

**EPISODE 236**

[INTRODUCTION]

**[00:00:10] AVH:** Hey everybody, welcome to another episode of Paleo Magazine Radio. I'm your host Ashleigh VanHouten and thank you so much for being here and taking the time to listen and learn with me.

Today, I hope that you are happy and healthy and I hope that your digestion is top notch and I know that that's a weird thing to say maybe, but, I know that gut health is a complicated and an ongoing issue for a lot of people, especially people who have compromised immune systems or a whole range of digestive issues.

The topic that comes up so often on this podcast, I thought it might be a good idea to put together another one of my trusty, best of Paleo Magazine Radio editions, this time, solely about gut health. Now, I've had the good fortune to interview a lot of experts in this field and they're not all going to be in this podcast because it's just kind of like a lot of moving parts but I wanted to put together some key points from those interviews into one easy to digest episode, sorry for the terrible pun. It was unavoidable.

But if you want to go back and listen to any of these interviews in full, I will list the number of the episode so that you can go back and listen on iTunes or Spotify or wherever you listen to the podcast, including now on Paleo Magazine's website, you can just go to [paleomagonline.com/pmr](http://paleomagonline.com/pmr) and listen directly from your laptop.

We're going to cover everything from the myriad causes of digestive issues, how impacts the rest of your health and immunity. Ways we can combat these issues, through nutrition and stress management and talk about probiotics, prebiotics, stomach acid, poop, inflammation, fasting. Why you just need to slow down and chew your damn food and everything that you've ever want to know about your own gut and I really try to pick out some pieces that maybe weren't the most obvious. I think that most of you who listen to this podcast probably know a lot of the high level gut health kind of key factors already but I wanted to kind of bring out some stuff that maybe isn't talked about quite as much. So I hope it was helpful and this is it, coming

right up, after a quick word about our very relevant and health and gut health supporting sponsor, Bonafide Provisions.

[SPONSORED MESSAGE]

**[00:02:17] AVH:** Bonafide provisions is a family owned company founded by a clinical nutritionist that makes real organic bone broth the way it's been done for hundreds of years, using only bones, no filler stock and slow simmering for 18 to 48 hours. Then it's frozen at the peak of freshness and you can try a number of flavors, they've got chicken, beef or turkey, as well as their frontier blend which also includes lamb and bison which you know I'm into.

These bone broths, they make a perfect comfort cup. Like in the morning or the evening, it's a great replacement for coffee or tea, if you're trying to boost your nutrients but cut back on caffeine. They've also recently launched a line of soups that combine bone broth and organic vegetables and they have flavors like butternut squash and creamy mushroom and chicken vegetable, I can tell you're getting hungry, I can just like tell that you're drooling.

I personally love bone broth but if it was up to me to make it myself. I just wouldn't have it as much as I'd like to because honestly, it's kind of a lot of work but Bonafide takes the work out and does it for you and gives you the highest quality bone broth possible. They're going to be even nicer by giving us a discount on any Bonafide products when you use the code, onlybones at checkout. Go to [bonafideprovisions.com](http://bonafideprovisions.com) and order now and you'll thank me later.

[INTERVIEW]

**[0:03:38.1] AVH:** Okay, first up, I had a wonderful time talking with Aglaee Jacob in episode 220. She is the author of digestive health with real food and is a very charming French Canadian and she wrote this very exhaustive book about digestive health that stems from a ton of research and knowledge but also a lot of firsthand experience that she had. She suffered through a number of digestive health issues which she gets into at the beginning of the interview.

But I wanted to share an excerpt from the podcast about stomach acid because it's something we don't maybe talk about as much in the gut health conversation. You know, those random talk now and then about alkaline diets and how to balance your own acidity and whether that's even a thing. Aglaée gives us a clear message about what stomach acid is, why it's good for you, why you need it.

How to make sure your levels are appropriate and more and we also get into everyone's favorite conversation, poop, how to have the perfect bowel movement which is actually something you should be aspiring to. And what your poop is telling you about your health and digestion. This is a very important, very gross conversation that needs to be had and here it is.

**[0:04:43.2] AVH:** I do have some more sort of specific drilled down questions because you have so much great information in here and things that I maybe hadn't heard before or didn't know and I know that if I have a question that other listeners probably have this question too.

I'd love to ask you some of these kind of more specific questions and then we'll see how it goes and kind of like circle back at the end with some maybe some higher level stuff. But one question, the first question I have, I'd love for you to talk about the importance of stomach acid because it's obviously something that's a crucial part of our biology and I think that a lot of people, there's some misinformation about what exactly it does, how to strike the right balance of you know, acidity and alkalinity in our bodies and you know, the idea that if we have acid reflux or heartburn that that's because we have too much acid or I don't know.

I think we're maybe I'm speaking for myself here but I think that maybe a lot of people don't exactly know what it does or how we get this sort of correct balance of stomach acid and why it's important. Can you talk about that a little bit?

**[0:05:46.4] AJ:** For sure, this is such a good question and this is something that a lot of people are scared of like acidity, that sounds very scary and having that in our stomach but when we do eat food, it is so important, especially for digestion of protein to have enough acidity in our stomach and you know, if our digestion system is working optimally, we eat food, there's going to be hydrochloric acid which is the type of acid secreted in our stomach that will be produced and released and that will help the breakdown of food.

