

The Primal Blueprint Podcast – Episode #19: Solving Leaky Gut with Steve Wright

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Brad Kearns: Mark Sisson. Thank you for joining us again with another podcast. We are mixing it up as promised with another interviewed guest. A very interesting topic, solving leaky gut syndrome. We have Steve Wright joining us so thank you very much for joining us, Steve. Steve is the co-creator of the Solving Leaky Gut program.

Steve Wright: Thanks for having me. I am excited

Mark Sisson: Yes, I am particularly excited about the conversation today because I've been dealing with leaky gut my whole life. I didn't realize it at the time. I just assumed that my GI problems were a result of my Type A personality or maybe a couple of wrong food choices here and there, but as I look back over my life, I recognize now that I have been dealing with leaky gut. Because you are the expert on today's show, Steve, tell us what is meant by the term, "leaky gut?"

Steve Wright: Mark, you just published an amazing article about it. I just want to say how good a synopsis it was. Leaky gut is kind of a slang term for intestinal permeability. So that will be what you'll find in scientific research. And the short story is just that your gut walls are supposed to only allow certain sizes of molecules and certain types in. You might think of it like a cheesecloth. A leaky gut tends to look like a chain link fence, and basically anything can go through. When this happens toxins, food particles that are undigested, bacteria, viruses, any of those things can just leak right through and the immune system gets really angry when that stuff goes through and causes all kinds of downstream effects

Mark Sisson: Okay and what are some of those downstream effects?

Steve Wright: Right away, 80 percent of your immune system is located in your gut. It is right off your gut wall. It is really an important point and a lot of people don't sit back and think 80 percent of my ability to sort of generate inflammatory responses are housed in my gut. And so when those particles go right through there an inflammatory cascade starts where the immune system begins to try to attack them. It also starts to make antibodies which can travel throughout. The inflammation antibodies begin to basically propagate out. So you have local systemic information and then you end up with body-wide inflammation and, of course, it appears at this point, this is just my opinion, but it seems that we obviously have genetic weak links. My family it is heart disease. And other families, its breast cancer or something else. It could be like celiac disease and so when these inflammatory cascades begin to go and propagate throughout the system, it seems to lead towards these chronic diseases. So if you Google "intestinal permeability" in your disease of choice, you are going to find associations of everything else out there from heart disease, to cancer, to autoimmune diseases

Mark Sisson: [00:03:07] You mentioned the term "weak link." I like that. Basically, what you are saying is that if you have a genetic predisposition to something through your family, whether it is heart disease or cancer or Type II diabetes, or there maybe a Hashimoto thyroiditis, or Type I diabetes. This systemic inflammation may help that process along and speed up the fate that you are awaiting because of your predisposition, right?

Steve Wright: Exactly, Mark. It is not that leaky gut is the cause of all of these diseases, or anything like that. But it's it all in association and we are still learning just what the gut does, how involved it is with all these diseases but it definitely appears that, from all the research so far, if you want to speed along heart disease, the best thing you can do is wreck your gut.

Mark Sisson: When you wreck your gut and you have that leaky gut, and you have that inflammatory response, that systemic inflammation, then the inflammation sort of goes rampant and if it is going to precipitate itself with messing with your blood chemistry, your blood lipids, for instance, and causing plaque formation, that's where it will go. Or if you have a predisposition toward thyroiditis, for instance, and you stuck something on the cells of the thyroid may imitate or look like food particles that got into your system that your immune system is set up to response against, it would go attack your thyroid. Is that sort of an accurate assessment?

