

EPISODE 182

[INTRODUCTION]

[0:00:13.3] AVH: Hey guys, don't you like getting free advice from smart people? I guess that's why podcasts are so great, you can listen to smart people, you're going about your day, you're learning and it costs you nothing. Anyway, that's just my Captain Obvious comment of the day because today's a specially smart guest is Dr. Norman Robillard. He's a microbiologist and a researcher who spent 20 years in the pharmaceutical industry before founding the Digestive Health Institute.

His goal is to develop holistic treatments for digestive illnesses based on actually understanding the underlying cause of the disease, rather than just dealing with the symptoms. He's created this Fast Tract Diet which he's going to talk about in our interview and he also has two books out, *The Fast Track Digestion* books, one, specifically for folks dealing with heartburn and one is for people dealing with IBS.

We get into that, we talk a lot about SIBO, what that is and we talk about the complexities of gut health in general and honestly, every time I go down this road, I'm more and more grateful to the people who do this kind of research. Not just because it helps so many who are suffering but also because they deal with stuff that the rest of us just don't want to, right? Fair warning, there's some discussion about mucus membranes and fecal bacteria and I think the word gas is used about 40 times but it's all for a good cause, folks.

I promise you're going to learn something, this is a deep interview, there's a lot to unpack but it's useful stuff. Here is my talk with Dr. Norm after a brief word about our show sponsor.

[SPONSOR MESSAGE]

[0:01:52.4] AVH: Today's podcast is sponsored by Clean Made Market and the Clean Made Food Fest. Taking place this October 21st and 22nd at the California Market center in downtown Los Angeles. This market plus food fest is essentially a family friendly, health and wellness

lifestyle experience for folks who want to enjoy some healthy food and learn about new brands, products and services for clean living.

The Clean Food Fest is this all-inclusive tasting event that features more than 50 of So Cal's best chefs and restaurants and whether you're Paleo, Gluten free, Vegan, all of the above, this festival has food for you and whatever your preference, the event is judgment free but it's also free of gluten, dairy, soy and refined sugar which I know us paleo folks are into.

Clean Food Fest is basically, it's a great event for people with food sensitivities but just people who love food and like to eat well and healthfully. The coinciding Clean Made Market, it's all about clean living. So attendees can learn about and shop a bunch of sustainable brands, products and services as well as checkout interactive workshops, cooking demos and talks from industry leaders and categories like beauty and wellness, energy and sustainability.

Tech, pets, fitness, I could go on. And, Paleo Magazine is a sponsor of the event so we will have a lounge there so you can come and hang out and say hi to us as if you didn't have enough incentive to go to this already. Yeah, it's going to be great, if you want to learn more or attend this event, check them out online at cleanfoodfest.com.

[INTERVIEW]

[0:03:23.6] AVH: Alright, Dr. Norm, welcome back to the podcast. I know you've been on here before so thanks for coming back.

[0:03:28.6] NR: Yes I was. Thanks for having me Ashley.

[0:03:31.3] AVH: You've got a new host but hopefully I can do it justice so we'll see what we can do here.

[0:03:36.0] NR: I'm sure you will.

[0:03:37.8] AVH: We're here to talk about gut health and SIBO specifically and anywhere else the conversation takes us but maybe before we dive into it, if you can kind of give us a bit of a

warmup and maybe talk about anything new that you're working on, any new research or findings or new developments? Maybe I've changed the conversation, maybe since the last time you were on the podcast?

[0:04:00.1] NR: Yeah, that's a great question. You know, I'm always reading or researching about SIBO dysbiosis, functional gastrointestinal disorders and pretty much anything that my clients have going on. As a microbiologist, I see things through a unique lens and this has helped me greatly over the years developing diet approaches to address these conditions. You know, in my mind, it's mostly all about the carbohydrate intolerance and gas producing bacteria in the gut.

The most important result of my research has been this drug and antibiotic free Fast Tract Diet. If I may just tell you a little bit about that diet because it just kind of frames my approach also when I do consultations. The Fast Tract Diet is to address excess fermentation in your gut.

We think of it as kind of a weight watcher's program for your microbes and so how does excess fermentation occur in your gut? Well, it's mostly due to the mal absorption of dietary carbohydrates and of course, there's a lot of those in our diet in the west. This can overfeed gut bacteria and allow them to produce excessive amounts of intestinal gas leading to many symptoms such as altered bowel habits, abdominal pain, cramps, bloating, reflux, et cetera.

The Fast Tract Diet approaches this problem by limiting the hardest to digest types of dietary carbohydrates, while incorporating pro-digestion behaviors and practices. At the same time, identifying and addressing potential underlying causes that may contribute to bacterial overgrowth.

Having said that, there's still a lot of questions researchers are grappling with. For instance, in IBS circles, there's a debate going on right now about where in the intestines the excessive fermentation is occurring. Is it in the small intestine, right? We hear that term SIBO all the time or could it be in the large intestine as well? A term I coined years ago was LIBO, Large Intestinal Bacterial Overgrowth, which is a little hard to fathom because as you may know, we have something like a hundred trillion bacteria in our large intestine. How could that be even overgrowing more?

You know, there's no question that SIBO plays a role and there's a lot of research to support that but there's some newer research, this one study using kind of a radioactive probe approach and another one using a wireless motility capsule that measures PH or acidity changes in the intestines.

Their results suggest that excessive fermentation in the large bowel, this idea of LIBO might play an even more important role. I'm interested in following this research and actually contributing to answering this question.

The good news in our case is that regardless of which it is, the Fast Tract Diet approach will address both because it basically limits these fermentable carbohydrates and improves digestion. So that whether you have bacterial overgrowth in the small intestine or the large, it should help to quiet both of those down.

[0:07:08.8] AVH: Okay. I have some questions about the Fast Tract Diet but first, maybe if we can just back up a little bit and speak to me like someone who has no idea about gut health issues and just kind of overview what is SIBO, how does it differ from IBS or I don't know, "generic" gut health issues. Kind of give us the umbrella explanation of what these are and what the differences are.