Then, there's the whole cascade of things that happen further down in the digestive system that requires to have sufficient levels of acidity in the stomach. When the balls of food that has been churned into the stomach for a few hours, when it starts going into the small intestines, it needs to have the right PH or the right acidity level to tell the pancreas that it's time to release pancreatic enzymes so those enzymes will help further digest the protein and fats and carbohydrates.

Also tell the gallbladder to release the bowel that is so important to emulsify the fats and make them more easily digested and absorbed. There's this whole – that's one part of it, like how stomach acid helps us better digest our food and there's also the fact that stomach acidity is one of the first barrier that protects us against parasites and food poisoning and any – it's kind of the –

If we have enough acidity in our stomach, we'll be a lot less likely to have those parasites and all of those kinds of gastrointestinal infection like the one I got down in South America, maybe I wouldn't have at it if I had enough stomach acid.

I mean, there's still not a ton of study but what we know is that it seems like people who have been on a vegetarian diet tend to not have as much acidity in their stomach and probably because this acidity is required to break down protein and if we don't eat as much protein or as much animal product then the stomach is not required to produce as much acidity and people just end up having less and less, that was myself on the vegetarian diet. Prior to my trip to South America. Maybe it affected my acidity level and made me more prone to having a parasite infection. What else is there to say about it? I feel I could do a whole podcast on stomach acidity. There's that -

**[0:08:19.7] AVH:** There was a diet or something that I heard, it was like the alkaline diet and you eat for alkalinity or like to balance the acid in your body. I don't even know what that means but is that something that you want? Like I mean, you did just elude to if you're eating not too much animal protein then you may have less acid because that's what's necessary in your stomach to break down proteins but would people argue that that's not a bad thing if you're eating mostly vegetables.

Then you naturally have lower acid levels, that's okay. Can you eat for different acidity levels and should you want to or does it just kind of sort itself out naturally if you're eating a whole foods diet?

**[0:08:59.7] AJ:** Good question, yes. It's a bit different, the level of acidity that you had in your stomach are different and what people are usually talking about with the alkaline diet is the PH balance that we have in our whole body, like our blood and all of that which is different than what can be found in the compartment of our stomachs.

Yes, I'm not a fan of the alkaline and acidic kind of based theory of choosing specific foods. I feel like, if we have variety and balanced and base our diet on real food that as little process as possible, things balance themselves out naturally. I think that's something really important to know.

Then, when it comes to the levels of acidity in our stomach. Sometimes are things that we need to do because as we age, if we've been on a vegetarian diet for a long time, our stomach can just lose the ability to secrete enough stomach acid and then as I said, it can cause a lot of problem further down into the digestive system by not digesting food properly which can lead to bloating, which can lead to constipation or diarrhea or abdominal discomfort and all of that.

Also, to malnutrition and deficiencies because we won't be able to absorb a lot of our nutrients as well if that hole cascade doesn't go properly. Sometimes, you know, it can be as simple as taking our time to eat because when we're eating in a stressed state in that fight or flight mode with our sympathetic nervous system activated then our body, the whole digestion system won't work as well.

That includes our stomach not being able to secrete as much hydrochloric acid. Slowing down and taking it easy and stress coping mechanisms can be really helpful and sometimes they can be also supplements and herbs that can help enhance the level of acidity in our stomach. Again, there's also big myth that acid reflux is caused by too much acidity in the stomach but again, it's usually the opposite, it's usually people that have too little acidity in their stomach that have acid reflux.

The reason why is because even though it may seem counterintuitive, it's because the sphincter where it's kind of the little door between the oesophagus and the stomach, it needs to stay shut you know, we don't want the content of the stomach to back up into the oesophagus because of course it will burn, it's not meant to be there. But we need to have enough acidity in the stomach to help that sphincter, which is called the lower oesophageal sphincter, that little door to stay shut and keep the content of the stomach inside the stomach and prevent it from backing up into the esophagus.

Does that make sense so far?

**[0:11:42.4] AVH:** It does make sense and basically, one of the key takeaways here is stomach acid is good, don't be afraid, the word acid sounds scary but it's good and it's necessary. Is there a way to test if you have low stomach acid? If you were saying some of the symptoms could be that you aren't digesting your food, great or that you're having some bloating but those can be caused by so many things, right?

Is there a way to tell if your stomach acid levels are okay?

**[0:12:10.0] AJ:** You can but it's almost never done because there's a Heidelberg. I talk about it in the book, something like Heidelberg, something like that, the name of the test that it can have done but it's usually very expensive and most doctors are not even familiar with it. I found out what's the best way for people to test is by supplementing with it. If they see improvement, that is probably because they were low in the first place.

That's usually what seems to be the most – what the best cost-benefit ratio.

**[0:12:37.9] AVH:** Got it, okay. I guess the other takeaway is you know, if you're doing what you can to eat a whole foods diet that is, like, nutrient dense diet that is like nutrient dense and all of these great things that your stomach acid kind of just takes care of itself, it's not something you really need to be overly concerned with, right? Your body kind of knows what to do.