Steve Wright: [00:04:50] Yes. You are actually starting to speak about molecular mimicry and what can happen with autoimmune disease where Dr. Alessio Fasano, one of the top researchers for celiac disease in the world who discovered zonulin which is the number one signal that makes your gut leak. So he is pretty much the go-to guy for leaky gut research and how it all works. He basically says in order to have autoimmune disease; you have to first have leaky gut. You have to have intestinal permeability. So what he is saying if you have Hashimoto or Graves or any other autoimmune disease, you have to have leaky gut to begin with. I am not sure if you still have it, even though, you may have the disease now. That is the first step and these inflammatory cascades begin to go throughout the entire body, and there is a lot studies about depression and about 30 percent or so of people could have depression related to leaky gut. There is inflammatory cascades theory of depression now. Anyway all of this inflammation and all of the issues that cost the body more resources. One of the number 1 ways to turn off the inflammation is through hormones, especially those like cortisol. Cortisol gets kind of a bad rap. I like to never really talk about hormones as being good or bad. We need the adequate amount of every single one and the right time. Cortisol is really an important hormone for turning off inflammation so if you are having all this chronic inflammation on your immune system, your system is going to get out of whack and your hormones to regulate the immune system so at the same time of this sort of chronic inflammation that is increasing your risk of wherever your weak link is, you begin to burn your resources that would typically make you feel vibrant and alive, you have a great libido, and so that sort of just starts this chronic health slide

Mark Sisson: So the release of cortisol is the secondary effect of this inflammation or this leaky gut that leads to systemic inflammation that leads to a cortisol response which maybe could manifest itself in adrenal insufficiency later on because you are taxing that system. You are using those resources, as you said.

Steve Wright: That is it exactly. One of the latest research studies I saw was that cortisol potentially changes up two thousand epigenetics which is in the immune system. So we don't know exactly how it plays but, in general, it is thought that cortisol is begins to turn off that inflammation. Like you say, if the cortisol is being up-regulated all the time, to turn off this inflammation, you could end up in a situation where the adrenals do get over-taxed and if you are anything like Mark or I you trying to do things with your family and friends, to build a business or have a great job, and maybe play some sports and so that is just another chronic stressor on the cortisol pathway that can lead to extra health issues

Mark Sisson: [00:07:54] So back to leaky gut. This molecule zonulin. Talk a little bit about zonulin and what we know about it.

Steve Wright: Yes, sure. So my understanding of zonulin right now is that is the number one signal for the tight junctions, whether they open or close. So your cells in the body aren't just like people standing in a line side by side. They have to be connected so they don't fall out of line, basically. So there is in the intestinal line several junctions. The most important one and the one at the surface, is the tight junction. That one is the one that is going to regulate whether or not things get in to the body that aren't supposed to be there. We used to think that the tight junctions were what they call like a wall or a gate where nothing was supposed to get in. It is kind of like a medieval defense mechanism where the tight junction and zonulin were there to make sure that nothing went between the cells. Now we know that actually our guts are supposed to regulate based on different things. For instance, if we get really get really high, actually, the tight junctions begin to open up and the zonulin is part of that signaling pathway. It is the number one signal we know of right now that begins to open up those junctions and if you want a good analogy to picture how those junctions work, it is like shoe laces. You can tighten your shoe down and all of the shoelaces are overlapping and the holes get really small and then, obviously, you can loosen your shoe laces and they get very wide. It is like a common analogy that Dr. Tom O'Brien tells a lot. It is a common analogy that is really useful here. So zonulin really controls that spacing and so I think that it is really important to have good zonulin control. We know that with people with celiac disease, that they have an over-expression of zonulin that is extremely high. They don't necessarily know how to turn it off yet, or if it actually does get turned off. It is very important in this whole conversation.

Mark Sisson: [00:09:51] So what is it that effects the release of zonulin? What are there foods, are there conditions, is stress a factor? What is it that would cause the zonulin to go haywire?