[0:07:34.9] NR: Sure, in fact, when I work with clients, right? Who sometimes they're in the same boat, they have a lot of symptoms and they're not sure what's wrong. We started with a very detailed questionnaire to collect some background information and then we follow that up with a careful interview to review all of their symptoms, medicines they're taking, supplements.

As well as have a look, at least, talk them about previous tests that they've had and diagnosis. For SIBO, the quickest and least invasive test is a lactulose hydrogen breath test. Actually measuring hydrogen and methane is common these days.

That's typically what – if we suspect SIBO and we want to test for it, that's the test that we would use. Now, it is important to rule out a variety of other conditions, many of those are more serious but that they can present with similar symptoms.

Celiac disease, Crohn's disease, gastritis, prolonged H. pylori infection and then the list gets longer and it's even more technical. Bile acids, malabsorption, we call it BAM. Microscopic colitis that can give you terrible bouts of daily diarrhea, same with clostridia de facie infection, other GI infections. So you can see, there's a lot of other things that can play into this.

You know, you really want to rule those out so that you know you're dealing with SIBO, you know, it's considered a functional gastrointestinal condition. IBS, acid reflux, bloating, things like that. In each case, I do want to learn all I can about each specific case of SIBO.

Which types of gas predominate? Is it mostly hydrogen? Is it methane, is it a mixture because that can have major implications in terms of not only what the symptoms are and explaining them but also how to address those.

Another thing that you can learn from these breath tests is how extensive is this bacterial overgrowth? Where is it? Are the gases being produced early on in the small intestine or later in the small intestine or even in the large intestines. You can learn a lot there.

Another good area of exploration is stool testing. You can look at inflammatory markers, you can look at the digestive efficiency, you can look at microbial diversity and a lot of people I work with the diversity is not weighed down from antibiotics and other drugs.

Can look at deficient species, for instance, people with Crohn's disease, we know they have a deficiency in faecalibacterium prausnitzii. You can look at that, you can look at the presence of specific pathogens, fungi and parasites.

You know, I recently work with someone that had – came to me with LPR symptoms, it's a subtle form of reflux the Ringo reflux but her problem started after a diarrheal illness while she was living in Cambodia five years ago.

I recommended stool testing for her with a parasite panel and it turns out she had been infected with giardia this whole time. That's just a couple of examples of how you have to tease it a part in. Of course, you know, I'm a microbiologist so people sign a consent form to work with me.

Recognizing my background, I'm not a medical doctor and then for many of these things, they'll have to go to their own doctor for the actual test or follow up.

[0:11:01.8] AVH: It's such a complicated issue. I mean, gut health in general, it's even like this conversation we're already having – I can see why people who are suffering gets so frustrated because there are so many ways that this could go wrong, there are so many problems you can have, it's so layered and it's so complicated. I guess, one question that I have is for people who are dealing with these functional, like you were saying –

SIBO and IBS and things like that. What are some symptoms that are maybe specific to SIBO that help people determine before they have medical intervention? Like what some of their issues are. Or is it a case where if you're suffering, sort of chronic or even severe, acute gut issues that you shouldn't really be trying to self-diagnose and figure it out on your own. Do you need to go right to a doctor and have them start to help?

[0:11:53.3] NR: Yeah, there's a lot in that question. How to deal with SIBO before medical intervention or if you find that something more is going on. We talked a little bit about that. We do hope that people that come to us that we work with that they've read one of our books such a *Fast Track Digestion Heart Burn* and we have *Fast Track Digestion IBS* as well.

Those both deal with SIBO and dysbiosis. But read one of our books or even consulted with us before going on a whole bunch of drugs and antibiotics. Because those treatments almost never solve the problem and it can actually make it worse, unfortunately, in the real world, this is often not the case.

You know, it's my view that a science based diet with behavioral intervention to optimize digestion should really be the first line of defense for these functional GI conditions. Not the last. Unfortunately, it's reversed in the modern world. In my mind, it's very simple that most people with these conditions, SIBO, dysbiosis.

They have this excess bacterial growth with lots of these gases, hydrogen, which can cause diarrhea, methane, associated with constipation and so forth. The typical western diet is often to

blame. You know, sometimes it's not more complicated than that. Easy access to a lot of carbohydrate based snack foods and I've heard you talk about that before as well.

The modern diet and the western diet. You know, I like to start with keeping it simple first and see if some of these basic interventions can make people better and a lot of times, that's all it will take. You know, doctors should be more up on this as well because there's a common text book used to train doctors called *The Text Book Of Primary And Acute Care Medicine*.

They recommend controlling intestinal gas, which is at the bottom of a lot of these problems, by restricting fructose, fibers, resistant starch and sugar alcohols. It's interesting that those are the very same types exactly the same types of carbohydrates that we focus on in the Fast Tract Diet.

[0:13:56.8] AVH: Right.

[0:13:59.1] NR: We take it from there, if we see some deficiencies in diversity which is very common, another approach we use is the idea that a diverse diet promotes a diverse micro biota. But the regimen that we use focuses on low FP vegetables, fresh herbs which also are low FP. Some fermented foods, some lacto-fermented pickles or kimchi or so forth.

As supposed to the high fiber approach that's commonly recommended. We also use intermittent fasting as another way to basically give your microbes a break, improve your motility and increase diversity.

[0:14:36.2] AVH: Okay, there's two questions there that I want to get in to. First is that we were talking about, you mentioned and I read one of your blog posts about this, diet that limits fermentable carbohydrates before you get into antibiotics and drugs and things like that. Can you just kind of spell out a little bit more clearly what fermentable carbohydrates are versus the kind of carbs that we would want to be eating.

Also, I guess, in case people make it a little confused between fermentable carbohydrates and fermented foods, what you're saying are a good thing and I know are very popular right now to deal with gut health.

[0:15:11.9] NR: Right, people do have questions about that. The term fermentation, that relates to bacteria or fungi and how they break down carbohydrates in the absence of oxygen. As you know, our gut, for the most part has very little oxygen, there's almost none in the large bowel and small amounts in the small intestine.

These bacteria have to get by consuming these carbohydrates and some amino acids from proteins in our diet. Mostly the carbs, they have to break that down without oxygen and so that process is called fermentation.

Now, the same process occurs when you make lacto fermented pickles, you get the mason jar, you add some brine solution, right? To keep the bad strains from growing, you put in your cucumbers and you screw on, the mason jar cover with the fermentation lock on it.