**[0:12:56.1] AJ:** Exactly. If you have those digestive issues and suffer from malnutrition then you may feel like stomach acidity may be more of a problem and for certain people, they just need to supplement and do certain things to optimize their acidity level, their stomach acidity level for a little while, for a few months and then the body just learns how to do it on its own again and there's no need to supplement for the rest of their lives. It can be a temporary adjustment.

**[0:13:25.1] AVH:** All right, we talked about stomach acid, now I want to talk about poop because that's very important and it's something that we all have in common and it's a very good indicator in many cases of how your digestion's doing and one of the things that you talk about in the book, you did sort of your own version of the Bristol Stool Chart which I first saw, I think it was in Paul Check's book but it's basically sort of a chart, like outlining the different kind of ways your stool, your poop, can look and what those things are indicating and there's like sort of an ideal bowel movement, right?

I'd love for you to kind of, as fun as that is, I guess this isn't exactly a visual conversation but if you could kind of just talk us through that a little bit and how we can use this information that we're getting every day to help identify maybe what our issues are and also talk a little bit about like what's normal in terms of frequency because I always thought that it was sort of whether it's once a day or three times a day or every other day as long as it's sort of regular for you, that's okay.

Yeah, just talk to us a little bit about poop, please?

**[0:14:32.5] AJ:** Yeah, for sure. I'm known to talk about poop, [inaudible] with poop emojis on it. Yeah. I have a three year old and that page in my book, it's his favorite page for sure. Talk about it all the time. Anybody who is listening, you know, you can google Bristol Stool Chart and you'll find many different variations of that but it usually, it always ranges from type one to type seven.

There are seven different types of poop that we can have. Type 1 is kind of the rabbit pellets like very dry, small type of poop and as we go to where it's number three and four, it's like formed, more like a sausage, that kind of poop then if we go you know, to five, six, seven that it become looser and looser until it reaches number seven when it's completely kind of liquid.

Hopefully you people are not listening while they're eating or something but –

**[0:15:35.8] AVH:** Well, you know, it's something we're all familiar with whether we like to talk about it or not.

**[0:15:41.8] AJ:** Just the consistency and appearance of our stools is a great indicator of how things are going, usually if we have type one, type two, those drier can be harder to pass, it's usually more on the constipation side and looser can be more diarrhea but a lot of people can fluctuate anywhere between that.

As you may have guessed, somewhere in the middle is optimal. A type three or four where it is formed, doesn't break apart, it's kind of a sausage, it's easy to pass and eliminate, that's kind of the ideal. Another thing to look at when we are looking at our stool is the color, it's usually you know, brown color but sometimes it can be, if it's a lighter in color, kind of chalky color, it can indicate fat malabsorption.

Especially if the stools are floating and if you notice kind of an oily appearance and sometimes the smell can be quite unpleasant if there is fat malabsorption and this is something I mentioned because a lot of people who go on a paleo diet or on a higher fat diet may have that at the beginning just because they increase their fat intake so quickly and their body doesn't have a chance to adjust and their bowel, the gallbladder, there is not enough bile released to adjust for that. Sometimes just increasing your fat intake more slowly can help prevent that.

It is also important to look for any undigested pieces of food in our stools because that clearly indicates that your digestive system is not breaking down food as well as we should. And just one thing that I want to mention, not necessarily related to poop but a lot of people don't chew very well and they eat very quickly and they eat while they're being distracted and we don't have any tooth in our stomach or in our intestines. So it is very important to make sure that we chew properly in our mouth.

But then even people that are chewing properly and there are undigested food particles in their stools that's a clear indicator that you're actually throwing the money you're investing in your organic quality food. It's actually going into the toilet actually part of it so that's why it matters so

much to pay attention to your poop because it is not only in your health, it is not only about the food we eat. It is about the food that we're able to absorb and that has a lot to do with the health of our digestive system.

And then in terms of frequency, yeah, some people think, "Okay, I'm regular. I go every two days or every three days," But I am regular but it's still not enough. Ideally, we would like to have between one and three bowel movements every day. So that we make sure that we are not keeping in any toxins and waste in our body for too long and that we move things through our body on a regular basis. That's the optimal, yeah.

**[0:18:40.1] AVH:** All right, next up, I spoke with Dr. Sarah Ballantyne, everyone knows who she is, the paleo mom, she is a huge force in the paleo community and her recent book, *Paleo Principles* is an absolute behemoth of a book that covers everything you can ever hope to learn about your body, its processes, how it works, how to keep healthy, everything about what our body is supposed to do and eat and how you're supposed to feel and how to just optimize your overall wellness and enjoyment of life and you just have to listen to this entire episode.

It's Episode 213. You'll see, Sarah can fit more into a few minutes of conversation than many people can fit into an entire book so having her speak for an hour or so is basically priceless. In this section that I pulled out, she talks about inflammation as it relates to the digestive system and overall health.

Now, this is just the tip of the iceberg in terms of how to manage your health but it's a very clear, accessible snippet that kind of gives you information that you can literally start using this very moment in moving your life forward to being healthier and happier and have better digestion. This one's really efficient, really useful and I hope you enjoy it.