Steve Wright: Right now, the research team that we hired as well as I have been looking in to this in the last year. We have identified 19 triggers, pretty much proven, at this time, that trigger leaky gut. They would begin to cause zonulin issues. Obviously, this is going to change. There will be more in the future. You mentioned that stress, GI infections, any sort of trauma or damage to the gut lining. Some common ones that people really don't ever think about are things like chronic NSAID use. Reaching for Ibuprofen and Motrin on a regular basis for the weekend warriors or people with PMS. That is a big no-no. Actually, this one is not getting a lot of play yet, but traumatic brain injuries. That includes concussions and so for my self, I have had 6 or 7 really bad concussions. Once you begin to have those sort of things, you immediately cause issues with the gut barrier and how leaky it is. You mentioned gluten, gliadin. There was a study that showed that that essentially begins to cause intestinal permeability through zonulin release in celiacs and non-celiacs. That came out a few years ago. You want to definitely remove grains, if you haven't done that yet. I am sure that most of your podcast listeners have already done that with the Primal Blueprint. Then, of course, alcohol, sleep deprivation, things like that are also huge triggers of zonulin and leaky gut.

Mark Sisson: [00:11:26] Now alcohol. So that is a favorite new subject of mine because I am known for being a proponent of a little bit of red wine on the Primal Blueprint eating strategy. I want to know more about the effects of alcohol on leaky gut and you have said at times "excess alcohol," but what does that mean, "excess alcohol?" What is it about alcohol that can affect gut permeability? And is it all about zonulin, by the waySteve Wright: No, it is not all about zonulin and definitely not about alcohol leaky gut expert, but I will do my best based on the fact that, I, too, enjoy some red wine and this is a fascination of mine. So ethanol, obviously, that's what gets us drunk, does just damage the cells, and of itself. There is potential here for Parmesis effect where a little bit of alcohol could maybe help the body at a chemical level as well as reduce your stress. Of course, things like red wine have lots of other nutrients so it is not just ethanol, so there are lots of complex variables to take in to account. We know from the research is that drinking alcohol more than say two glasses a day is going to be increasing your risk of things like small intestinal bacteria overgrowth. That is an overgrowth of the good bacteria in the small intestine that becomes a problem. A lot of people have gas, bloating, constipation, diarrhea, are typically suffering from SIBO (small intestinal bacterial overgrowth). So alcohol is a huge risk factor for SIBO. And then of course, it causes gut damage to the actual cells through the ethanol has the likelihood of increasing leaking gut. There's been no controlled studies like leakiness and alcohol that I have seen yet.

Mark Sisson: I was going to say, with that in mind, I have looked at the studies on red wine, many of which would suggest that people who drink red wine, up to one or two glasses a day, live longer than people who

don't drink any alcohol at all. Interesting studies and fascinating population dynamics because, in many cases, those studies look at what are, overall, unhealthy populations to begin with. So you take an unhealthy population of people who don't drink and an unhealthy population of people who drink a little bit, they find that the unhealthy population that drinks a little bit lives longer. But I suspect there is a lot more going on there. It may be a blood thinning effect. It may be some other factor. It may be the stress reduction effect. But the bottom line is, that ethanol is poison. Ethanol is a toxic substance and interesting that you mention the term as a hormetic or the concept of hormesis which is the concept of a little bit of poison once in a while may cause the body to respond positively. But a lot of poison over time will kill you. Maybe that is what we are looking at with alcohol. So I am now seven weeks into a very very reduced wine intake strategy. I went 30 days without any alcohol of any kind. And then had a couple of glasses of wine at a dinner celebration a couple of weeks ago and then back to no drinking at all. I have to say that my GI tract is working very very well on no alcohol. So whereas there is not much research that has been accumulated on this, my own particular study of one, you know my N=1 experiment, is suggesting to me that perhaps I am a person who probably better off without any alcohol at least in terms of gut permeability. What do you think about that?