That's because we know these lactic acid bacteria that are going to break down the carbohydrates in the cucumbers, they're going to produce some gas and that needs to escape because otherwise, the whole bottle can blow up.

That has to escape through this fermentation lock without letting the oxygen back. We're mimicking the gut in a way. In fact, it's interesting a lot of the same lactic acid bacterial strains that you use making pickles, they're on the skins of the cucumbers right out of your organic garden. Those are the same strains that are in your small intestine and that's why you know, lacto-fermented pickles are considered to be gut healthy.

It's a very similar process. Now, there's fermentation outside the body in these vessels, same with making yogurt. You're fermenting these carbohydrates and then you're consuming the fermented food afterwards, a lot of the carbohydrates are already used up.

The bacteria fermented them outside the body. Now, what we talk about with the diet is very similar but it's fermentation with a much more diverse set of bacteria that's happening in your intestines. It's the same way that feeding on carbohydrates and some nitrogen sources.

You know, there's some amino acids from proteins you eat, some lactic acid which is part of the mucus that your body produces and also feeds these microbes. They're still fermenting these substrates and they're producing end products.

Lactic acid, butyrate, propionate and also gasses, hydrogen, carbon dioxide. Then in the case of these anaerobic organisms that are there, many people have a very high number of these, they're not bacteria but they produce methane from hydrogen.

You've got that going on but that's essentially the difference between fermented foods and then fermentation in your gut. With the diet, we're trying to limit how much of that fermentation goes on in the gut.

A lot of the people out there that are in these fields and looking at how bacteria multiply and grow in the gut, there is a prevailing idea that we're not feeding these bacteria enough that we need to have more fiber and more carbs and we're starving them and that's the big problem, we don't get enough fiber, right?

I really think that first of all, you study ancestral health, right? Our microbiota is not the same as it used to be, that's one thing. Preservatives and antibiotics, we don't have the same complement of strains anymore and so just blasting fiber and a lot of fermentable carbs, I'm convinced is part of the problem, not the solution. The other thing, again, getting back to our ancestral roots.

You know, we used to have to work to get our meals and to kill an animal and to find some plants we could eat. There was a lot of intermittent fasting. We weren't eating all the time. Now, we have such easy access to food that we can just go to 7/11 and buy a bag of chips and some ice cream and all kinds of stuff.

I think we're overfeeding these microbes and that's why we have so much gas and people come to me complaining of, "I'm just so bloated, I can't stand it and everything bloats me." Well, one of the first things I do is they start a diet log and I really want to see exactly what they're eating every day and what these symptoms are because typically, overeating and especially carbohydrates that are fermentable by these bacteria is part of the problem.

[0:19:34.7] AVH: Okay, you talk, you mention fasting and that is obviously such a hot topic right now, it's getting very popular in our world and in the world at large. I have heard people say that fasting gives your digestive system a break and then alternatively, I've heard people say that that's not a thing, your digestive system works. If you're healthy, it doesn't matter, it doesn't need a break.

I know that it's also you know, variable depending on the individual and how they handle eating and food, what their lifestyle is. Are you saying generally that fasting or at least kind of maybe playing with the idea of fasting, is something that could be good for people who have gut issues?

[0:20:14.5] NR: You know, honestly, I think it's good for anybody and everybody. I really do and it's part of our protocol every time we work with someone. Intermittent fasting, I mean, in general, it's just so good on so many levels, it reduces inflammation, oxidative stress. Promotes fat metabolism, shifting us towards ketosis, it helps the brain, Parkinson's, Alzheimers, epilepsy, there's a lot of really exciting work going on in this area and I'd recommend people, if they're interested, a good video on YouTube is to watch Dr. Mark Mattson.

He's from the National Institute On Aging and watch his TED talk, it's fascinating stuff. Now, getting back to the gut, right? There's all those different things that may help and it looks like it does help. I mean, we, as we mentioned before, we have evolved with regular fasts.

Simply based on seasonal availability of foods and other variations and food availability. While studies in humans, at least from the perspective of gut microbes, are a little bit limited at this point. There is some work on mice we can talk about but first I wanted to just touch on one study from a really interesting research named Maline Rimley. She's Austrian and she published a study in 2015.

I can give you the citation to put in your notes if you want but it's called *Increased Gut Microbiota Diversity And Abundance Of Faecalibacterium Prausnitzii And Akkermansia After Fasting: A Pilot Study*. That's one of the organisms we talked about this deficient and Cronos.

And, another really important gut microbe, Akkermansia – Akkermansia muciniphila is the most important species.

Those two bacteria are really interesting because they feed on and they live on the mucosal surface. You know, you may have heard of this, there's these fecal microbes that are associated with the fecal material and they kind of move through.

They have to keep reproducing because otherwise it will be gone, they're on the poop and they're moving. But there's a whole other population of really important microbes that live on the gut lining and they're very adapted to attaching to the mucus that our intestines produce and feeding on it. After all, that's 80% carbohydrate but it also contains a nitrogen source.

It's a complete food source for some of these microbes. Akkermansia muciniphila. You can put mucus in an aca plate, they will grow completely fine. What she found was that people that fasted, they had an increase in overall diversity. Especially in abundance of these mucus associated bacteria which makes perfect sense, right?

If you take away the two basic food sources. What we eat that's feeding these bacteria and the mucus that our intestines makes to feed them when we don't, or when we can. That is a really, a lot in that, that's a pilot study, it's not a huge number of people but it's really an interesting read.

There's a couple of other studies in mice, there's one that was published on Nature Communications a year or so ago, showing that caloric restriction increased lifespan of these mice, we already knew that, right?

[0:23:21.7] AVH: Right.

[0:23:22.3] NR: It changed their microbiota, there were more lactobacillus strains, those are the bacteria we were just talking about in your lacto fermented pickles. It also reduced serum levels, right? Blood levels of lipopolysaccharide or at least a binding protein of the cell PS and that's a marker of inflammation, right? If some of these bacteria that make this – it's kind of a cell surface molecule, lipopolysaccharide of gram negative or certain type of bacteria.