**[0:19:50.8] SB:** Why do you want to lose that last 30 pounds? You have an idea that your life is going to be magic unicorns and rainbows and then you are going to live forever when you lose that 30 pounds.

What that really implies is that health is actually and lifelong health is the number one goal and you know yes, it's wonderful to feel confident in a bikini but is it worth being sick or is it worth

taking years off your life and most people would say, "Well no. I would far rather be healthy than thin if I had to pick one or the other." But the great news is typically you don't but we want to get healthy to get thin not get thin to get healthy.

**[0:20:28.5] AVH:** Yes, okay one last question that I want to touch on because I don't want to keep you here forever but it is something that you talked about a little bit and I'd like you to get into a little bit more is the concept of inflammation and how that relates to health, autoimmune disease but generally just health in general because I think one of the things that again, this is about balance but I always found this one particularly overwhelming for me as somebody who has an athletic background.

And likes to work out a lot and the more I read it seems like almost everything can cause inflammation like too much exercise, not enough exercise, poor food, too low calories, too high calories, there's not enough sleep or maybe even sleeping too much. I mean it seems like everything causes inflammation, so I'd love to and I guess one of the answers is eat more vegetables but what are some ways to address minimizing inflammation in your life but not obsessing over it too much because I am worried like, "Am I working out too much now? Should I stop working out? But then I'm stressed out because I am not working out enough and am I eating enough?" You know?

What are some ways to really address this and recognize maybe the symptoms of if you are having too much inflammatory stuff in your life, versus how you can tell that you are sorting that out? If you can talk to us a bit about that.

**[0:21:45.8] SB:** All right, so we'll be here for the next three hours. Actually, let's start with the last part of that question which is how do you know if you're inflamed. So inflammation is this dysfunctional immune activity is at the heart of every chronic illness. It is potentially a cause for obesity, a cause for diabetes, it's the cause of cancer, it's the cause of autoimmune disease, it's the cause of asthma and allergies. It increases the risk of cardiovascular disease. Of chronic kidney disease, of dementia, of mental health problems.

So inflammation especially the chronic systemic wide inflammation is bad. It causes a ton of problems. With that being said, inflammation is also a key part of how our body protects us

against viruses and bacteria. It's a key part of healing so if you cut yourself, you want inflammatory processes to help repair that tissue. So what we're looking for when it comes to a healthy immune system is we want an immune system that can turn itself on really easily when it detects a threat.

We want the threat that it detects to be a real legitimate threat and not like my thyroid gland because my immune system thinks my thyroid gland is as bad a parasite. We want that immune system to be able to turn itself off really well when the job is done and we want to avoid systemic, diffuse inflammation so that type of inflammation that is body wide that doesn't have a target because it's that type of inflammation that is damages tissue at this very low level all the time. And it is so incredibly linked to chronic health problems like cardiovascular disease, diabetes, cancer, autoimmune disease.

So the immune system is very sensitive to our diet and lifestyle choices. There are some genetic things that influence immune function and that's why certain people have an increased risk of autoimmune disease or have an increased risk of cardiovascular disease. A lot of that boils down to basically having an immune system that's got an itchy trigger finger.

But in the end, at least the majority two thirds to three quarters of how our immune system functions is directly related to our diet and lifestyle choices and there's this other bit that's exposure, toxins, genetics that we can't really change but given how much we can change just about everybody can have a normal functioning immune system with better choices.

So things that are inflammatory, nutrient deficiencies. Pretty much the immune system is a huge nutrient hog. It really goes through the nutrient resources in order to do its job and the regulatory aspects of the immune system so the parts of the immune system that controls systemic inflammation that turn off the immune system when they job is done, those are the aspects that actually use the nutrients that we're most likely to be deficient in like vitamin A, vitamin D, zinc. So nutrient sufficiency from the diet becomes super important.

We know that having a healthy diverse gut micro biome is essential for normal immune functions. So eating a lot of fiber from vegetables, the fiber from grains doesn't actually support the right type of bacteria growing in our guts but the fiber from vegetables is a different type of

fiber. It has more diversity of fiber types and it is fiber that is wrapped up with antioxidants so that promotes a healthy diverse gut micro biome and that regulates immune function.

So eating a lot of vegetables as you said and overall avoiding insulin resistance, avoiding refined carbohydrates, keeping fat intake moderate is actually really important for gut micro biome health and for immune health. So we know that too much saturated fat can be inflammatory. We know that high omega six intake can be inflammatory. So keeping fat intake in that 20 to 50% range total saturated fat in that 10 to 15% range of total calories and balancing omega 3s to omega 6s is really important for a normal functioning immune system.

Protein sufficiency is really important for normal functioning immune system as well like micronutrients, vitamins and minerals, phytochemicals, fiber, protein and healthy fats all super important for immune function. And then the immune system is very sensitive to our lifestyle as well. There are certain regulatory aspects of the immune system that only function while when we're asleep.

Sleeping helps turn off the immune system, helps it regulate itself. It helps reduce systemic inflammation and being sleep deprived by itself as inflammatory. Stress also has a really strong stimulus to the immune system. So chronic stress is basically inflammatory and stops the immune system from being able to regulate itself and turn itself off and then being sedentary is by itself inflammatory. If you sit at a desk job for eight hours and then you go straight to your Crossfit class, it doesn't actually balance out the sitting for eight hours.