Steve Wright: I think what you said is fascinating and I am glad you shared it because I think we all need to be doing more of these N=1 studies on ourselves, because we come in to looking at our own health with variables that nobody else can replicate. You have a different gut flow than everybody else on the planet. You also have a different history of injuries, of how you live your life, how long you've been eating the Primal Blueprint. You have all these different variables that none of us have. So I think that sets us all up for asking the question, regardless of what these studies suggest, when I partake in a certain food or alcohol how does it make me feel? I know, personally, along with you how I do enjoy alcohol. I do enjoy the social benefits of it and I do enjoy the taste and I like what the research suggests about nutrients. But if I partake a little too often, my acne comes back. It comes up slightly but after having basically a pizza face, I get upset even when I get one pimple. So I just like to get something, that once we have been sick, your resistance to these triggers for leaky gut become less. For instance, if you have always had stellar health, maybe you can have alcohol more often than those of us who have been sick and had to fight our way back.

Mark Sisson:[00:16:46] So can you fix a leaky gut? Can you get back to 100% from a damaged gut?

Steve Wright: Yes, I think so. Remember that intestinal permeability will always give me a little bit of it. So it is sort of a myth out there that you can seal this off with brick and mortar or something. That is old thinking. That is what the medical community used to think. There is always going to be some permeability and that is how the immune system is trained. We actually absorb some nutrients in critical periods of time from that as well. The goal is really to cultivate good gut lining, good gut health on a regular basis. Now for somebody who is in alternative health, yes, you can fix this. You can turn this around. If you autoimmune disease, or some of these other digestive issues that are pretty common with a leaky gut, or if you have test results that show it, you start with removing those triggers that we were talking about earlier. Then really focusing on a diet like the Primal Blueprint, removing any other incoming dietary toxins. Some people with autoimmunity should probably try to avoid eggs and nightshades and things like that for a little while to see if they do better. And then you want to try to figure out what the root cause is here. For some people that could be just chronic stress. It could be like long distance running or cross-fitting 5 or 6 times a week, but more often than not, it is typically like a GI infection or some sort of hormone infection, something that needs to be followed with a practitioner. Once you isolate and get rid of it, that is when your health really takes a quantum leap

Mark Sisson: [00:18:25] So is there a test, a true test for a leaky gut syndrome?

Steve Wright: Yes, there are two on the market right now. They both have their drawbacks and so as a consumer with probably not an unlimited budget, you kind of have to budget where you should best spend your money. The lactulose mannitol test which is the old school test. Lactose mannitol are sugars. You essentially absorb them at different rates according to the research but there are a lot of issues with individual gut flora and damage to the gut lining. It is not a perfect test. Then, of course, now there is Cyrex Array No. 2 and so Cyrex tried to sort of solve the issues with the lactulose mannitol test and check to see

about antibodies like LPS in the blood stream which would indicate that your gut lining wasn't functioning properly and immune is up-regulated. So that is a cool new test as well but it is not really proven yet as far as there has been no third party research either comparing it to or saying that it is a great way to do it. What I would say is that you can also just use the research, like I said. If the research and your symptomatology matches leaky gut, you can begin to put the rest of your money in to maybe gut pathogen test or maybe some supplements or something or a better diet to begin to heal it. I think it is very clear, especially if you have autoimmune disease that leaky gut is likely happening

Brad Kearns: Steve, excuse me. What about the quiz that you can take for just the subjective symptoms and health conditions that you might report

Steve Wright: Yes. That is what we tried to do just based on those tests because those tests sometimes are typically not covered by insurance. You are looking at \$150 to \$250 to just find out if you have it. We try to take the research and boil it down to 10 questions and then give people that test to get their own risk tolerance for whether they have leaky gut. Obviously, it is not a diagnosis. It can't give you that. But it can give you sort of a risk factor. If you end up having 5 yeses or something, that is pretty strong, based on the research, that you are suffering from intestinal permeability

Mark Sisson: [00:20:39] You suggest that you started out on the specific carbohydrate diet and that was your initial discovery and pathway into solving the mystery for you and perhaps curing your leaky gut. Is that accurate.