When you're finding those markers or something binding to that in the blood stream, it means some of that's getting out of the gut, leaky gut. Then just a year later, there was another study that showed that intermittent fasting promoted – I think this gets to one of the points you brought up – promoted bacterial clearance, right? You wondered about that, it makes sense if you stop the feeding a little bit, you're going to start clearing some of these organisms out and you don't have to worry about them all going away.

It's good once in a while, I think you get some of your motility going and clear these out and it also increased intestinal IGA production, right? Your intestines secretes these secretory IGA that helps balance the microbes, good from the bad.

This study was done in mice that had been infected with a pathogen call salmonella type femirium. In that study, that was under a situation where there was duress, there was actually a pathogen that was infecting those mice.

You know, there's a lot more we need to learn but there's no question in my mind that fasting is a good thing and we should all be doing it. You know, I personally – I don't even eat breakfast, I almost never eat much of anything before lunch or even later.

[0:25:02.9] AVH: Yeah, that's what I was going to say. What would your, I mean, again, this would be individual for people but general recommendations like some people say, you know, just do a shorter eating window. Some people say fast a day a week or you know, what are some general kind of rule of thumb that would work for everybody or to start to kind of ease yourself into that if that's what you want to try?

[0:25:24.5] NR: Yeah, you're right, it is a very individual thing. For me, it's easy to skip breakfast and probably because I eat a lot of fats in the evening and I'm just not that hungry in the morning but for somebody else, it might be a little different and there's different approaches.

One idea is to actually do some fasts, skip a meal. Some people will fast, you know, I'm thinking 12, 15 hours, if you skip breakfast, that's what you can get to. Some people will fast for 24 hours. I recently did an interview with Rebecca Coomes with her gut healthy website in Australia

and she goes on some pretty long fasts, so I was at an interesting discussion with her about that.

There's other people that recommend at least, giving your migrating motor complex, right? Term – I think that was coined by Dr. Mark Pimentel, he just signed on a lot of work on that. Giving this migrating motor complex more time, give it a window to clear out some of these microbes between meals so four, five, six hours between meals.

Even if it's not a fast, at least, you're not just eating all the time. There's some good books out on it right now and I probably recommend some people – Jimmy Moore just came out with a new book on fasting, read some of those books. I plan on reading more of those myself but definitely introduce some fasting and some breaks in your eating schedule, that would be my advice.

[0:26:39.6] AVH: Okay. You also touched on another kind of eating plan that's super-hot right now and that's Keto. I think my question for you is, is there a general style of eating you recommend when people are starting to try and take these steps themselves, obviously you know, we're on the Paleo Magazine Radio Podcast here. No pressure but is there like a generally like get rid of gluten, get rid of grains, get rid of sugar or again, is that dependent on the individual?

Would you recommend a higher fat, Keto or Keto adjacent kind of diet for most people or only some? What's the general kind of thought there?

[0:27:19.3] NR: Yeah, we could easily do a couple of hours just on that question. It depends on a lot of things, it depends on your age. For me, at 61, I find that eating fewer carbs is better and even if I'm not in ketosis all of the time, I certainly am some of the times. That's a healthy diet for me, not only for my GI issues but also for weight control.

I do tend to gain weight on carbs and a lot of that, you know, I'm an author, I'm at the computer a lot, I don't get as much exercise. I probably should call you and get some sessions in staying in shape.

[0:27:55.8] AVH: Yeah, we could talk about that later, yeah.

[0:27:59.1] NR: One thing that helps me in this situation is to have fewer carbs and the other thing you mentioned is when people are just starting out and they have a lot of problems and I really do think for a lot of people, a ketogenic diet is a great way to start or at least to intervene and really just cut out.

Yes, of course, the gluten's – I don't think there's a lot of people with specific intolerances to gluten. Of course, it might be the resistance starch and a lot of these grains as well but kind of grain free or low grain is a good option.

You know, the Fast Tract Diet though, was designed with flexibility in mind because in your area, right? You're a fitness expert and you've run a lot of races and you train and you work out, there's a lot of people in your area that are carb loading too, right?

Well, you can't tell them to go ahead and do ketosis, they're not really interested in that. There are a lot of people that have a different proceeded or real intolerances to fat. There are some issues that can cause you to have problems with digesting fat and we usually work through those to resolve them.

There are many instances where more carbohydrates in somebody's diet is a better choice for them, for a number of reasons. We like having the flexibility in the Fast Tract Diets. We do tease about the grains, we use this FP calculation that's based on the glycemic index.

Remember, our main goal is not to overfeed the microbes. When I came up with this FP calculation, it was designed using the glycemic index. The glycemic index measures how quickly carbohydrates from any food, go into the blood stream.

Compared to the easiest to digest carbohydrate, glucose, right? I started looking at some of those foods and I was looking at for instance rice. I looked at basmati rice and it has a glycemic index of about 50, 55. Which means that half of the carbs, basmati rice persist in the small intestine for a much longer period of time.

If you compare that to sushi rice or Jasmine rice, those have very high glycemic indexes over over 90. Most of the carbohydrates in those rices is going to the blood stream very quickly and so Jasmine and sushi rice has a low FP, very low for somebody with healthy digestion by the way, a little caveat there.

Basmati, uncle Ben, some of these other rice, there's brown rice, wild rice, they have a lower GI and a higher FP. If you're concerned with too much of this fermentation and gas and symptoms and bloating.

You wouldn't want to eat those other rice, at least you'd want to eat very small portions, eat really slowly and chew really well because it's all about the amoles versus the amoles, the enzyme in your saliva and your pancreas makes a different type of amoles.

How well they break down these starches and there's two different types of starches in this rice. The basmati and uncle Ben's have a much higher percent of a starch called amoles, very hard to digest. It's like a fiber, it's resistant starch.

[0:31:04.6] AVH: See, I always thought, I just want to interrupt before we go too far and I forget my train of thought here but I always thought, maybe, I'm coming from sort of a body building background. I'm also coming from a background where thankfully, I have a healthy gut and I don't have a lot of sensitivities but I always thought that people kind of were looking for these food products that have high resistant starch because that just passes through you and you're not absorbing them on purpose.