So this is why we've embraced things like treadmill desk or desk cycles or movement breaks throughout the day. Moving for two minutes out of every 20 during the day will completely negate the health detriments of being sedentary but then also some sort of muscle building activity becomes really important. So not saying that if you work at a treadmill desk you can skip Crossfit class but that both are really important to incorporate into our lives.

And we know that over training is inflammatory and it inhibits immune function that stops the immune system from being able to regulate itself. It increases risk of immune and autoimmune diseases and so avoiding that overtraining which if you have a lot of muscle pain and you go

and you warm up for your next workout and that muscle pain doesn't immediately dissipate as soon as your muscles warm up that's a really good sign that that's overtraining.

If you are not sleeping well that's a really good sign that you are overtraining. Signs of inflammations in the body that's not well regulated as any chronic illness. Any kind of joint or muscle pain. Mood issues so just feeling grumpy, headaches, not sleeping well, any kind of skin issues, any kind of jaw issues. So pretty much if you are not feeling awesome you probably have some inflammation.

Usually within our community it's not diet necessarily that needs to be dialed in. Although I know a lot of us can benefit from increasing vegetable consumption but it is usually something like sleep. Sleep is at the bottom of our to-do lists. It's the thing that we do in the remaining hours in our day and we really need to be prioritizing eight hours of sleep every single night. I think grownups need bedtime just like kids do. So it's sleep or it's stress and they often go together. If you're not getting enough sleep you're less resilient to stress. You are going to get more stressed out over something and then if you are stressed that's going to erode your sleep quality.

So they usually go hand in hand and most people really have to work on both improving sleep and managing stress at the same time in order for things to fall into place. Yes, pretty much bad diet and lifestyle choice causes inflammation and increases the risk of chronic illness and that is one of the reasons why regulating the immune system or reducing inflammation becomes such a key rationale for informing better diet and lifestyle choices.

You can get into testing, you can measure active protein very easily. Some functional medicine specialist can do a cytokine panel and look at things like interleukin 6 or interleukin one beta and get even more detailed in terms of what subsets of inflammatory cells are active but really when we take a step back and look at nutrient density, gut micro biome health and sleep, stress and activity it becomes a much simpler equation in terms of regulating our immune system and reducing inflammation.

**[0:29:37.9] AVH:** Next stop is Episode 182, I chatted with microbiologist and gut health expert, Dr. Norm Robillard. We covered everything from SIBO to IBS to resistance starch, fermentable

carbohydrates, dairy, fasting, all of those things and how it affect gut health. This one is really full of very useful specific information. So you may want to go back and listen to the whole thing if any of these things kind of directly relate to your situation but here is a snippet that I thought was especially relevant about fiber.

Because it seems like there is a lot of conflicting info out there these days about whether or not fiber is actually necessary and good for us and how much we need. You've probably heard some folks in the keto or carnivore space saying that fiber can actually cause more problems that we actually don't need any fiber ever and that it is problematic and then of course, we've got lots of people from many different disciplines talking about how useful and important fiber is for our digestion. Guys, stop making it so hard for me to be healthy, internet come on.

Anyway, frustrating. So Dr. Norm talks about this for us, walks us through it and he talks about the potential for gut repair and improved health through fasting, if that is an avenue you are interested in going down. So check it out.

**[0:30:55.6] NR:** 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 and 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 compliment 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 and so 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 the 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 their symptoms are because typically, overeating and especially carbohydrates that are fermentable by these bacteria, is part of the problem.

**[0:32:28.4] 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?

**[0:33:08.0] 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, Alzheimer's, 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 age 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 in the – 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 researcher 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*. That's one of the organisms we talked about this deficient and Crohns. And, another really important gut microbe, *Akkermansia muciniphila* is the most important, not 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 like *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 but 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 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 and we already knew that, right?

**[0:36:15.3] AVH:** Right.

**[0:36:15.9] NR:** But 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, the good from the bad. This study was done in mice that had been infected with a pathogen called salmonella typhimurium. 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.

[END OF INTERVIEW]

**[0:37:49.6] AVH:** Okay, in Episode 176, I spoke with well-known gut health expert, Dr. Michael Ruscio. A clinical researcher and author who practices functional medicine with focus on digestive conditions. Now anybody who has done any research is digestive health probably is already pretty familiar with Dr. Ruscio but in this talk, we chatted about the pursuit of diet perfection and how that can cause more problems than it fixes and that stress of trying to micro manage every tiny piece of food that goes into our mouths which I am sure a lot of listeners can relate to at times in their life.

We talk about the difference between probiotics and prebiotics and if and when you should use them, how paleo can be a good starting point to address gut health issues and why caffeine, very sadly, can be problematic as I am sitting here drinking my iced coffee but we have to take in all the information and make educated decisions based on the information that we get not just the information that we agree with, right? So I am going to keep sipping my iced coffee though as you listen to my excerpt of my podcast with Dr. Michael Ruscio.