Steve Wright: Before I knew about the primal way of eating and paleo, I was first introduced by the specific carbohydrate diet. I guess the way that I was eating it was not with the dairy and not with the legumes. I was essentially a primal way of eating minus chocolate, and minus red wine and minus starch. I just had extremely bad IBS, gas, bloating, pain, constipation, diarrhea, and in three days just switching my diet stopped all of the acute symptoms and I have spent all of the last six years of asking the question, how can I feel healthier and healthier. Things like my skin didn't respond right away. Several years into that SED, then I found paleo/primal, then I found you, Mark, first actually before paleo. So I started to get these other new nuggets and diet nuggets and two years in I still had acne. I still had random IBS stuff that happened every six weeks and that's when going through \$35,000 worth of practitioners and co-pays and tests, I got the place where I figured out I had adrenal issues. I had three gut infections. I had some neurotransmitters analysis. It's been progress of getting healthier and then turning around and creating things that would have helped me five years ago, to cut that time down. That is really now my mission

Mark Sisson: So your intent is to help other people do what you have done which is to get a hold of your leaky gut and basically fix you gut issues and in so doing, improving all other aspects of your health

Steve Wright: Exactly. I think the gut is the singular point, the most important organ for you to focus on if you want great health. You should be eating, not only for your own self, but I think you should be eating for your gut and you should be living for your gut as well. I think once you lose that, you begin to lose health very quickly. I was just the engineer who was pissed off because modern medicine wouldn't give me any answers. They said I wasn't sick enough. I was 50 pounds overweight. I had a bunch of acne. I had a bunch of depression/anxiety for the first time in my life. They just said. "You are not sick enough for us to do anything." I just thought that was not how I wanted to live my life.

Mark Sisson: [00:23:08] That is typical for the industry, though. So when you talk about taking care of you gut, obviously we can't overlook the microbiome that exists in the gut and the healthy bacteria, so what I am finding interesting now, and I have said for the past year, is that I think the major health initiative over the next two years will be the gut biome. It will be, in general, the healthy gut, but also really specifically looking at the gut biome. The probiotic bacteria that live in your gut and the amazing benefits that they provide when they are healthy and quite the opposite when they are unhealthy, the amount of illness that can happen as a result. Of course a lot of that illness results from the unhealthy bacteria leaking into the blood stream and setting up those systemic inflammations. Where I am going with this is, now we look at,

on the one hand, a specific carbohydrate type diet that looks at eliminating certain foods. On the other hand, we look at resistant starch effect which has arisen recently and the idea that we want to feed the healthy bacteria in our gut these oligosaccharides that exist in certain foods so we want to increase the amount of resistant starch and then, of course, is the whole fog map program that enters here and the assumption by those people that we should eliminate some of those resistant starches for short periods of time. So it is very complex mishmash of possible variables, how does it all work into the program that you have talked about.

Steve Wright: You made a great point, Mark. For five years I have been helping people with this stuff. It is complex and I think, if you can tolerate it, I think a diet that has resistant starch and has healthy biomes. That should be the end goal but the reality is that people might be suffering with damaged gut walls, really bad leaky gut or gut infections and at that point in time, having starch and resistant starch or some of the fog maps, they might not be able to tolerate them at all. And so what we have brought to the Solving Leaky Gut program is this idea of a fail-safe approach. I think medicine thinks this way, too, but as an engineer, this is how we design cars. This is my background, coming from the car industry. You design the tires so that when one bolt breaks, the wheel just doesn't fly off. It will stay attached to the car so you don't die. So in the Solving Leaky Gut program we said let's go for 30 days, removing pretty much any trigger, including things like starch or resistant starches so that we can allow everyone to get the greatest benefits as fast as possible. And then at the 30 day mark, we become an anti-dogmatic program where essentially list out all the rest of the food, including all the properly prepared legumes and raw dairy and things that are very controversial but we were saying, "Hey, look. Test them like alcohol that we were talking about earlier and based on where your health markers were at, based on where your symptomology is at, these can include these as you want. Here's the research. These ones probably don't allow for a lot of nutrition and have more inflammatory factors, but I am not here to tell you that you shouldn't eat them. You can make that call yourself