You're not taking in those carbs and it's like cleaning out your system and all that stuff. I always thought that resistant starch was a good thing?

[0:31:42.0] NR: Yeah, I think you framed that question well, you're young and healthy and don't have any digestive health issues. More resistant starch, lower GI carbs, those might be great for you. For people where they do have an overgrowth or an imbalance and they have all these gas producing bacteria and they're belching and burping and refluxing and they have diarrhea, their bacteria are out of control.

When you give them low GI carbs, you're feeding these bacteria too much. If they are, we'll get back to our example where somebody does want more carbs in their diet. I'm saying, higher GI carbs and less of the lower GI carbs, of course, not overdoing it to the point where you have blood sugar issues, right?

You have to be responsible for your blood sugar and that's why in my books, even when I do recommend or not even recommend but suggest recipes that would have say, Jasmine rice, it's like a half a cup with a meal. It's not a huge amount.

There is a section in the book where I talk about prediabetes and diabetes and metabolic disorders. You do have to be careful and responsible for your blood sugar levels. All I'm saying is it's an option for people that have excessive fermentation to eat some of those lower FP but still starchier foods on occasion. I personally don't do it that often once in a while at a great restaurant if the bread smells good and it is so delicious, I may just have to have a piece.

[0:33:09.2] AVH: Got it.

[0:33:09.9] NR: Also when you have healthy digestion as you do and as people do when they have these practices and eat this way all the time and they know these behaviors are of eating slowly and chewing well, we get into the whole salivary amylase and why the gene copy number gets some people lots of it and some people little of it. But once your gut is healthy you can tolerate more of these carbohydrate foods. As a rule of thumb to get back to your original question, I always think less is more and that's just my personal philosophy.

[0:33:40.2] AVH: Okay and you touched a little bit on this, what are some of the issues that people may have digesting fat? You said that if generally a high fat diet is something that would be positive for a lot of people but that some people may have some issues. I know a lot of people who were transitioned or they would go from a traditional diet and then they'd switch like that overnight to this super high fat diet and they have some digestive issues.

So what are some issues that people may have if they are trying to transition and they are trying to do this higher fat thing?

[0:34:11.4] NR: Yeah and of course by the way, before we get into that. Some people confuse an effect that carbs are having on them and they blame the fats because the foods get tangled together. So for instance some of the advices, well you need to avoid fried foods. Okay, well what are fried foods? French fries are a fried food, alright that's a lot of carbs there. Fried chicken has a lot, the batter that coats it a lot of carbs there. So you have to ask yourself is it the fats or is it the carbs?

That's the first question but having said that, there are some people that have some issues with fat so anybody that has had the gallbladder out, often times they'll be fine with fats. Your gallbladder doesn't release the bile. The bile helps solubilize the fat so that your lipase enzyme can break it down right because if you ever had olive oil and water and a bottle shake it up they separate right? The bile would help mix that up so that the fats can be digested.

So people with their gallbladder out instead of releasing the bile and boluses when they have a meal, it just drips out into the small intestine. That's still enough for most people and usually most people with the gallbladder out can digest fats but not everybody and some people can have issues. Another issue would be any kind of issue with the pancreas. Pancreatitis would be the most common one because the pancreas releases the digestive enzymes.

Amylase, Lipase and Protease right? So Lipase that is the enzyme to digest fats and so if you have a pancreas issue you might not be releasing adequate amounts of lipase. But even 10% of the normal amount of lipase is enough to do the job. So it would probably be a pretty severe case, people with cystic fibrosis. The little ducts at the tips where the pancreas actually releases these enzymes can get plugged up with mucus. So people with cystic fibrosis they have to be almost always on digestive enzymes which include lipase.

One more problem that you can add to the list is people that have a lot of active SIBO, a lot of bacteria in the small intestine, if you have the wrong bacteria there, your bile tolerant bacteria that normally reside in the small intestine that get along, play well with bile. If you get bacteria from the lodge file that some of those strains can be de-conjugate bile acids. So they alter the bile acids in such a way that they are not effective for the fat digestion.

So in all of those situations people may notice that they have over symptoms of fat maldigestion if they have a lot of fat. So greasy kind of sticky stools, maybe some oil in the toilet bowl and also sometimes kind of the yellowish material orange, yellow material that burns on the way out that's bile being malabsorbed. It's a condition called BAM from Bile Acid Malabsorption. So these are things that we get into with people depending on what the situation is.

[0:37:17.8] AVH: Right, we've covered this, in your line of work you can't be squeamish right? We are covering bile and fecal bacteria and gas, thank goodness you do what you do so we don't have to think about it. I really appreciate it. I thank you on behalf of everyone because this is some serious stuff we are getting into. Okay so I want to ask another question, Fast Tract Diet. You have two books that are one, correct me if I am wrong is specific for heart burn issues and one is IBS right? Is that the two major topics?

[0:37:51.2] NR: Correct.

[0:37:51.5] AVH: Okay, so is it fair to say that maybe there are discrete issues that cause one or the other or is it frequently that it's both? Why would you split it up that way into those two kinds of categories?

[0:38:07.3] NR: Yeah, that is a very good question. Well the first book *Fast Track Digestion Heart Burn*, that is my second book on heart burn and that was kind of a pet topic for me because I happen to suffer with chronic acid reflux for 15 years. Even while I was working in the pharma biotech industry, I had no idea what was causing it. It was frustrating and it was very challenging but I just didn't have any idea. I never really thought much about it.

So only after I just happen to go on a low carbohydrate diet, on the recommendations of my oldest son, he was a body builder. He said, "Hey dad you need to lose 50 pounds, let's go on a low carb diet and get a treadmill." Two days after I was on that diet my heart burn went away and so that was 14 or 15 years ago. So I have been very interested in that area ever since I came up with a novel theory about what the underlying cause of acid reflux is and again, bacteria fermenting these carbs making gas. It's driving acid reflux like dropping a Mentos candy into a bottle of coke.

That's the theory in a nutshell and it literary is challenging, 50 years of dogma that suggested these other causes trigger foods, the sphincter muscle on top of the stomach spontaneously relaxing and that went on for 50 years. I am challenging that and that's why we are in the clinic looking at this more closely. Now, where did IBS come from? Well most people, a lot of people with acid reflux or heartburn or laryngopharyngeal reflux, the throat version of this.