[INTERVIEW]

**[0:39:02.1] MR:** The symptoms that one, things that are being driven by thyroid or mercury toxicity or inflammation are often times actually being driven by a problem in the gut. Not to say this is a panacea, it's not a cure all but if you want to organize all the stuff that we read about on the internet into a logical hierarchy, we would start with diet and lifestyle foundations and then we would move to gut health and then we consider moving on.

**[0:39:28.7] AVH:** Okay. This is obviously a much more complicated issue than a lot of people take it to be. As you've said, gut health can manifest or the lack of gut health can manifest itself in a lot of different ways but I think conversely, gut health can be affected by more than just food, right?

I think one of the things that makes even more complicated for folks who are trying to sort themselves out is maybe their food is pretty sorted as you said. Maybe they've got a whole foods, unprocessed paleo diet but maybe there are other lifestyle factors that are not in place that are still affecting them. Can you talk a bit about that? It's not just food, right?

**[0:40:11.8] MR:** Exactly. Actually, I'm glad that you made that point because I know one of the things you wanted to talk about later was you know, what are one of the biggest misconceptions in gut health and so this is a kind of a nice tie in to that, you know, right now, one of the things that we're observing and a lot of the microbiota literature is that, when people don't have a high amount of diversity in their intestinal bacteria, that correlates with many disease conditions.

It's lead many to make the recommendation that we have to feed our gut bacteria with things like fiber and prebiotics but what's often left out of that conversation and is really unfortunate is that there are other things that can positively contribute to your gut microbiota diversity or that healthy bacterial colony in a healthy way.

Exercise has been shown to acutely either help or be detrimental to your gut bacteria depending on if you're getting the appropriate amount of exercise or if you're sedentary or over exercising. Exercise is one, sleep is another. Stress is yet another still, they for example shown in college students before they take exams that the healthy, lactobacillus species of bacteria dwindle in that pre-exam stress.

Definitely, what's unfortunate is that sometimes when we start learning a lot about a certain field, we get this kind of tunnel vision, right? Where there's not enough bacterial diversity so we've got to just feed them with fiber and prebiotics and you kind of see this as a little bit of a bandwagon forming where everyone's trying to jump in the bandwagon but sometimes people are forgetting that the only way to – or I should say it this way.

There's more than one way to improve the health of your intestinal bacteria and just because we're learning about how prebiotics and fiber affect the gut shouldn't mean that we take our focus off of these other fundamentals that are very important like stress, circadian rhythms or sleep rhythms and exercise.

There's you know, all these things definitely can positively impact your gut health and you know, there's another study done in rugby players. They looked at a group of rugby players compared to a group of age and sex match controls, meaning there were two groups that were very similar but one group was getting exercise and the other group wasn't getting really much exercise.

They showed that even though the rugby players were not eating a diet that was better at feeding gut bacteria, they actually had healthier gut bacteria. Probably because of the impact of exercise. So yes, these fundamentals are definitely something not to be overlooked and I guess in just short answer to your question, there are multiple dietary and lifestyle factors that can have a beneficial impact, excuse me, on your gut health. The dietary piece gets a little more hairy because there's some nuances that we want to drop but yeah, definitely, these basics definitely have a sizable impact.

**[0:43:12.9] AVH:** You said earlier that if you're generally sorted out with most of these lifestyle factors and you're still having issues, you should look to your gut for possible challenges or issues. What if someone isn't sorted out? I guess I'm speaking from a little bit of personal experience. I have friends and I have people in my life who suffer from digestive issues and gut issues and maybe they don't have really anything fully sorted out like maybe their exercise isn't great, the stress isn't great, sleep isn't great, food isn't on point either.

What's the first step, what do you do? I just feel like it's so overwhelming for people because they don't know where to start and so they just give up, they resign themselves to a certain level

of discomfort or you know, you take medication and put a Band-Aid over the problem but if there are all of these steps that need to be taken, what's first, how do you start?

**[0:44:04.4] MR:** In terms of like these foundational factors which one might be the most important out of all of them?

**[0:44:08.2] AVH:** Yeah.

**[0:44:08.7] MR:** I would say diet is probably going to be the most important because that's something that you're having a few meals a day and that's kind of a repetitive input. Diet would be the foundation and I should mention that people really don't have to be perfect but you know, you don't have to be sleeping like nine hours a night and meditating for 30 minutes every day and eating an all organic perfect diet.

**[0:44:34.9] AVH:** Thank goodness because none of us would be okay then.

**[0:44:38.4] MR:** Right but the point I'm making is, try to at least take some steps in the foundational areas before you move on to maybe considering seeing a doctor, doing some lab testing, buying some supplements, doing some self-experimentation because you may have an answer with those foundational things that are cheap and you know, somewhat easy to implement rather than going on to kind of these to your two things that would be more direct treatments for the gut.

Diet I would say would be the most important if you're going to put your energy into anything. We'd be putting in diet. Don't think that you have to be perfect with all of these things but the general broad stroke I think for people to take away from this is, do your best to clean up your diet and lifestyle a little bit to make sure you're just not doing anything that's salaciously bad for you all right? Try to be at least you know, somewhat okay in these areas and after that, if you're still not feeling better, then you may want to look into getting some help.