Mark Sisson:[00:26:34]It is really interesting to me how these variables all play into each individual. Everybody is different and one of the things I try to do with the Primal Blueprint and with Mark's Daily Apple is to educate people enough so they can conduct these experiments. To have people know enough about the potential outcomes of different variables so that when they introduce them, or when they remove them, they understand what is going on. In the context of what you just said, even in my own experimentation, one of the things I recognize about myself and about humans, in general, is that we tend to do what we can get away with. If we are somebody who doesn't gain a lot of weight, we really don't pay that much attention to what we eat, even though other markers of health may be declining because on the surface it would appear in body composition that we are lucky with genetics....we do not store a lot of body fat. We tend to not be so adamant about eliminating certain foods or being so careful about what we eat. We do what we can get away with. Those of us who don't get effected by certain types of food in terms of illness or damage to the system, we do the same thing. So there are a lot of people who can eat gluten. They can get away with eating gluten. I suggest it is not a lot of people but there are some who probably can. We tend to do what we can get away with. In my own case, I know what my limits are when eating gluten. I have a tough time with most gluten, but every once in a while, I'll go to a restaurant and I'll see if I can get away with two bites of a piece of sour dough bread, or something, slathered in butter. Because I sort of have determined where my limits are. But what I have noticed recently in regard to resistant starch is that if I have had a couple of days or nights where I thought I could get away with something, maybe two glasses of wine, plus a little bit of gluten, because I was feeling carefree, the resistant starch doesn't do what it is supposed to do. A resistant starch doesn't fix the problem, it actually exasperates the problem. That may be because on a day to day, or week to week, basis, I am increasing gut permeability rather than decreasing it. Does that make any sense to you?

Steve Wright: Yes. It makes perfect sense, Mark. I think you are right on with the think tank. I think our bodies are infinitely atoned so I really believe that a healthy gut lining is going to be calibrating all the time to its environment which would be the micro flora that we are talking about, manipulating here with resistant starch or just creating a great one. And then the variables. If you are traveling, plus having wine, plus having gluten, you are probably.....there are three stressors right there. So I think there are a ton of variables here that make it very hard to tell exactly what is going on, but I think, without a doubt, what you

are talking about here....I think the problem is here is that we don't what your current microflora levels are. Even if we knew, we don't know if they are optimal, and so when you feed them a bunch of food....a bunch of resistant starch, you are just increasing what is already there. The problem is we don't necessarily yet understand is that good or bad. We know that a healthy diverse robust gut flora is great and we want to feed them but we are not at a state yet where we want to indicate this strain is good and this strain is bad and then when you throw in epigenetics then that really complicates

Mark Sisson:[00:30:14] Right. So what do you think about the taking of probiotics?

Steve Wright: They are definitely part of the solving the leaky gut problem and I think they are great. I think personally, my experience with one on one consulting clients as well as myself, is that soil based organisms seem to do very well, like perscriptisis[?] I think those are really good. I feel like if you are not playing in the dirt somehow, whether you are a gardener or you have your own food source or something. I think that is a really good idea at this point. And then as far as supplementing with them.....maybe trying fermented food. I think supplementing with probiotics is a good idea. But I think definitely when you are talking about fixing leaky gut and have that acute chronic health stage, I think you want to be looking at a multi-strength probiotic like lactobacillus and bifido-factor ones as well as SBO-based products.