They often have some IBS symptoms, half of the people with reflux have IBS and half of the people with IBS have acid reflux. So there's a huge overlap. So my theory connected bacterial overgrowth, possibly SIBO, possibly LIBO or some combination of both. Connected carbs and this overgrowth with reflux but meanwhile, Mark Pimentel, Professor John Hunter, John Hunter in the UK, Mark Pimentel, Cedar Sinai – they have been working for a long time connecting bacterial fermentation with IBS.

So there's a lot of similarities – bacteria overgrowing, producing a lot of gas, causing all of these symptoms. But with acid reflux for some reason that maybe we are not completely clear on now that this gas is translating into the stomach and there are studies that literary show people with reflux have high intragastric pressure in the stomach and then driving the reflux. So there's a lot of evidence that that's going on. But there's also a lot of evidence that these gases, similar gases from these bacteria fermenting carbs can cause other things changes in bowel habits.

People with too much hydrogen, very prone to getting diarrhea, like IBSD – diarrhea predominant in IBS. People that over produce methane gas that is very constipating so they commonly have IBSC – constipation predominant IBS. So they are very similar conditions with a lot of overlap and why some people their symptoms lean in one direction and why some in another direction, you know that's a lot to talk about.

[0:41:12.7] AVH: Yeah, interesting.

[0:41:13.4] NR: And continue to research.

[0:41:15.8] AVH: Right, so we actually reached out to an online SIBO community to ask some questions of you and one of them is related to this. So it is talking about whether the Fast Tract

Diet can help with silent reflux or LPR which I would like first for you to explain what those are and how that maybe relates to the conversation we are having.

[0:41:36.4] NR: Sure, yeah and a huge number of our clients come to us with LPR because it is just a very challenging condition and the recommendation to take proton pump inhibitors is not a good one. They don't work, studies have shown that but I'd still being recommended. But what is it? So LPR, Laryngopharyngeal reflux or silent reflux, it is a very challenging condition where acid but more importantly maybe other components of reflux – and that's why sometimes it's referred to as non-acid reflux – irritates the throat, the sinuses, the vocal chords and potentially even the airway.

There is a strong connection with asthma and reflux and so the symptoms can include just a terrible persistent cough, a very sore throat all the time every day feeling like there is lump in your throat when you try to swallow. Wheezing, hoarseness, post nasal drip, these symptoms especially if they're persistent they can just be very, very challenging. So there's basically four approaches right now for treating LPR. One is this proton pump inhibitors and H2 blockers.

You know they don't work and there's studies that show that they don't work any better than placebo and then there's meta-analysis of all those studies and they come to the same conclusion, they don't work. So why they are still being prescribed? It just baffles me but they don't work. There's another diet out there called a low acid diet approach and that's designed to address this idea that pepsin, a protein digesting enzyme from the stomach, is refluxing along with everything else and you refluxate.

Coming up into your throat and this pepsin is sticking to the issue there and pepsin makes sense it is only active when there's an acidic PH, right? That's why it is active in your stomach for breaking down proteins you eat but when it gets out of your stomach everything would be fine, if it wasn't acidic. So the diet limits acidic foods with the idea that if you consume, like if you eat tomato sauce, it might turn on this enzyme and it would start digesting your own tissue and be irritating.

And so there's that approach, the third approach is actually getting an operation to tighten up this lower esophageal sphincter – that's a group of muscles on top of your stomach. So it's a fun

application operation where they actually wrap you top of your stomach around the LES and put some sutures in there. It tightens it. Then there's also new technologies where they use magnetic rings to tighten it all but they are surgical.

So it is a very invasive approach. It often is somewhat effective for people with LPR. I don't recommend it since it is so invasive but maybe as a last line of defense. But it is valuable I think as a proof of principle, that if you can actually stop the reflux, you can address LPR. So the last strategy and this is what we do is by using a diet that it reduces excess fermentation, reduces the gas and gas pressure that as we talked about my theory is that it is driving this reflux.

If you can reduce that then you should stop reflux itself. So the people that I would with it's very common for them to just a weekend say, "You know what? Well I am not belching, I don't have the bloating" so those are surrogate markers. Even if they still have the irritation in their throat because it is a subtle irritation that can take many weeks and even several months to fully resolve. But at least if those surrogate markers are responding, I will tell them, "You know what? What you're doing is the right thing for this and just hang in and just please don't give up and stay on this strict diet. It will give you results but it takes a little bit of time."

[0:45:28.6] AVH: Yeah, I mean the best options are always the ones that kind of take a lot of consistency and patience right? That's what makes them –

[0:45:35.9] NR: We have a fast tract diet Facebook group. I don't know, close to 7,000 people there on a website, and on the Amazon reviews there are a lot of people now reporting on the use of the diet for LPS. I'd encourage people too who have LPR to read those reviews or join the group and they would get a lot of encouragement from people that are succeeding with this challenging condition using diet.

[0:45:59.0] AVH: Cool, another question that was asked was about reduced enzyme function with SIBO and I guess they wanted to know your advice about whether you advice people to take digestive enzyme supplements? I mean whether that's a good or a bad thing. Yeah, can you comment on that?

[0:46:16.2] NR: Sure and you know maybe a general comment on supplements. You know a lot of people that I talk to and work with the first thing they want to know is, “Give me some supplements. Tell me what to take.”

[0:46:28.4] AVH: Well just like what we just said, it’s like people want to take the pill. They want the easy thing. They don’t want to have to follow a diet for years to get sorted out, they wanted to know.

[0:46:36.2] NR: Exactly and you know that reminds me of some of your other podcast, some of the things you talked about too. People want something that is easy and I understand that but I have people that come to me taking six or seven different drugs. Many of those cause constipation and all of these other problems and they might be taking 35 or 40 different supplements. It’s just not healthy to do.

[0:46:56.5] AVH: They don’t even know what is working and was isn’t at that point.

[0:46:59.3] NR: Yeah and not only that, not all of them are safe, you know I audit drug and diet supplement companies sometimes for the FDA guidelines, make sure they are manufacturing them safely and so forth. And man some of the things I’ve seen tanks of fish oil that you’d be like, “How long has that tank been in there?” “Oh a couple of years.” “Well how do you know it’s stable, I mean these types of fats are very unstable.”