Because you certainly can be treated for something like small intestinal bacterial overgrowth if you're stressed or if you're diet's not perfect but you want to try to get those things at least

moved along a little bit because that's going to help you have a stronger foundation from which to then go into this next level of intervention.

**[0:45:54.0] AVH:** So bring us back a little bit to paleo because of course that's where we like to live over here at Paleo Magazine Radio. How does the paleo diet, the ancestral health diet lifestyle, how does that tie into having a healthy gut? Is it really just boils down to trying to eat unprocessed whole foods, have as little stress as possible, is that generally the best kind of diet plan of attack when you're having digestive issues is a paleo style diet?

**[0:46:27.4] MR:** Paleo is a great place to start and there's maybe two important proponents regarding diet for people to consider initially. One is the allergen content of foods and the other is the fermentability of foods. The paleo diet does a great job with reducing allergens, right? I'm sure you guys talk about this all the time. Gluten, dairy, soy, you know all these things that can be allergenic the paleo diet does a great job of pulling those out of the diet.

Maybe you go a step further and you go to the autoimmune paleo diet and now you take out food that other people may react to like eggs or nuts and seeds. So paleo does a great job of pulling out food allergens and of course, just as a quick aside processed foods and all of those things. So yes, we all want to avoid added sugar, artificial sweeteners, processed foods, I think we all get that but going a level deeper into it, the paleo diet does a great job because it pulls out a lot of common allergens.

But there is another component up here that's often left out that's important for people that are trying to optimize their gut health and that is the fermentability of the diet and this means how powerfully your diet feeds your gut bacteria. Certain foods are better at feeding gut bacteria than others and what happens in some cases, people go on a paleo diet and they don't feel any better or maybe you'd feel a little bit worse because they end up eating more foods that feed bacteria in the gut.

And that these people already have these underlying imbalances in the gut, you're feeding an imbalance and there for you feel worst. This is where the low FODMAP diet comes in and there's a paleo version of the low FODMAP diet but essentially the low FODMAP diet restricts

foods that are powerful at feeding bacteria and what's ironic is some of these foods are seemingly healthy. Asparagus, cabbage, cauliflower, all are very high in FODMAPs.

For some people of course it can be very healthy but if you already have a bacterial overgrowth or one of these imbalances, these foods are powerful in feeding those imbalances and therefore can make you feel worst. So you can just start with paleo diet and for a lot of people that's going to be extremely helpful but if you're struggling with that a dietary derivation you can try to paleo is a paleo low FODMAP diet.

[END OF INTERVIEW]

**[0:48:53.9] AVH:** Okay, finally last but not the least for this episode, if you have ever struggled with gut health and you are in the paleo ancestral health community you're probably already familiar with this next name, Dr. Josh Axe. In Episode 171, I talk with Dr. Axe and Jordan Rubin. They are the co-founders of Ancient Nutrition which is a supplement company making bone broth, protein powders and other health related supplements.

Dr. Axe is a certified doctor of natural medicine, a doctor of chiropractic, a clinical nutritionist, a radio show host and a national speaker and he's written a number of books including the gut repair cookbook. So we get into – we talk a lot in this one obviously about how beneficial bone broth can be in overall gut health and immune system support and why it is not just a fad to sell products and I can attest to this. You don't have to buy bone broth.

You certainly don't have to buy his products, you can actually make it yourself very cheaply and it seems to be one of those things that maybe elements of bone broth were part of our collective diet a couple of generations ago and are not anymore. So it is not like it's this new thing that just popped up and now you can buy \$9 bone broth from your local café. You don't have to buy into that part of it if you don't want to. You can make your own at home, very health fully and very cheaply.

But there are also great companies out there doing it for you in case you don't want to do the work. So in this little excerpt, we talk about bone broth, the differences between collagen and bone broth protein powders. So this is a practical little tidbit for those of you out there that are

looking for healthy additions to your diet and maybe what products you should be looking into and personally, this is again, it's about selling Ancient Nutrition because there are a ton of products out there that are great.

You can make your own but I personally, one woman's opinion, I feel very, very strongly about the healing powers of both collagen and bone broth. They've done wonders for me and a lot of people that I know. So I think that this is a useful piece to add to the whole gut health discussion and I apologize, the audio isn't great on this one because this was actually done, it was a Facebook Live event that was done at the last Paleo f(x).

So not the best sound quality but you get the point and you can always check out Episode 171 and get the shownotes and get more information there if you are interested.

[INTERVIEW]

**[0:51:14.8] JA:** Yeah, also over the years, I've taken a lot of different supplements and seen benefits but I believe that this is the supplement I've seen the most benefits from and it's the one that I personally use most consistently, my wife does, my mom does, I mean everyone in my family and extended family is using it multiple times a day.

**[0:51:31.5] AVH:** We're talking about bone broth protein and there's a lot of collagen based protein powders out. Now is there something that you guys - can you talk about their differences?

**[0:51:43.8] JA:** Yeah, I can speak to the differences. When you hear somebody say collagen protein, the majority of the time, that's coming from the hide of cattle. It's bovine and so it's going to be very high in type one and three collagen and actually, in terms of your own body, your skin, hair and nails specifically and your bones are made up of bone - are made up of type one and three collagen but if we're talking about your gut lining and many of the tissues that are part of your immune system and your joints.