Mark Sisson: All the SBO based ones are soil based organisms are in the spore form which tend to survive the environment that a bottle of supplemental probiotics would have to endure on a shelf after manufacturing so that is one of the reasons, myself included, so many are going to the spore forming probiotics. Steve, this is great. This has been a tremendous overview of many of the variables (I am sure there are a lot more.) on solving leaky gut.....in fact you have a program called Solving Leaky Gut. Tell us a little bit about that

Steve Wright: Yes, thanks, Mark. We just wanted to take out and disseminate all this information and make it accessible to non=Ph.D. and non-doctors and as well as saving you time and money and speeding up the process of fixing leaky gut. We have put an innovative program that has a 60-question assessment. Based on the 60-question assessment, looking at your symptoms and your diagnosis, we put you on 22 different healing paths. And so it will cover constipation, diarrhea, and different dietary protocols with meal plans all the way down to your risk factors for potential GI infection or hormone issues. I think it is a very innovative program of that. We know that we are all snowflakes and one size fits all does not work. Trying to create a program that fits the masses is very difficult. As sort of engineers and people that are trying to help other people who are suffering with this stuff. That is what we are trying to bring to the table here at Solving Leaky Gut. We put 600 people already through it for the first 60 days and got a ton of great results with people losing weight, people being able to get out of bed and go for walks with their kids now. We are really excited to share the program that, I think, can speed up the time between finding out about this and really getting your life back....months maybe years, depending on the course you take

Mark Sisson: I can tell you that my life changed tremendously when I finally solved my leaky gut issue. It was the difference between really being cognizant of pain every single day of my life to being oblivious and actually having a great time and enjoying life. I can't stress enough how important it is to solve your leaky gut, if you have one. Listeners, if you want to find out more about the program can go to **PrimalBlueprint.com/leakygut**. Brad, do you have anything else to add?

Brad Kearns: Yes. Looking at that site...just the landing page and reading about it. There is an extensive amount of information just for free. Just scroll along and read what it is all about, especially if you have these vague health problems and have not had success with Western medicine. But as the show host, one of the perks was I get to log in and actually check out the course material and I just have to say you guys have done an unbelievable job. There is so much material there and it is such a comprehensive course. It is really like taking a college course for a semester on this topic that is directed to healing your own body for the users

Steve Wright: Thank you so much. There is 9 hours of information there. We brought in Dr. Tom O'Brien because we knew we needed specific supplement protocols that work in clinical practice. So we did our best to present the information for somebody who has some kids and maybe isn't into the research. But we also brought in the experts that we talk with on a monthly basis and I grilled them to get super nerdy. So you get the best of both worlds. So if you just want the action stuff, the step-by-step handholding, that's the core of the program and then outside of that is really best of the best. The topics first in the world getting super nerdy on the different issues so that's what I think it is a really good program.

Brad Kearns: All right, Steve Wright of Solving Leaky Gut. So take some time and look at that site PrimalBlueprint.com/leakygut. Thanks for listening to the Primal Blueprint podcast with Mark Sisson.

Promo: The first-ever Primalcon New York is coming up soon on June 5 through 8, that is Thursday through Sunday, at the amazing [Mohonk Mountain House](#) in the Hudson Valley in New York. It is only about 80 miles from NYC. It is a beautiful classic New York state resort located right smack in the middle of an incredible state park, surrounded by nature and wilderness. We are going to have an amazing blend of unbelievable food at all-custom primal buffets that the resort is preparing for us, and amazing slate of presenters doing all the educational discussions and physical activities` and all kinds of fun and excitement outdoors like hike through the world famous labyrinth/lemon squeeze up to the Mohonk tower and also an amazing scavenger hunt where we form teams and go through all kinds of assorted team related and physical challenges on the property. There is a beautiful lake there for standup paddling and kayaking and swimming. We are also going to introduce speed golf at the Mohonk golf course. So it is going to be another fantastic Primalcon experience and we sure hope you can join us. For details, visit PrimalBlueprint.com and look for the Primalcon link where you can learn all about Primalcon. The bios and videos of the presenters involved and also a daily agenda of what you can expect at this marvelous life-changing event. Hope to see you in Mohonk, New York, June 5 through 8.