“Well we’ll do an ID test on them.” “Yeah but are you going to do stability testing on it.” So the supplements aren’t always necessarily safe. They are not always what you think you are getting the regulations are not that tight for dietary supplements. So I do advise some caution on the front end and usually my first effort is to reduce the number of supplements people are taking. But there are some that can be very, very helpful but what I like to do is I don’t take that approach where you’re just, “Let’s see if this works. Let’s see if that works.”

I really want to understand what the problem is and then we know what we are trying to do to accomplish. So here’s some situations where you may have an actual deficiency in enzymes. One is, we talked about that a little bit already, pancreatic deficiency right? And there’s some

test that you can look at. Last days is a surrogate marker for the ability of the pancreas to produce these enzymes. There is also the gene copy number we touched on for amylase.

Amylase is an enzyme in your saliva, people who come from areas where they did eat – their ancestors ate a lot of starches tend to have high gene copy number for this amylase enzyme. Up to 60% of this saliva can be amylase enzyme and so they have no trouble digesting starches. In fact it is interesting they also seem to be better able to tolerate the starches in their blood stream and moderate the blood sugar levels in insulin response.

So there are people that are adapted to starches. It's just no question. Other people may have very few gene copy numbers and they could have very little of this amylase in their saliva. That's why even though there is not a commercial test for people to take right now it will probably out shortly but there isn't one right now. So I just tell people in the interim, "Assume your gene copy is low and that you don't have much amylase in your saliva."

And so one thing you can do right away is eat really slowly and chew really well, especially if you have anything with starch in it, maybe 25 bites per chew but supplementing with amylase enzyme is another option for sure. Another common problem is lactase deficiency right? Lactase is an enzyme that all of us have when we're infants and for most of us on the planet, the gene turns off after we're weaned. From an ancestral health perspective we didn't drink milk as adults in most cultures and we didn't need lactase.

But some cultures, northern European people especially had a mutation with a lactate gene, got stuck in the on position and so they are tolerant to dairy, the lactose dairy. Many other people have come from different parts of the world are very intolerant to lactose. So taking a lactase supplement will be a very good idea in those cases and by the way these enzyme supplements are quite safe and none invasive. So I do feel good about recommending those to people.

There's other, you can again tease this thing apart more. There's sucrose and maltase. These are the enzymes on the tips of your microvilli that can get damaged with SIBO and so there are products that you can take to replace those, short of getting a more sophisticated test to actually know if you do. So there's some I really do try to match what's going on with people, with the

supplements and just less willy-nilly. It really try to keep things organized. That is why I keep an extensive call log with people.

[0:50:47.7] AVH: Right, I remember I took a couple of these genetic test where you send in your saliva or your blood or what have you. I guess the jury is out on how really accurate these things are but everything that I have taken has come back saying that I have whatever the gene is that lets me digest lactose, like drink milk basically for my entire life, and I'm like, "Yes finally! I've got something good going for me" I can now take that yogurt and milk for the rest of my life. I don't really have a lot of it.

[0:51:15.5] NR: So Ashleigh what is your heritage?

[0:51:18.7] AVH: I mean it's such a mix. I guess we're all mostly European right? If you're Caucasian but it's a huge weird mix of a million things. I couldn't even tell you what the sort of most common one is.

[0:51:32.7] NR: Maybe you locked out though and you are touching a few things. I mean let's look at dairy for a minute. You can, so if you can drink milk you can drink the toughest of the toughest. It's got the oligosaccharides, it's got a lot of lactose but for people that don't tolerate lactose well. We're still in the Fast Tract Diet recommend small amounts of heavy and light cream because they have very little lactose in them, a little bit but not that much.

Also fermented dairy because what are the bacteria doing, they are breaking down the lactose for you and when you consume yogurt, you are getting some lactase from the bacteria. So they are actually supplementing, that's like a lactase supplement, eating yogurt. So you have to tease it apart but you know even if you take lactase supplement it's not a free pass on dairy for people with GI issues. Because you have to keep in mind what was the purpose of dairy, of mother's milk?

And every species is to feed the gut bacteria of the infant right when it is first developing. So mostly, the development of bifidobacteria in the young infant gut and it feeds on these indigestible oligosaccharides. So when you are an adult, you may not need these oligosaccharides anymore. You have a much more diverse microbiodata but those

oligosaccharides, not just the lactose, the oligosaccharides can feed some of these gas producing strains.

That's why if you look in either the fast tract diet mobile app, which has 800 foods. Or look things up in one of the fast tract digestion books and you look up even lactose free milk – still has three or four grams for half a cup of FP and that's representing these oligosaccharides. It was not just about the lactose.

[0:53:18.7] AVH: Right and then you're getting into the whole conversation like who wants to drink lactose free milk, who wants to eat fat free yogurt and all of these uber processed things that's like a whole other topic anyway. But if you have to mess with something that much to make it edible, let's just move on. There is a lot of food in the world we can eat.

[0:53:37.4] NR: I mean a lot of people probably in our circles that understand that fats are a part of a healthy diet. You know most of us have had to go back to the grocery store because we bought by accident the fat free yogurt, the fat free sour cream and it's just inedible. So back to the store and just forget about it.

[0:53:56.4] AVH: Yeah so okay, the gut as we know is a very delicate place, right? I think I have a lot of friends who have had really long suffering issues with different gut problems. I think one of the most frustrating parts it seems like for a lot of people is that it's so easy, like once they get on the right track, it's so easy for them to either backslide or for there to be flare ups and I imagine with SIBO as well as anything else that there could be a high risk of reoccurrence if you get off track or do the wrong things.

Can you talk about ways to sort of work against that and what kind of testing I guess either with a doctor or on your own, you can do? Maybe during treatment, after treatment – to make sure that things are going the way they're supposed to and then you are keeping yourself on the right track?

[0:54:45.4] NR: Yeah, there's a lot in that question. First of all, people staying on track let's talk about that one. It's interesting that what I find working with people is often times people with the most serious condition and symptoms are the ones that are the most compliant. They have a lot

on the line and they're feeling really sick. So they'll fill out the diet log and the symptom log every night. They'll get it to me the day before the next session and they are very focused.