Those are actually more primarily type two collagen and type two collagen is what you find in chicken soup whereas type one and three collagen is what you'd find more in beef hide or beef

bone broth. For us, we really believe that type two collagen especially with so many people today struggling with immune problems and joint issues and gut issues that type two collagen, we really believe it's the most important type of collagen people need.

There is a problem when people are buying collagen protein in most cases, it has zero type two collagen, it's completely one and three. So that's one of the unique things about bone broth is it has type two collagen and also has some one and three and here's the other unique thing, it's very high in glucosamine chondroitin and hyaluronic acid. When we hear glucosamine chondroitin and hyaluronic acid, we tend to think joint health. The truth though is, they're also incredible for gut health.

**[0:53:09.1] AVH:** Yeah, okay. All right, if you're taking it every day like you guys both said you're using this product every day, multiple times a day, is it like a cumulative thing or are you using it consistently over some period of the time? How long do you have to take it and how much do you have to take it to really start noticing?

**[0:53:23.7] JA:** Yeah, I'll say something quick here and have Jordan say the next. In terms of you know, it's protein, it's amino acids so per gram of body weight, a lot of people here at this paleo event are doing about a gram of protein per bodyweight and so if somebody weighs 150 pounds, they're doing 150 grams of protein but the problem is that most of the proteins we're getting while Jordan talks about methionine here in a minute.

But one of the issues is that we're not getting these joint building proteins, why are so many athletes today think about even whether it's crossfitters or professional athletes in the NBA, things like that, rubbing a lot more ligament tears and meniscus tears and injuries much less frequently than, muscle tears. Well why is that well part of it may be due to we're missing these collagen, these cartilage and ligament building proteins and we're getting most of the muscle building proteins from all the meat we're eating without getting what our ancestors had in actual bone broth.

**[0:54:25.2] JR:** I think the best way to use bone broth protein is to get off of all supplemental protein and use two to three servings a day. Now here's the deal. Bone broth protein isn't the only protein you should consume but it may be the only protein you should supplement with

because while most people think there's two types of protein in animal and plant, animal and plant are very similar.

Plant's just less effective in building tissue. But if you look at meat protein, egg protein, whey protein, soy protein, hemp protein, pea protein, rice protein, the list goes on and on, they all are rich in methionine and branch chain amino acids, we get that in our diet. We eat meat or we eat dairy or we eat vegetables or we eat grains or we eat seeds. Supplement should be something we don't get.

Ask anyone in this building, I guarantee you for the last three days, they've eaten meat or eggs. This is the probably most broth centric group in America. When you say like per capita. I still bet that in the last three days, half the people have not have broth.

Getting these nutrients that are missing in your diet tend to work quickly. I say seven days to three weeks, you feel it but your question about it crescendo effect, it's accumulative. Many supplements I've taken work for a while. Bone broth protein works better and better and I've seen it progressively improving in my own situations. I'm over 40 and I had a knee issue and I ended up six months ago playing three full court basketball games in a matter of 40 days.

Where I was hurt so bad I couldn't even walk, much less run. I'm not saying bone broth protein is the only thing that got me back but it provides the building blocks to cushioning of those joints and when you take it, it's not heavy, it's like you've consumed a sports drink and it's loaded with electrolytes.

[END OF INTERVIEW]

**[0:56:29.0] AVH:** All right everybody, that's it for today. Thank you so much for listening and thank you to our sponsor, Bonafide Provisions. They make delicious organic slow simmered bone broth that everyone should be adding to their cups this fall. I'm just thinking about it right now because it is getting a little cold outside. I am starting to not be into it so much, my toes are always cold.

I have to wear sweaters which I know some people are into but I really prefer the summer, and I am just thinking, “Oh, the immune system stuff,” everyone is going to start getting colds and I just want something warm in my cup. So maybe we can fend off some of that cold weather yuckiness before it even starts with some bone broth. So Bonafide Provisions, you can try some of their bone broths. They can chicken, beef, turkey and my personal favorite is the frontier blend because it also uses bison and lamb bones with a mix of spices and veggies and they also have bone broth soup.

So they have a French Onion which is my jam, they're really decadent and still super paleo. The ingredients for that one are beef bone broth, organic onion, white wine, olive oil, butter, sea salt, garlic and thyme. I mean are you serious? That's yummy. I am someone who doesn't actually even consider soup food generally like if I can't chew it, it's not a meal but in this case, this stuff is pretty amazing. So you can give it a try. You get 15% off when you use the code, “onlybones” at checkout at bonafiedprovisions.com and I promise you'll not going to regret that purchase.

So do that and if you think this episode was helpful, please help me share it by leaving a review and rating on iTunes that way more people will see it and hopefully be helped by it and feel free to share also on social media. We post about it across all of Paleo Magazine's social media @paleomagazine. You can reach out to me on Instagram @themusclemaven and if you have any comments or feedback about the podcast, just reach out, say hi, let me know, chances are it will be me reading your messages because I am all over the social media.

So say hi and tell us what you are thinking, what you are interested in these days and that's it. I hope you have a great week everybody.

[OUTRO]

**[0:58:33.8] 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]