the protein digestion, requires a lot of work in the stomach; that carbohydrates do not. HCl in people with digestive problems and SIBO is usually given regardless of whether it's a meat meal. I would recommend, for people who need this supplementation, to take with all meals—but not without meals. You must have food with it. You shouldn't take it with a one-bite snack.

Shivan Sarna: So Cat is saying about the C. diff. "When to re-treat the..." Okay, the question still needs to be answered about when to re-treat the SIBO after C. diff treatment.

Dr. Gary Weiner: Oh!

Shivan Sarna: Okay, I didn't understand that question either earlier, sorry.

Dr. Gary Weiner: I think you need to wait four to six weeks to see how the C. diff treatment pans out, levels out, what's left. I had cases where the C. diff treatment takes care of the bowel symptoms. And then, there are cases where SIBO remains. Or even where the antibiotics seem to exaggerate the SIBO. In other cases, the antibiotics for the C. diff seem to take care of the SIBO...

Shivan Sarna: Waaa... that's too much!

Dr. Gary Weiner: Sorry...

Shivan Sarna: No, no, no, not you, the whole concept of like it helped, it didn't help... the whole concept. Not you, you're amazing. I'm just saying it's so confusing.

But you guys have a lot of information to take back to your practitioners. If you're interested in working with Dr. Weiner, then go ahead and find him at Pearl Natural—is it Pearl Natural Health?

Dr. Gary Weiner: PearlNaturalHealth.com

Shivan Sarna: PearlNaturalHealth.com. He does do Skype consultations which I would highly recommend. And that's interesting, Gigi. We'll keep that in mind. "Thyroid is a gland that produces hormones. So it's kind of..." I see what you're saying, like a bigger one. I actually have an idea about that.

Okay! Here, Sherry is saying, "Thanks so much. Never thought of my thyroid. Had H. pylori, then C. diff. And then, SIBO. I assumed it was the antibiotics causing the problem."

Okay, Dr. Weiner, go buy yourself a nice late lunch. And we say thank you very, very much for being part of the community. And all of these helped.

Dr. Gary Weiner: No, thank you for everything that you do which is considerable. Thank you very much.

Shivan Sarna: Oh, our pleasure. It's the wonderful team I work with and my sincere desire to be well myself as well as help all of my fellow patients. But really, you know how I felt when I met you and all the other practitioners there in Portland. When Dr. Siebecker introduced me to you guys, I was like, "Uh... I need to get this out to the world big time... hello? This is crazy."

Dr. Gary Weiner: We're waiting for you to move here.

Shivan Sarna: Alright! I'll be right there. Okay... mwah! Thank you sir.

Dr. Gary Weiner: Bye bye.

Shivan Sarna: Thank you very much. Bye bye.

Dr. Gary Weiner: Bye bye.

[01:24:55]