Sometimes if people don't have terrible symptoms, it is a little bit easier to kind of get off the wagon. But regardless, what I do try to get people to do in our program and that's why most people will sign up for multi session program at least three sessions because then we have – we are spending a lot of time together and a lot of effort goes into very specific recommendations. I want them to really internalize the ideas and I want them to really get better with the approach.

So that it will be a proof of principle and a validation that it works. I don't worry so much that somebody might go and visit their family on vacation and eat the wrong thing and all of a sudden they have heartburn or IBS or diarrhea. Again, I am not worried so much about that but they believe in the tools they have to reverse that. At least they can say, "Well you know what? I know what I ate, I know what the problem was. I understand it now."

"I am looking at the right lens, when I get back on Monday, boy this is what I am going to do and I am going to be all better again." So that's what I shoot for more than, "Oh well let's make sure that you'll never ever have another symptom." I really look for the long term and I have been doing this myself for my chronic acid reflux for 14 years. It does become second nature after a while and also your tolerance improves. So you have a little more flexibility there but you can't abuse it.

If I go off the wagon and off the rails eating the wrong foods for three or four days, I just have to see some breakthrough symptoms myself even after all these years. So it's about learning a new way of eating that's still flexible and very enjoyable. But then it does lean a little bit more animal based diet and a higher fat and it goes away from the starchy carbs and if you do, you just do those low FP ones, using the behaviors we talked about.

And definitely a lot of green leafy vegetables and fresh herbs because there's no question of diverse diet including animal fibers and animal based foods, will give you a more – and help you maintain a more diverse microbiodata.

[0:57:35.6] AVH: That sounds good to me. So we're coming to the end here, we've got to let you go about your day but I like to usually leave listeners with some kind of, I don't want to say easy but high level here are some things that you can really take away from this podcast. If folks want to learn more about your books and what you are doing and get started, they've got some issues they're struggling with, they want to start now.

They are feeling inspired, I think from our talk we could say that we should eat less fermentable carbs, we should chew more slowly, we should eat a healthier diet that you just talked about and read your books, right? Are those your recommendations? What else have you got for us?

[0:58:13.9] NR: Yes, absolutely well summed up. One thing they can do though is join our Fast Tract Diet Official Facebook Group because there's about 7,000 people that are there to give you some advice and share their tips. Of course, it helps when you read the book and get the app because you can participate in the conversation in a meaningful way. But you can also support our mission and that is to get 10 million people off of drugs and antibiotics and onto a more holistic lifestyle and diet.

[0:58:44.1] AVH: Very cool, yeah I think that is something that our community could get on so for sure. And where do people go online if they want to learn more about you, if they want to look into your books, where do they go?

[0:58:55.5] NR: Sure, I talked about the Facebook group. Everything else you can link to or find my blog, the books about the diet, anything like that you can link to the app page or the book page all from digestivehealthinstitute.org.

[0:59:11.2] AVH: Awesome.

[0:59:11.6] NR: Or people can call us at 844-495-1151.

[0:59:17.5] AVH: Oh if people want to be really old school and actually pick up the phone and talk to another human being, that's exciting. Some people still like to do that right? Well I'll definitely going to take your advice on the chewing more slowly because it is funny that you are saying this. So many of these recommendations are simple, it doesn't mean they're easy right?

Like eating healthy, it's lovely. Of course we all want to eat leafy greens and high quality good foods and good fats and we should chew more slowly and just be present and enjoy our food and then I get home from the gym and I am starving.

I don't even remember what I just ate because I am in such a manic rush to get it down, so that is definitely something that I can take from this. So I appreciate it but thank you so much for being on the podcast today. I think we've got a ton of information here. We'll put a lot of this stuff on the shownotes for folks and thanks for all the work you are doing for us.

[1:00:06.7] NR: Excellent. Thank you Ashleigh. Thanks for having me on.

[1:00:09.0] AVH: Alright, take care.

[1:00:09.9] NR: Take care.

[END OF INTERVIEW]

[1:00:15.0] AVH: Alright, that's it for today. Remember to chew your food ladies and gentlemen, just chew your food. Thanks once again to our sponsor, Clean Made Market and Clean Food Fest. This event is happening in LA on October 21st and 22nd. If you want to know more check it out at cleanfoodfest.com and if you go, drop us a note on social media and let us know you're there. You can follow us if you are not already on all the cool kids' social media sites at Paleo Magazine.

So next week, I am talking to the founder of Paleo University, yes Paleo University, an organization with the mission of making real food, eating it, making it efficient, intuitive and convenient. They provide recipes, planning, instruction, education and the community and it's pretty cool. They offer weekly ingredient lists, video recipe tutorials. They teach you cooking techniques and kitchen skills. So it is basically making you more comfortable in the kitchen and also teaching you healthy paleo meals at the same time.

So who doesn't want to go back to school right? Yeah maybe that is not the case but in this case it's fun so it is good. So we are going to talk to those guys next week and I hope you join

us and one last thing, not sure if you are following us on Instagram @paleomagazine but we have recently teased our new issue, the October-November issue which has a pretty sexy cover that is actually not food related. The cover story is on we are calling them “The Paleo Power Couple”, Laird Hamilton and Gabrielle Reece written by yours truly.

So you know it’s a must read issue but if you haven’t subscribed yet, head over to Paleomagonline.com and do it. You really don’t want to miss this issue. It’s got tons of good recipes, workout ideas and this story with Laird and Gabby, they’re two of the most impressive people I have ever met. I know you use this word a lot and it can be cliché but it’s really inspiring like it makes you want to go out and surf and be a footballer or whatever. It is pretty inspiring so you’ll want to check it out. So yeah, go subscribe, treat yourself and let me know what you think.

[OUTRO]

[1:02:15.8] AV: Paleo Magazine Radio is brought to you by the Paleo Media Group and is produced by We Edit Podcasts. Our show music features the song *Light It Up*, by Morgan Heritage and Jo Mersa Marley, and on behalf of everyone at Paleo Magazine, thank you for listening.

[END]